Official Journal of the Irish Medical Organisation

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October 24th, 2024

Oral Presentation – Thursday 09.10-09.20
General Paediatrics

THE NEST- ACUTE PAEDIATRIC CARE AT HOME

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Background

The Nest initiative started in November 2022 in CHI at Temple Street. This created a pathway to supervised care at home with daily day ward attendance for patients otherwise requiring traditional inpatient care.

Aim

Establish the quality of clinical care provided by audit against the standard Irish National Guidelines on Provision of OPAT and to evaluate family's experience and acceptability of this novel initiative.

Method

Quality of care was measured over six months in terms of adherence to antimicrobial guidelines, infection rate of peripheral lines, adverse reaction to antimicrobials, and rates of readmission to inpatient beds within 7 days. A sample survey of families was conducted, measuring patient experience while in The Nest.

Results

55 patients were enrolled which included deep neck abscesses, pyelonephritis, sepsis, meningitis, and cellulitis from medical and surgical specialities. There was 100% attendance, no catheter line infections, and 2 patients were readmitted following planned review.

A sample of 30 patients were audited against OPAT standards with all treatment compliant with hospital antimicrobial guidelines or based on ID/Microbiology specialist guidance. One patient had a minor delayed onset skin rash leading to a change in antimicrobials.

18 of 30 parents responded to our survey on experience. 88% of parents preferred the NEST to inpatient care, with benefits including improved quality of sleep, and less disruption to family routine. Only 1 parent reported a decreased confidence in care. Difficulties identified were access to oral antibiotics prescribed, affecting 31% (n=5). The main oral antibiotics prescribed included Clindamycin, Augmentin and Cephalexin.

There were 193 bed days saved due to the program. 33% of the patients treated were 2 or under The median length of 'Nest' stay was three days.

Conclusion

The Nest, with administration and nursing support, safeguards high quality care that facilitates OPAT-like pathways, hospital wide, inclusive of all specialities.

Interest Declaration/Funding Acknowledgements

None

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General Paediatrics

RESULTS OF A NATIONAL PUBLIC HEALTH INVESTIGATION OF PAEDIATRIC CASES OF INVASIVE GROUP A STREPTOCOCCUS DURING THE 2022-2023 OUTBREAK

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Aims: From October 2022 to June 2023, there was a four-fold increase in invasive Group A Strep (iGAS) in Ireland, similar to trends across Europe. 45% of iGAS cases were in children, in comparison to a usual pre-COVID proportion of about 25%. In order to better inform Public Health interventions and messaging, a clinical case review of every hospitalised case of iGAS and death resulting from iGAS in those under 16 years of age from October 2022 to June 2023 inclusive is being undertaken.

This is a joint quality improvement project between HSE National Health Protection Service of Ireland, Children's Health Ireland, HSE National Clinical Advisor and Group Lead for Children and the HSE Healthy Childhood Programme under the auspices of the HSE iGAS Incident Management Team (IMT).

Methods: This investigation is being conducted under the Medical Officer of Health mandate provided for under Articles 11 and 19 of the Infectious Disease regulations 1981, and is in compliance with EU General Data Protection Regulation. Cases of iGAS notified to Public Health were collated and coded and the referring hospital identified. An online questionnaire was created including information requests for course of illness, site of infection, laboratory parameters, preceding and concurrent illness, and outcome. Paediatricians from each of the 20 sites that cared for a child with iGAS were contacted and volunteered to conduct a chart review in order to obtain the requested information.

Results: From October 2022 – June 2023 inclusive, 185 cases of iGAS in children were notified to Public Health resulting in 12 deaths.

Conclusions: Data collection is ongoing and will be completed by mid-October. Analysis of this data will inform national Public Health interventions and messaging. These results will be communicated at the IPA meeting.

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General Paediatrics

TUBEROUS SCLEROSIS COMPLEX (TSC). HOW ARE WE MEASURING UP ?

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Aims: To identify the number of patients with a diagnosis of Tuberous Sclerosis Complex (TSC) attending neurological services in The Republic of Ireland (ROI) and assess the level of compliance with the United Kingdom (UK), TSC Consensus guidelines within these services.

Method: Patients with a diagnosis of TSC attending twelve adult and paediatric neurological centres in the ROI, were identified through the National Epilepsy Electronic Patient Record and secondary chart review. Clinical audits measured the care of 83 of the 135 identified patients. Care was benchmarked against UK, TSC clinical guidelines and included 46 questions under the headings: patient characteristics, genetics, central nervous system, kidney, lung, heart, eyes, skin, liver and pancreas. Data was anonymised and analysed in Trinity College Dublin.

Results: 135 TSC patients attending twelve neurological centres were identified. Adults (n= 67) paediatric (n= 68). The care of 83 patients was audited, (n=63 ≥18yrs.) and (n=20 < 18 yrs.). Many baseline tests were completed, especially in the paediatric services. However, recommended services were not always available within all hospitals and referrals to other sites were required. SUDEP was only discussed in 15.6% of adult and 25% paediatric cases. Neuropsychology evaluation appears inadequate. The (TAND) assessment tool was not used in either adult or paediatric services. Renal MRI (baseline) was performed in 45.7% of adults and 55% of children. Genetic results were available for 49% of adults and 85% of children. mTOR inhibitors are being prescribed.

Conclusion: The number of TSC patients (Adult & paediatric) attending neurology services is lower than expected (n=135). Specialist services and treatments for TSC are available. There is inconsistency in the use of mTOR inhibitors. The UK, TSC consensus guidelines baseline recommendations are not always adhered to. Increased coordination of care could benefit disease management.

Amin S, Kingswood JC, Bolton PF, Elmslie F, Gale DP, Harland C, Johnson SR, Parker A, Sampson JR, Smeaton M, Wright I, O'Callaghan FJ. The UK guidelines for management and surveillance of Tuberous Sclerosis Complex. QJM. 2019 Mar 1;112(3):171-182. doi: 10.1093/qjmed/hcy215. PMID: 30247655. de Vries, P.J., Heunis, TM., Vanclooster, S. et al. International consensus recommendations for the identification and treatment of tuberous sclerosis complex-associated neuropsychiatric disorders (TAND). J Neurodevelop Disord 15, 32 (2023). https://doi.org/10.1186/s11689-023-09500-1

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Oral Presentation – Thursday 09.40-09.50
Sub-Specialty

EXAMINING THE IMPACT OF COVID-19 ON EATING DISORDER REFERRAL RATES AND CLINICAL PROFILE: A RETROSPECTIVE COHORT STUDY.

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Recent studies suggest increased eating disorder (ED) rates post-onset COVID-19, with concerns re increased medical comprise.[1,2] This study examines rates and clinical profiles among paediatric referrals in the Republic of Ireland (ROI).

Following ethical approval, a retrospective chart review was conducted of all ED presentations to CHI-Crumlin. Three distinct time periods were studied: 'period 1' pre-COVID-19 January 2018-February 2020; 'period 2' COVID-19 with lockdown restrictions March 2020-December 2021; 'period 3' post-restrictions January 2022-June 2023. Statistical analysis (Chi-squared test, independent T-tests) was conducted using SPSS.

192 cases presented to this paediatric hospital over the study period. The mean age was 13.95 (±1.81), mean LOS (length of stay in hospital) was 19.86 days (±23.62). Most patients were female (77.6%); most patients met the criteria for Anorexia Nervosa (63.5%). The mean Ideal Body Weight (IBW%) on admission was 83.16%, increasing to 85.60% upon discharge. Referrals in periods 2-3 did not differ in terms of gender, age, LOS or admission/discharge IBW%, when compared to period 1. Periods 2-3 saw higher monthly ED referral rates (3.85/month), compared to period 1 (1.46/month, p<.001). Notably, Other Specified Feeding and Eating Disorders (OSFED) referrals in periods 2-3 increased proportionally relative to other ED types, as compared to period 1 (18.8% vs. 2.6%, p=.027). Presentations with co-morbid self-harm increased in periods 2-3 (17.5%), compared to period 1 (2.6%, p=.038). ED referrals with co-morbid anxiety increased to 25.4% in period 3 (vs. 8.8% in periods 1-2, p=.004); however, there was no significant change in the rates of co-morbid depression.

This study supports international data reflecting increased referral rates for all types of ED post-COVID-19.[1] We did not find increased ED severity, as measured by IBW% and LOS. Higher rates of OSFED, co-morbid self-harm and anxiety suggest an increased prevalence of atypical ED presentations post-onset COVID-19. Ongoing surveillance is required and should be accompanied by adequate resourcing.

1. Jo Driscoll, David, et al. "HSE National Clinical Programme for Eating Disorders in Ireland: COVID-19 Pandemic and Eating Disorder Care in a New National Eating Disorder Service." International Journal of Eating Disorders, 25 Apr. 2023, pubmed.ncbi.nlm.nih.gov/37097813/, https://doi.org/10.1002/eat.23966. Accessed 7 May 2023. 2. Spettigue, Wendy, et al. "The Impact of COVID-19 on Adolescents with Eating Disorders: A Cohort Study." Journal of Eating Disorders, vol. 9, no. 1, 4 June 2021, jeatdisord.biomedcentral.com/articles/10.1186/s40337-021-00419-3, https://doi.org/10.1186/s40337-021-00419-3. Accessed 18 July 2023.

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Oral Presentation – Thursday 09.50-10.00
Sub-Specialty

The Real-Life Use Of Specific Ige Components In Ige-Mediated Cow's Milk Protein Allergy In A Spanish Paediatric Allergy Centre

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Background: In Spain. where IgE-mediated Cow's Milk Protein Allergy (CMPA) affects approximately 0.69% of infants, molecular diagnostics are employed in some hospitals. The aim of this study is to retrospectively analyse a cohort of paediatric patients with IgE-mediated CMPA who are avoiding milk products awaiting natural tolerance and determine the relationship of disease persistence with major cow's milk allergens.

Methods: A retrospective chart review of 200 patients diagnosed with IgE-mediated CMPA between 2011 and 2020 wasThe main outcome was the introduction of liquid milk following a negative oral food challenge and its correlation of IgE and SPT measurements of milk components at diagnosis. Secondary outcomes were the rate of allergic reactions and anaphylaxis during the treatment period and its correlation of IgE and SPT measurements. conducted. Patients strictly avoided milk products until an oral food challenge was performed.

Results: Of the 200 charts analysed, 122 patients had a negative oral food challenge to milk (61.0%) (95% confidence interval (CI): 54.1-67.5) following a period of strict avoidance of milk. Higher specific IgE components, especially casein, was associated with failure of the oral food challenge (p=0.02). Allergic reactions were experienced by 106 children (53%) of which 34 (17%; CI95% 12.4-22.8) had anaphylactic reactions. The risk of anaphylaxis was not predicted by raised IgE levels.

Conclusion: While a large proportion of children acquired natural tolerance to cow's milk following a period of strict avoidance, IgE-mediated CMPA persisted in many children. Casein IgE levels at diagnosis were raised in those who failed to achieve natural tolerance. Allergic reactions to milk, including anaphylaxis, occurred commonly, but this was not predicted by raised IgE levels or SPT measurements.

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Medical/Education Management

A CHOLESTEROL IN TIME SAVES NINE: THE FIRST IRISH AUDIT OF THE DIAGNOSIS AND MANAGEMENT OF PAEDIATRIC PATIENTS WITH FAMILIAL HYPERCHOLESTEROLEMIA

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Background: Hypercholesterolemia (FH) is the most common autosomal dominant disorder with a prevalence of 1:250 live births (1). Untreated children with FH have up to a 17-fold increased risk of myocardial infarction between 25 and 40 years (2-3). Conversely, childhood diagnosis and treatment of FH can result in a normal life expectancy (4).Early medical management with statins is the cornerstone of therapy (6). Despite an increase in referrals of children from adult cascade screening, no department or national guideline exist.

Objective: To compare the diagnosis and management of children with FH attending our clinic with the updated European Atherosclerosis Society (EAS) guidelines (5).

Methods: A retrospective healthcare record review was undertaken over a three-month period. We included children under the age of 18 years who are currently attending or referred for suspected FH. The diagnostic criteria used were as per the EAS guidelines (5). Data was collected using a proforma. Patient details were irrevocably pseudo-anonymised.

Results: The total number of patients referred for suspected FH was 56, the majority from cascade screening (Table 1). 12 patients were pending initial review. 44 patients were included in the audit. 81% (n=36) had genetic testing (Table 2). 47% (n=21) met the criteria for starting statin therapy. 61% (n=13) of eligible patients-initiated therapy. 68% of patients on statins had achieved target LDL-C of < 3.5 mmol/L. 100% of patients had been given appropriate diet and lifestyle advice.

Conclusion: This is the first audit of its kind in Ireland. There is an under-treatment of paediatric patients with statin therapy, likely reflecting a lack of awareness of international guidelines and parental hesitancy in starting statins. This audit has prompted the development of a department guideline. A national guideline is ultimately needed to streamline the diagnosis and management of FH. However, without awareness among pediatricians and general practitioners there will be missed screening and referral opportunities to treat this potentially fatal condition.

References: 1.Sjouke B, Kusters DM, Kindt I, Besseling J, Defesche JC, Sijbrands EJ, et al. Homozygous autosomal dominant hypercholesterolaemia in the Netherlands: prevalence, genotype-phenotype relationship, and clinical outcome. Eur Heart J. 2015;36(9):560-5. 2.Sturm AC, Knowles JW, Gidding SS, Ahmad ZS, Ahmed CD, Ballantyne CM, et. al. Clinical Genetic Testing for Familial Hypercholesterolemia: JACC Scientific Expert Panel. Convened by the Familial Hypercholesterolemia Foundation. J Am Coll Cardiol. 2018 Aug 7; 72(6):662-680 3. Umans-Eckenhausen MA, Defesche JC, Sijbrands EJ, Scheerder RL, Kastelein JJ. Review of first 5 years of screening for familial hypercholesterolaemia in the Netherlands. Lancet. 2001 Jan 20;357(9251):165-8. doi: 10.1016/S0140-6736(00)03587-X. PMID: 11213091). 4. Wiegman A, Gidding SS, Watts GF, et al. Familial hypercholesterolaemia in

children and adolescents: gaining decades of life by optimizing detection and treatment. Eur Heart J. 2015;36(36):2425-2437. 5. Mach F, Baigent C, Catapano AL, et al. ESC Scientific Document Group, 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk: The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS) Eur Heart J. 2020;41:111–188. doi: 10.1093/eurheartj/ehz455 6.Luirink IK, Wiegman A, Kusters DM, Hof MH, Groothoff JW, de Groot E, et al. 20-Year Follow-up of Statins in Children with Familial Hypercholesterolemia. N Engl J Med. 2019;381(16):1547-56.

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Oral Presentation – Thursday 10.10-10.20
General Paediatrics

PAEDIATRIC TYPE 2 DIABETES IN THE REPUBLIC OF IRELAND: A CONCERNING INCREASE?

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Aims: A previous study undertaken in 2015, identified a prevalence of type 2 diabetes (T2DM) in under 16's in the Republic of Ireland of 1.2/100,000. The aim of this study was to establish whether the prevalence of paediatric type 2 diabetes (T2DM) in the Republic of Ireland (ROI) has changed, particularly with the increase in obesity post the Covid-19 pandemic. In addition, we sought information regarding patient demographics, initial presentation, management, outcomes, co-morbidities and complications.

Methods: We conducted a cross-sectional survey of children younger than 16 years with a diagnosis of T2DM. Following Research Ethics Committee approval, a standardised proforma was circulated to each of the 19 centres in the ROI responsible for the care of children with diabetes in September 2023.

Results: To date, initial responses have been obtained from 15/19 paediatric centres, with responses from two large centres (one tertiary, one regional) outstanding. Preliminary data suggests 32 cases of T2DM in children under 16. Once data from all centres has been submitted and validated, the number of cases is likely to have more than trebled in the past 8 years. In the 2015 study, all reported cases came from 6/19 centres (32%) compared to 9/15 centres (60%) currently. Calculation of prevalence rates is pending return of all proformas. Previously, all patients were treated with insulin and/or metformin. In the current cohort, newer treatments such as GLP-1 analogues have been used despite being unlicensed in this age group.

Conclusion: There has been a concerning increase in the prevalence of type 2 diabetes in children under 16 over the past eight years. There is a need for robust public health action and government action to address the growing issue of childhood obesity and factors which increase both it and socioeconomic deprivation, both known contributors to type 2 diabetes.

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Oral Presentation – Thursday 11.40-11.50
Sub-Specialty

NATIONAL SURVEY ON SLEEP DISORDERS FOR CHILDREN WITH NEURODISABILITY

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Aims: There is an increase in the prevalence and recognition of sleep difficulties in children, especially those with underlying neurodisability. This study aims to understand current practices, pathways, and knowledge of paediatric sleep disorders, with the goal of launching a national training programme for healthcare professionals.

Methods: An anonymous survey modelled from a previously validated questionnaire was sent electronically to paediatric trainees, consultants and CDNT teams. Quantitative data was analysed by SPSS. Qualitative data was analysed through NVivo using Braun and Clarke thematic analysis.

Results: There were 323 respondents (including 148 therapists, 46 paediatricians, 34 trainees and 29 nurses) working across tertiary, local/regional hospitals and community centres. Self-reported confidence levels were low in diagnosing, managing and using medication for behavioural sleep disorders (median scores <10/100). Those who received formal training in sleep medicine were more confident in identifying and managing sleep disorders, advising sleep hygiene practices and understanding the different sleep studies that can be performed ($p = <0.001$). 95% reported significant difficulty or long waitlists for accessing specialist sleep services and studies, people working in community services reported more difficulty than tertiary centres ($p=0.013$). 98% would like more education in sleep medicine. 92% support a tertiary-level sleep clinic for behavioural sleep disorders with 41% of that group supporting a hub and spoke model of care. Themes in the data were the importance of sleep for children and families, barriers to accessing sleep services and the need for clear pathways and future collaborations.

Conclusion: While there is a high prevalence of children with sleep disorders, confidence in identifying and managing children with sleep difficulties is low among our respondents. Those who received formal sleep training showed significantly increased confidence levels. Respondents would like more education in sleep medicine along with clear pathways and future collaborations to improve sleep services nationally.

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Oral Presentation – Thursday 11.50-12.00
Sub-Specialty

Sleep in Infants with Moderate-Severe Atopic Dermatitis (The SPINDLE Study)

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Atopic dermatitis (AD) is associated with sleep disruption due to pruritus, inflammation, increased transepidermal water loss (TEWL) and circadian alterations. Little is known about the impact of AD on sleep in early infancy, a critical time for neurodevelopment.

The aim of this study was to deeply characterise the sleep architecture of 6-month-old infants with moderate-severe AD, compared to controls.

Overnight movements (defined as 10-15 seconds of movement) were measured for five consecutive nights using a novel wearable movement sensor. Infantile and parental sleep measures were reported by parents. Daytime sleep quality and quantity was measured by electroencephalogram (EEG) polysomnography. AD was assessed using clinical severity scoring, skin barrier assessment (TEWL, natural moisturising factor levels, and filaggrin mutational analysis) and inflammatory cytokine analysis by tape stripping.

57 controls and 33 cases were recruited. Average EASI at time of 6-month assessment was 7.2 (range 0.8-34.8). Infants with AD recorded almost twice as many overnight movements as controls (19.2 versus 11.2, $p<0.05$). Infants with AD slept for 13.1 hours versus 13.8 ($p<0.05$), and woke 3.5 times versus 1.9 ($p<0.05$). Infants with AD had differences in EEG sleep measures, including sleep spindle power and frequency. Mothers of cases had worse total sleep time (6.3 versus 7.1 hours, $p<0.05$), sleep-onset latency (27.1 versus 12.8 minutes, $p<0.05$), and sleep efficiency.

This is the most detailed study ever performed on sleep in infants with AD using objective sleep measures, and has revealed significant effects on sleep architecture, sleep duration, and overnight movement.

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Sub-Specialty

Novel Multispectral Imaging to Predict Disease Progression in Pediatric Morphea

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Background: Morphea, or localized scleroderma, is an inflammatory, fibrosing skin disorder that can be progressive and debilitating. Infrared thermography frequently has false positive results. The aim of this study was to assess the ability of multispectral imaging to predict disease progression in children with morphea.

Methods: Children with morphea were recruited between 2016-2022. Multispectral images of affected and matched contralateral unaffected sites were obtained using the AnteraÔ 3D camera. Clinical assessment was performed using the Localized Scleroderma Assessment Tool (LoSCAT). Children were followed up every three months for imaging and clinical review. The main outcome measurement was correlation of hemoglobin gradient between affected and matched contralateral unaffected tissue and progression.

Results: Of 17 children, the average age was 12 years (range 6-18 years); most were female (76.5%) and white (94.1%). Nearly two thirds (64.7%) had linear morphea, 35.2% had plaque morphea; 58.8% had been treated with systemic agents. The average LoSCAT score was 20.6 (range 5-73). The average hemoglobin gradient between affected and matched contralateral unaffected skin was four times higher in those who had progression (average differential 0.3, range 0.1-0.4) compared to those who did not (average differential 0.08, range 0.02-0.15). Using a cut off of a 0.18 hemoglobin gradient between affected and unaffected skin, the sensitivity of multispectral imaging for detecting progression in pediatric morphea is 90% with specificity of 100%.

Conclusions: Multispectral imaging is a novel assessment tool with promising accuracy in predicting progression as an adjunct to clinical assessment in pediatric morphea. Further research should examine its performance against thermography.

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Sub-Specialty

INCREASE IN CASES OF NON-TUBERCULOSIS MYCOBACTERIAL LYMPHADENITIS PRESENTING TO CHILDREN'S HEALTH IRELAND – A 15 YEAR RETROSPECTIVE CASE REVIEW

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Aims: An increase in Non-Tuberculous Mycobacterial (NTM) lymphadenitis presentations to the Paediatric Infectious Disease (PID) service at Children's Health Ireland (CHI) was noted. The diagnosis is challenging, made by clinical judgement with confirmation if sampling of the affected area is undertaken. Early surgical excision is curative, however most patients present too late for this approach. Our aim is to describe the clinical characteristics, diagnostic approach and outcomes of NTM lymphadenitis in children presenting to CHI.

Methods: Retrospective cohort study of children presenting to CHI with NTM lymphadenitis from 2007 to 2022 inclusive. NTM is not a notifiable disease and the epidemiology of this condition in Ireland is unknown.

Patients were identified by searching;
- Correspondence of the PID and ENT teams for key words such as "adenitis" and "non-tuberculous"
- Records of the Mycobacterial Reference Laboratory for growth of NTM samples
- Histopathological database for evidence of NTM from lymph node samples

Ethical approval from the CHI REC was obtained.

Results: 37 patients were identified. A median of 1 patient presented between 2007-2019, with no patients in 3 of the years. 3 patients were identified in 2019, increasing thereafter; 2020 (5), 2021 (6), 2022(11). Median age was 3 years (1.5-10yrs) and 24 (65%) were female. 22 (60%) had surgical intervention, however only 4 had a full excision. 4 (11%) of patients had specific anti-NTM therapy with one patient receiving treatment for suspected tuberculosis co-infection.

Conclusions: There has been an unexplained increase in NTM lymphadenitis presenting to CHI in recent years, perhaps related to the cessation of BCG or post Covid lockdowns. The majority of cases undergo surgical intervention but only 11% were recognised early enough for curative excision. Long term antimicrobial therapy is rarely required. Increased awareness and early ENT referral of this difficult to diagnose clinical entity is required.

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Sub-Specialty

RAPID INCREASE IN BELL'S PALSY AND LYME DISEASE

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AIMS: A dramatic increase in Lyme Disease in West Virginia has been noted in the last 10 years, from 15th highest incidence in USA in 2013 to the 3rd highest in 2020. We noted an increase in cases of Peripheral Facial Nerve palsy (Bell's Palsy) in the hospital and in Pediatric Infectious Diseases Clinic. We planned to look at the increase in number of Lyme disease cases; Bells' Palsy cases; and proportion of cases of Bell's Palsy that can be attributed to Lyme Disease over this 10-year period.

METHODS: After obtaining IRB approval, tools from our electronic health record identified all patients age 0-20 years who were diagnosed with Bell's Palsy between January 2013 and December 2022. Data included were age; month and year, region of the state; testing done for Lyme disease; results of testing; and medications prescribed. Medical records were reviewed to assess questions that arose.

RESULTS: A total of 629 patients were diagnosed with Bell's Palsy during this time, and 146 were positive for Lyme disease. We looked at two 5-year periods- 2013-2017 AND 2018-2022. In the early time frame, there were 191 cases of Bell's, 55 tested for Lyme, and 15 positive. In the late period, 438 Bell's Palsy, 235 tested for Lyme, 131 positive. Patients with Bell's Palsy presenting after 2017 were 2.8 times more likely to be *tested* for Lyme ($p < 0.00001$), and were 5 times more likely to be *diagnosed* with Lyme ($p = 0.00014$). Prior to 2017 only 7 patients were diagnosed with Lyme, and all were from the Eastern part of the state. After 2018, Lyme cases were distributed across the state.

CONCLUSIONS: A marked increase in Lyme-associate Bell's Palsy occurred throughout West Virginia over a 10-year period. Regions that have areas that experience locally endemic Lyme Disease need to be aware of the rapid spread of this disease.

Marques AR, Strle F, Wormser GP. Comparison of Lyme Disease in the United States and Europe. Emerg Infect Dis 2021; 27(8): 2017-2023. Guez-Barber D, Swami SK, Harrison JB, McGuire JL. Differentiating Bell's Palsy from Lyme-related Facial Palsy. Pediatrics 2022; 149(6):52-59. Cooper L, Branagan-Harris M, Tuson R, Nduka C. Lyme disease and Bell's palsy: an epidemiologic study of diagnosis and risk in England. Br J Gen Pract 2017;67(658):e329-e335.

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Oral Presentation – Thursday 12.30-12.40
Sub-Specialty

NOVEL INSIGHTS INTO FACTOR VIII AND FIX LEVELS AMONG PAEDIATRIC HAEMOPHILIA CARRIERS

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Aims: Given the X-linked inheritance of FVIII and FIX deficiency, it was traditionally assumed that female haemophilia carriers (HC) are asymptomatic. This misconception is challenged by recent evidence suggesting increased bleeding tendency in HC. New HC nomenclature suggests five categories: mild/moderate/severe hemophilia, symptomatic and asymptomatic HC (FVIII/IX ≥0.40IU/ml with/without a bleeding phenotype)[1]. Our aim is to characterise FVIII and FIX levels among HC attending the paediatric National Haemophilia Centre, evaluate bleeding phenotype and haemostatic treatment requirements.

Methods: A clinical data-set of HC was established. FVIII/FIX levels were assessed. Females were classified as 'Obligate' HC with a paternal history of haemophilia, as having a '50% chance' of being a HC with a maternal history of carriership or 'Possible' HC where factor deficiencies were identified *de novo*. Bleeding phenotype was evaluated via electronic chart review.

Results: 217 females (n=62 FIX, n=155 FVIII, median age 9.6 [IQR 7.3] years) were included; 47 (22%) 'Obligate' HC, 115 (54%) with '50% chance' of carriership and 53 (25%) 'Possible' HC. Median age at FVIII/FIX testing: 2.3 [IQR 5.4] years. 52% (113/217) had normal levels, 47.5% (103/217) had mild and 0.5% (1/217) had moderate FVIII/FIX deficiency. Overall, 16.5% had received haemostatic therapy. Recipients were significantly older than non-recipients (mean age 12 versus 9.6 years, p=0.01). Significantly more FVIII HC received haemostatic therapy than FIX (20% versus 9%, respectively, $\chi 2$ 4.1, p=0.04). Commonest indications for treatment were mucosal bleeding; epistaxis and menorrhagia, and prophylaxis for surgical procedures.

Conclusion: Mild FVIII/FIX deficiency is common in this cohort. Complexities evaluating paediatric HC include variations in factor reference ranges with age and fewer bleeding challenges faced by children versus adults. We observed haemostatic therapy recipients were older, likely attributable to menorrhagia among adolescents. Our novel data from a large paediatric HC cohort highlight a significant bleeding phenotype and treatment burden in these children, worthy of further study.

1. van Galen KPM, d'Oiron R, James P, Abdul-Kadir R, Kouides PA, Kulkarni R, et al. A new hemophilia carrier nomenclature to define hemophilia in women and girls: Communication from the SSC of the ISTH. Journal of thrombosis and haemostasis : JTH. 2021;19(8):1883-7.

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Oral Presentation – Thursday 12.40-12.50
Sub-Specialty

MCM4 DEFICIENCY CAUSING NATURAL KILLER CELL AND GLUCOCORTICOID DEFICIENCY WITH DNA REPAIR DEFECT (AR-NKGCD): A RETROSPECTIVE COHORT STUDY

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Aim: A new condition, autosomal recessive natural killer and glucocorticoid deficiency (AR-NKGCD), was first described in Irish Travellers in 2008 and was attributed to recessive mutations in MCM4/PRKDC gene in 2012. AR-NKGCD is characterised by short stature, glucocorticoid and NK cell deficiency, and is a disorder of DNA repair. We describe our collective experience of this condition as more cases have been confirmed.

Methods: Data from available medical, laboratory, genetic and radiology records on patients attending our centres over the past 10 years was compiled.

Results: Sequencing analysis of intron 1 of the MCM4/PRKDC gene in all patients (n=19) revealed the presence of the c71-2A>G p.(Phe24Argfs) mutation in the homozygous state. In those for whom data was available, all were born small for gestational age, birth weight between 0.4th – 2nd centiles, all had delayed bone age, short stature and low weight. Most children had mild dysmorphic features. Feeding difficulties, failure to thrive and recurrent infections were observed in infancy and young childhood.

Over 60% required glucocorticoid replacement (hydrocortisone doses range 9-15mg/m2). In others only emergency treatment was recommended. Mineralocorticoid secretion was not impaired. Over 80% had raised ACTH levels. A serious adrenal crisis following infection occurred in three patients. Three patients developed haemophagocytic lymphohistiocytosis, one of whom died. One patient developed an osteosarcoma.

Conclusions: AR-NKGCD is a rare disorder with a variable phenotype. It is associated with primary adrenal insufficiency which may result in adrenal crisis, recurrent viral infections, malignancies due to the combination of DNA repair defect and NK cell deficiency and premature death. Input from endocrinology and immunology specialists is required.

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Oral Presentation – Thursday 12.50-13.00
Sub-Specialty

Impact of Socioeconomic Status on Glycaemic Control in Paediatric Diabetes

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Aims: To examine the association between glycaemic control and socioeconomic group (SEG) in children and adolescents with diabetes, using a 13-year period of data.

Method: Data were extracted from a diabetes database of a large tertiary paediatric diabetes centre over a 13 year period from 2007 to 2020. Socioeconomic status was determined by the addresses cross referenced with the 2016 national socioeconomic Pobal HP Deprivation Index. Correlation analysis was carried out in addition to panel data analysis in addition to panel data regression to assess differences in glycaemic control and insulin regimen.

Results: Data was assessed for 995 patients with 15,284 clinic attendances. Crude regression analysis indicates that for every 1 standard deviation increase in socioeconomic measure, HbA1c is expected to fall -0.48% (CI -0.38 % to -0.58%). Using panel data analysis, HbA1c would be expected to be lower in the patients within the highest SEG compared to those in the lowest SEG -0.35% (CI -0.19% to -0.52%). Using chi square testing, no significant difference was found between treatment regimen and SEG (p=1.0).
Patients in lower SEGs did not receive a significantly higher level of intensive education compared to those from higher SEGs, with 20% of intensive education session occurring for the lowest quintile and 23% for the highest quintile.

Conclusions: Socioeconomic differences were evident in overall glycaemic control in this cohort, there is not a clear driving mechanism behind this inequality, as treatment regimen and diabetes education input are similar across groups. This inequality therefore warrants further investigation including potential role of household education level

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General Paediatrics

CLINICAL ASSESSMENT OF GROUP A STREPTOCOCCAL PHARYNGITIS IN AN EMERGENCY DEPARTMENT SETTING AT A TIME OF HEIGHTENED PUBLIC AWARENESS

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Aims: The objective of this study was to assess the reliability of clinical assessment in predicting Group Streptococcus (GAS) disease where rapid testing is unavailable.

Methods: Observational and retrospective study carried out by reviewing medical and laboratory records and a register of throat swab specimens in the ED.

Patients <16 years with a throat swab sent for suspected bacterial tonsillitis between 6/12/22 – 9/2/23 were included.

Data included - age; sex; presenting clinical symptoms (Fever >38oC, tonsillar exudate and erythema, cervical lymphadenopathy, cough, corrhyza, rash); comorbid conditions and microbiological results.

Results: 104 patients were identified from the register of throat swabs sent for C&S. N=81 (77.9%) had no growth on throat swabs, n=22 (21.2%) were positive for (GAS) and n=1 (0.96%) were positive for Streptococcus groups C/G.

Typical GAS symptoms (tonsillar exudate, fever >38oC, lymphadenopathy and the absence of cough) were compared against typical viral symptoms (rash, corrhyza, presence of cough). Logistic regression did not show any significant association between any groups of symptoms and prediction of GAS on throat swab (GAS symptoms only [OR 1.1 95% CI 0.62-2], viral symptoms only [OR 0.91 95% CI 0.52-1.57]).

When adjusted for age, the absence of cough and presence of a rash were significant predictors of GAS in over three years of age (absence of cough [OR 0.087 95% CI 0.01 – 0.59], rash [OR 3.9 95 CI 1.08 – 14.5]). There were no significant clinical predictors in those aged under three.

Subgroup analysis was performed by sex; the absence of cough was not a predictor of GAS in boys [OR 0.96 95% CI 0.29 – 3.18] but was in girls [OR 0.07 95% CI 0.007 – 0.63].

Conclusion: Our data suggests that clinical assessment alone cannot accurately discriminate between those with GAS and those without. Rapid POC testing may be valuable in promoting antimicrobial stewardship.

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Oral Presentation – Thursday 15.05-15.10
General Paediatrics

INVESTIGATING THE BENEFITS TO MOTHERS OF BREASTFEEDING SUPPORT PROVIDED BY LA LECHE LEAGUE OF IRELAND

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[2]Child Psychiatry, CHI at Temple Street, Dublin, Ireland
[3]Accredited Leaders, La Leche League of Ireland, Dublin, Ireland

Aims: Breastfeeding rates in Ireland are amongst the lowest in the world, despite breastfeeding being associated with many maternal and infant health benefits. The World Health Organisation promotes breastfeeding peer support as a method to bolster breastfeeding practices. This study aimed to identify the benefits of support provided by the voluntary breastfeeding peer support organisation La Leche League of Ireland (LLL-Ireland) to mothers availing of it.

Methods: This was a mixed-methods study involving the circulation of an anonymous, opt-in, online survey of adult volunteers, namely mothers who have breastfed, are currently breastfeeding or intend to breastfeed, and who have already availed of or are currently availing of the support of LLL-Ireland. Qualitative data was analysed using thematic analysis and quantitative data was analysed using SPSS where descriptive statistics were compiled and Chi-Square Analysis was performed on select responses.

Results: 240 mothers completed this survey, making it the largest dataset of this kind in Ireland to date. With LLL-Ireland's support, mothers made friends (83.3% attending twice monthly), they received significant help for breastfeeding-related issues, they found a sense of community (68.3%) and increased their confidence to breastfeed in public (97.5%). The combination of online and in-person support is most beneficial, allowing mothers to access immediate support 24/7, whilst also providing an opportunity for mothers to seek hands-on advice, socialise, and connect with peers.

Conclusion: Benefits associated with LLL-Ireland's support are numerous, and the evidence of these benefits could be used to promote breastfeeding peer support, thereby increasing awareness and use of this invaluable resource. This could translate to higher breastfeeding rates in Ireland, with an increase in breastfeeding-associated benefits for babies who are breastfed, such as secure attachment, higher IQ than non-breastfed peers, and many physical health benefits including but not limited to reduced risk of gastrointestinal and respiratory illness, allergies, dental issues, and Sudden Infant Death Syndrome.

Dr McMahon L, McGrane K, Dr Murphy C, Dr McKenna P, Prof Turner Michael. Irish Maternity Indicator System, National Report 2021. Report version: 1.1. [Internet]. Irish Maternity Indicator System; May 2023. Available from: https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/national-reports-on-womens-health/irish-maternity-indicator-system-national-report-20211.pdf Organization WH, UNICEF. Global strategy for infant and young child feeding: World Health Organization; 2003. Gibbs, B.G., Forste, R. and Lybbert, E. (2018) 'Breastfeeding,

parenting, and infant attachment behaviors', Maternal and Child Health Journal, 22(4), pp. 579–588. doi:10.1007/s10995-018-2427-z. higher IQ Wiessinger, D., West, D. and Pitman, T. (2011) The womanly art of breastfeeding. London, England: Pinter & Martin.

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Oral Presentation – Thursday 15.10-15.15
General Paediatrics

Evaluation of Physical Activity, Screentime and Wellbeing for the Vision Impaired

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Aims: Physical activity (PA) is known to improve physical and mental health. Worldwide, research suggests that children who are blind/vision impaired (BVI) have reduced levels of PA compared to their sighted peers – insufficient to obtain the benefits associated with PA(Kozub & Oh, 2004). Screen time has additionally been linked to obesity, poor sleep and reduced time for PA (Carson et al., 2017). To date, limited research has been completed with regard to adherence of BVI children to these guidelines.

Methods: PA levels, sports participation, barriers to participation and mental health/well-being levels were evaluated based on self-reported questionnaire previously validated in the sighted population (Woods et al., 2022). PA guidelines referenced were as per World Health Organisation (WHO) of 60 minutes PA per day(World Health Organisation, 2020). Screentime targets were as per American Academy of Paediatrics and Canadian 24 hour movement guidelines (< 2 hours/day) (Carson et al., 2017).

Results/Conclusions: n=53, mean age 12.92 (± 2.76) years. PA levels were low - 9.6% of respondents achieved 60 mins of (moderate to vigorous) PA every day. There was no correlation between PA levels having a family member with a VI (Kendall's tau-b, p = 0.446). There was a statistically significant relationship between increased parental PA levels and children's PA levels. 90% (47/52) of children agreed or strongly agreed that MVPA will change their live for the better. Mean hours of screen time during the weekend days was significantly higher than AAP recommendations (3.06 ± 1.75 hours), mean weekday screen time was lower at (1.76 ± 1.21).

Insufficient PA levels contribute to adverse health outcomes. For BVI children additional benefits such as preventing future sights loss and facilitating social inclusion (Wong & Sabanayagam, 2020). Reducing screentime may offer one method of increasing PA levels but further work is needed to understand the barriers/motivators to PA in this cohort.

Carson, V., Chaput, J. P., Janssen, I., & Tremblay, M. S. (2017). Health associations with meeting new 24-hour movement guidelines for Canadian children and youth. Preventive Medicine, 95, 7–13. https://doi.org/10.1016/J.YPMED.2016.12.005 Di Cagno, A., Iuliano, E., Aquino, G., Fiorilli, G., Battaglia, C., Giombini, A., & Calcagno, G. (2013). Psychological well-being and social participation assessment in visually impaired subjects playing Torball: A controlled study. Research in Developmental Disabilities, 34(4), 1204–1209. https://doi.org/10.1016/J.RIDD.2012.11.010 Kozub, F. M., & Oh, H. K. (2004). An exploratory study of physical activity levels in children and adolescents with visual impairments. Clinical Kinesiology, 58(3), 1–7. Lieberman, L. J., Houston-Wilson, C., & Kozub, F. M. (2002). Perceived barriers to including students with visual impairments in general physical education. Adapted Physical Activity Quarterly, 19(3), 364–377.

https://doi.org/10.1123/APAQ.19.3.364 Warburton, D. E. R., Nicol, C. W., & Bredin, S. S. D. (2006). Health benefits of physical activity: the evidence. CMAJ : Canadian Medical Association Journal, 174(6), 801. https://doi.org/10.1503/CMAJ.051351 Wong, T. Y., & Sabanayagam, C. (2020). Strategies to Tackle the Global Burden of Diabetic Retinopathy: From Epidemiology to Artificial Intelligence. Ophthalmologica, 243(1), 9–20. https://doi.org/10.1159/000502387 Woods, C. B., Ng, K. W., Britton, U., McClelland, J., Sheikhi, A., McFlynn, P., Murphy, M., Goss, H., Behan, S., Philpott, C., Lester, D., Adamakis, M., Costa, J., Coppinger, T., Connolly, S., & Belton, S. (2022). Children's Sport Participation and Physical Activity Study 2022 CSPPA 2022 REPORT 2 Children's Sport Participation and Physical Activity Study 2022 3 CSPPA 2022 REPORT. https://doi.org/10.34961/researchrepository-ul.23609157 World Health Organisation. (2020). WHO Guidelines on Physical Activity And Sedentary Behaviour.

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Oral Presentation – Thursday 15.15-15.20
General Paediatrics

EARLY ESTIMATION OF LENGTH OF STAY FOLLOWING TRAUMATIC BRAIN INJURY IN CHILDREN: APPLYING THE REHABILITATION COMPLEXITY SCALE

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[2]School of Medicine, University College Dublin, Ireland

Background: Traumatic brain injury (TBI) is a leading cause of disability among young people in developed countries. Medium and long-term outcomes following TBI in children are difficult to predict in the immediate aftermath of injury. Prognostication is known to be important to families.

The Rehabilitation Complexity Scale (RCS-E) was developed for use in adults to measure the complexity of a person's rehabilitation needs. It has not yet been validated for paediatric populations.

Admission of 28 days or longer has been interpreted as inferring the occurrence of a "probable severe acquired brain injury (ABI) requiring rehabilitation" (PSABIR).

Aims: We aimed to investigate correlations between initial RCS-E score and length of inpatient admission.

Methods: Demographic data and RCS-E scores were gathered from the clinical database of the Acute Rehabilitation Service in CHI at Temple Street (tertiary paediatric hospital and national neurosurgical centre).RCS-E score is routinely collected for children with TBI within week one of admission.

Results: 84 completed TBI admissions were noted within the period of May 2021-August 2023. Average age at presentation was 10.5 years with a preponderance of males affected (73.8%). Average length of stay (LOS) was 11.4 days (range: 1-166 days). Most common mechanisms of injury included falls (46%), RTA (30%) and sports injury (12%).

RCS-E scoring was performed on 50 patients (59.52%). Maximum inpatient stay for those with an RCS-E score of 14 or less was 32 days (n=40). Patients with an RCS-E score of 20-25 had an average LOS of 84 days (range:42-166days).

No patient with lowest GCS recording of above 8/15 was admitted for longer than 14 days.

Conclusion: Higher initial RCS-E scores are associated with increased likelihood of longer inpatient admissions. A GCS score that does not fall below 8 is associated with a shorter inpatient admission.

Further research in larger cohorts may determine how best to use these tools, which may influence service design and provision.

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Oral Presentation – Thursday 15.20-15.25
General Paediatrics

THE POOR PREDICTIVE VALUE OF MICROSCOPY WBC COUNT IN URINE SAMPLES OBTAINED BY CLEAN CATCH IN CHILDREN 0-90 DAYS OLD

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AIMS: We aimed to audit the test characteristics of urine WBC count in microscopy obtained by clean catch as per local guidelines (1), in infants 0-90 days of age.

METHODS: Retrospective chart review of 320 randomly selected infants, 0-90 days of age, who had a urine culture done, in 2 EDs from 01/2021 to 12/2022.

Outcome measure was a Urinary Tract Infection (UTI) defined as a urine culture with a single or predominant growth of one organism ≥ 10,000 cfu with presence of WBC in microscopy or ≥ 50,000 cfu irrespective of the urine dipstick or microscopy results.

We used a cut off value of 10 WBC/microscopy to divide our urine WBC variable, based on the available literature for a positive urine microscopy. (2)

RESULTS: 312 patients were included in our analysis. The mean age was 44 days. 48.1% were female and 29.5% had a UTI.

29.5% were younger than 29 days, and 26.1% of those had a UTI. The cut-off of 10 WBC/hpf yielded a sensitivity of 41.7%, 95% CI: [22.1-63.6%] and a specificity of 86.7%, 95% CI: [76.4-93.8%].
In children ≥29 days old, 30.9% had a UTI. The cut-off of 10 WBC/hpf yielded a sensitivity of 48.5%, 95% CI [36.2-61.0%] and a specificity of 78.9%, 95% CI: [71.6-85.1%].

The Urine WBC ROC curves for both groups were poor. Using Youden scores, we found best cut-off of 1.5 WBC/hpf (sensitivity 51%, specificity 78) and 51 (sensitivity 36.8%, specificity 84.7%) respectively.

CONCLUSIONS: Our data shows that we cannot accurately interpret the predictive value of urine WBC count by microscopy obtained in infants 0-90 days, in our EDs. The method of urine collection needs to be revisited to align our predictive values with international standards (2,3) to aid in accurate decision making in this high risk group.

1-Recommendations | Urinary tract infection in under 16s: diagnosis and management | Guidance | NICE. [online] Available at: https://www.nice.org.uk/guidance/ng224/chapter/Recommendations. [Accessed 14 Feb. 2023] 2-American Academy of Pediatrics (2011). Urinary Tract Infection: Clinical Practice Guideline for the Diagnosis and Management of the Initial UTI in Febrile Infants and

Children 2 to 24 Months. PEDIATRICS, 128(3), pp.595–610. doi:https://doi.org/10.1542/peds.2011-1330.[Accessed 14 Feb. 2023] 3-Uwaezuoke, S., Ayuk, A. and Muoneke, U. (2020). Urinary Tract Infection in Children: A Review of the Established Practice Guidelines. EMJ Microbiology & Infectious Diseases, pp.57–65. doi:https://doi.org/10.33590/emjmicrobiolinfectdis/20-00001.

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Oral Presentation – Thursday 15.25-15.30
Sub-Specialty

COVID-19 RELATED ADMISSIONS IN PAEDIATRIC HOSPITALS IN DUBLIN: A RETROSPECTIVE CASE SERIES 2020-2022

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Aim: We aimed to characterize paediatric COVID-19 admissions to three the tertiary paediatric hospitals in Dublin.

Methods: A 33-Month retrospective observational study of paediatric COVID-19 admissions to Children's Health Ireland (CHI) at Temple Street, Crumlin, and Tallaght hospitals from March 2020 to December 2022, Children testing positive for SARS-CoV-2 were identified using an electronic hospital enquiry database. Patients >18years old or with incomplete data were excluded. Data on demographics, presentation (symptomatic /asymptomatic), presenting complaint, co-infections, ventilation requirement, and length of stay (LOS) were collected and analysed using Jamovi and Microsoft Excel. Symptomatic patients were defined as SARS-CoV-2 PCR test positive and one or more COVID-19 defining symptoms or identification of COVID-19 as cause of symptoms by the admitting paediatrician.

Results: A total of 1297 SARS-CoV-2 positive paediatric patients were admitted to the three hospitals over the 33-month study period, (male, 56.6%; female 43.4%). Most admissions (911, 70.2%) were <5years of age, with 43.6% (565) <1year old. 1015 (78.3%) SARS-CoV-2 positive admissions had symptomatic infection: respiratory symptoms (396, 39.0%), isolated fever (244, 24.0%) and GI symptoms (148, 14.6%). Presenting complaints were symmetrically distributed by gender. Median LOS in symptomatic cases was 2 days (IQR 1, 5). Older children had prolonged LOS (median 5 days, IQR 1, 10 in 13–15year olds). Median LOS was longer in asymptomatic than symptomatic cases (4 days, IQR 1,10.75). 81 (6.2%) patients required continuous (26, 2%) or non-invasive (55, 4.2%) ventilation. One in 6 cases in CHI Crumlin were hospital-acquired infections. There were <5 (0.15%) COVID-19 associated deaths reported during the study period.

Conclusions: Consistent with international experiences, paediatric COVID-19 admissions constituted a relatively small proportion of paediatric admissions in the three tertiary Dublin paediatric hospitals, primarily presenting with fever or respiratory symptoms. This has implications for appropriate and efficient resource allocation during public health crises for continued patient care.

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Oral Presentation – Thursday 15.30-15.35
Sub-Specialty

DIRECT DRUG PROVOCATION TESTING (DPT) TO DE-LABEL BETA-LACTAM ALLERGIC CHILDREN: A FOLLOW-UP STUDY

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Introduction:
False labels of beta-lactam allergy affect up to 5% of children. This leads to unnecessary healthcare costs, antimicrobial resistance, and suboptimal treatment.[1] Protocols for DPT are labour intensive and costly. This study reports on a more cost-effective method of de-labelling introduced into our unit in 2018 using direct DPT.[2,3]

Aims:
To de-label children misdiagnosed beta-lactam allergic using direct DPT, and to assess parental satisfaction with the process.

Methods:
We undertook a retrospective review of medical records of children referred to the Paediatric Beta-lactam DPT clinic, GUH from primary and secondary care. Patients were screened (using a proforma) for suitability to undergo direct DPT, without prior skin prick testing (SPT).[4]
DPT followed an established protocol which included: weight-based dose of beta-lactam given orally in outpatients with 2-hours observation, a 5-day course at home and telephone follow-up in one week to assess for allergy and parent satisfaction. Patients without an allergic reaction were considered successfully de-labelled.

Results:
Of the 170 children attending the DPT clinic, 168 (98%) had no reaction to the supervised first dose of beta-lactam; 1/170 (0.5%) had a hypersensitivity reaction (urticarial rash), and 1/170 (0.5%) had an indeterminate reaction.
A 5-day course of beta-lactam was prescribed to 169/170 (99%) and completed by 163/169 (96%). This resulted in 165/170 (97%) successfully de-labelled, 4/170 (2%) labelled beta-lactam allergic and 1/170 (0.5%) indeterminate.
Of the 165 children de-labelled, 158 (95.7%) parents were happy to give their child future beta-lactam antibiotics, 1/165 (0.6%) were reluctant, 1/165 (0.6%) only in severe infection, and 5/165 (3%) not documented. Parents (135/165;79%) reported satisfaction to undertake a similar procedure in primary care.

Conclusions:
Direct DPT without prior SPT is a safe way to de-label children who are low-risk for true beta-lactam allergy as determined by clinical history. Parental satisfaction with direct DPT is generally very high.

References:

1. Mirakian, R. et al. (2015) 'Management of allergy to penicillins and other beta-lactams', *Clinical & Experimental Allergy*, 45(2), pp. 300–327. doi:10.1111/cea.12468.
2. Allen, H.I. *et al.* (2020) 'A cost-analysis of outpatient paediatric penicillin allergy de-labelling using telemedicine', *Clinical & Experimental Allergy*, 51(3), pp. 495–498. doi:10.1111/cea.13782.
3. Allen, H. et al. (2019) '*De-labelling beta-lactam allergy in children in an outpatient setting using a single dose protocol*'. doi:10.1136/archdischild-2019-epa.71.
4. Savic, L. et al. (2022) 'BSACI guideline for the set-up of penicillin allergy de-labelling services by non-allergists working in a hospital setting', *Clinical & Experimental Allergy*, 52(10), pp. 1135–1141. doi:10.1111/cea.14217.

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Oral Presentation – Thursday 15.35-15.40
Sub-Specialty

PRELIMINARY RESULTS OF IMPEED STUDY: THE IMPACT OF ECZEMA ON EDUCATIONAL PARTICIPATION AND ACHIEVEMENT AMONGST CHILDREN IN IRELAND

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Aim: The IMPEED study is a mixed-methods cohort study of the impact of eczema on educational achievement and participation amongst children. Eczema is one of the most common chronic conditions in childhood and affects up to 20% of children in Ireland. There is significant literature reporting on the effect that chronic disease has on learning and school engagement, but few that examines eczema as one of these diseases.

Methods: Children with a diagnosis of eczema attending 1st Class up to 3rd Year were recruited from Paediatric Dermatology clinics. Eczema Area & Severity Index (EASI), Children's Dermatology Life Quality Index (CDLQI) and Patient Orientated Eczema Measure (POEM) scores were recorded. The caregiver and child undertook a questionnaire documenting demographics, dermatological and medical history, and information regarding the effect of eczema on the patient's school, social, and home life.

Results: To date, sixty-two patients have been recruited; mean age 9.7 years, 33 male (53%), 10 patients (16%) on systemic therapies for their eczema.

Forty-four (71%) children report eczema impacts their school day, mostly due to worry, itch, distraction and pain. Thirty-nine (62%) have missed school, primarily due to infective exacerbations, tiredness or distress. Self-consciousness of skin appearance, pain and worsening itch when hot/sweaty are barriers to participating in social and sporting activities.

Twenty (32%) caregivers are concerned about their child's learning and development, of these the average EASI score is 12.1 (vs 9.9 in those that have no concerned).

An average of 35 versus 80 minutes per day is spent on eczema management when skin is controlled versus flared. Eczema affects sleep in 87% of participants (n=54) and 68% of other household members (n=42).

Conclusion: The preliminary results of the IMPEED study emphasise the impact of eczema on children's school and related activities, in addition to family life. Objective academic measures are awaited.

Health Service Executive & Royal College of Physicians of Ireland. A National Model of Care for Paediatric Healthcare Services in Ireland Chapter 11: Paediatric Allergy. 2016. Health Service Executive & Royal College of Physicians of Ireland. A National Model of Care for Paediatric Healthcare Services in Ireland Chapter 22: Paediatric Dermatology. 2016. Taras H, Potts-Datema W. Chronic Health Conditions and Student Performance at School. Journal of School Health. 2005;75(7):255-66. Lum A, Wakefield CE, Donnan B, Burns MA, Fardell JE, Marshall GM. Understanding the school experiences of children and adolescents with serious chronic illness: a systematic meta-review. Child: Care, Health and Development. 2017;43(5):645-62.

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Oral Presentation – Thursday 15.40-15.45
Sub-Specialty

ANAPHYLAXIS ON THE LADDERS

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Aims: Anaphylaxis is on the rise in recent years and common triggers in children include milk and eggs. Standard management worldwide is strict allergen avoidance however recent studies have shown that a home-based gradual introduction of allergens via a ladder approach can be safe and effective. The suitability of infants for this treatment approach is debated and this study aims to focus on the cohort of infants with egg or milk allergy and symptoms of anaphylaxis at diagnosis.

Methods: Retrospective review of paediatric patients diagnosed with IgE-mediated milk and/or egg allergy between 2011-2021. Inclusion and exclusion criteria applied. Anaphylaxis defined as per the WAO amended criteria 2020. Data analysis utilised SPSS Version 28.

Results: 1552 patient charts; excluded 1094 (n=458). Patient cohorts were matched in gender, age at diagnosis, personal or family history of atopic conditions, other food allergies, SPT and SpIgE. Among 70 infants diagnosed with anaphylaxis (milk n=36, egg n=34), 77.8%-85.2% completed the ladder successfully; 88.9-92.9% without anaphylaxis succeeded (OR 0.441 95% CI 0.152-1.276, p=0.122). Rates of ladder completion were similar. 20.6-50% of infants with anaphylaxis had allergic symptoms during treatment vs. 17.3-40.7% without anaphylaxis. Reactions were mild, mostly cutaneous and not requiring medical attention. Patients who experienced allergic symptoms while progressing through the ladder were less likely to successfully complete the milk and egg ladders (OR 0.46, p=0.022).

Conclusion: In conclusion, milk and egg ladders are a safe and effective approach to inducing tolerance in infants, even in those with a history of anaphylaxis at diagnosis. Predicting which children may experience allergic reactions during ladder therapy remains challenging. Therefore, it is crucial to educate parents on managing mild allergic reactions at home to enhance the chances of successful ladder completion.

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Oral Presentation – Thursday 15.45-15.50
Sub-Specialty

MANAGING EGG ALLERGY: A CROSS-COUNTRY COMPARISON BETWEEN IRELAND AND SPAIN

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Aims: Egg allergy is the second most common food allergy in infants and a significant cause of anaphylaxis. The management of IgE-mediated egg allergy is debated worldwide. This study compares egg allergy management in Ireland, where stepwise home introduction via the egg ladder is standard practice, with the European norm of strict avoidance until natural tolerance acquisition.

Methods: Retrospective review of infants diagnosed with IgE-mediated egg allergy between 2011-2021 in Cork University Hospital, Ireland and Hospital Rio Carron, Palencia, Spain. Inclusion and exclusion criteria applied. Data analysis utilised STATA version 15.

Results: 1602 patient charts reviewed, 1267 excluded (n=335; n=285 Ireland, n=50 Spain). Successful reintroduction of egg to the diet was higher in the Irish cohort (94.3%) than in the Spanish cohort (78%). Irish infants achieved successful reintroduction faster (26.32 months vs. 28.8 months). Both cohorts had similar presenting symptoms, with more skin symptoms in the Irish cohort (e.g., urticaria 78.95%, angioedema 31.58%) and more gastrointestinal symptoms in the Spanish cohort (38% vs. 26.32%). Gender, presenting symptoms, other food allergy, personal or family history of atopy, did not impact successful reintroduction. 23% of Irish infants presented with symptoms of anaphylaxis with 39% receiving appropriate adrenaline treatment. 4% of Spanish infants presented with symptoms of anaphylaxis with none of them receiving adrenaline. 14% (n=41) of Irish infants had accidental exposures to egg (3 anaphylaxis), compared to 22% (n=11) in the Spanish cohort, with no accidental anaphylaxis. There were no episodes of anaphylaxis due to steps of the egg ladder.

Conclusion: Both strategies of egg allergy management are safe and effective but with higher and quicker success rates using the egg ladder approach. Given the burden of food allergies on children and families, optimal management is crucial. Our results are helpful in educating and empowering parents to take an active role in their child's allergy management.

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Oral Presentation – Thursday 16.20-16.30
Medical/Education Management

Exploring Barriers and Enablers to Paediatric -ED Simulation-Based Training in Emergency Departments: An International Qualitative Study

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Introduction: Simulation-based training (SBT) has gained significant traction within emergency medicine. The growing body of evidence describes the benefits that SBT can bring. However, identifying barriers and enablers when establishing successful SBT programmes in busy emergency departments (EDs), and ensuring longevity of such programmes, can be difficult.

Objective: We aim to identify barriers and enablers to SBT in busy EDs.

Methods: We explored and analysed the thoughts, experience and opinions of professionals involved in SBT and organisational support. 32 participants across 15 international sites were invited to a semistructured interview process. We included participants from a variety of backgrounds, from clinical staff to management staff. Transcribed interview data was classified and coded based on capability, opportunity and motivation behaviour (COM-B) domains and analysed based on theoretical domains framework. Frequency of the most mentioned thematic domain among participants is reported.

Results: The interview data revealed several common themes, including the following: knowledge and skills (90%), support and leadership (96%), mental barriers (87.5%), local culture (96.6%), dedicated space (65.2%), time constraints (46.8%), social influence (87.5%), education (90.6%), professional development (68.75%), exams (59.3%) and personal goals (93.75%). Management staff was observed to prioritise resource, staffing and flow, while the clinical cohort tended to focus on specialty and personal development when it came to simulation training in the ED.

Conclusion: Potential barriers and enablers to SBT and in situ simulation for EDs were identified through interviews conducted in this study. The central themes in terms of barriers and enablers were local culture, leadership, individual needs, resources and optimisation. A tailored approach is vital for establishing a successful SBT and in situ simulation programme.

Lateef F. Simulation-based learning: just like the real thing. J Emerg Trauma Shock 2010;3:348–52. doi:10.4103/0974-2700.70743CrossRefPubMedGoogle Scholar ↲Moorthy K, Vincent C, Darzi A. Simulation based training. BMJ 2005;330:493–4. doi:10.1136/bmj.330.7490.493FREE Full TextGoogle Scholar ↲Patterson MD, Geis GL, LeMaster T, et al. Impact of Multidisciplinary simulation-based training on patient safety in a Paediatric emergency Department. BMJ Qual Saf 2013;22:383–93. doi:10.1136/bmjqs-2012-000951Abstract/FREE Full TextGoogle Scholar ↲Aebersold M. The history of simulation and its impact on the future. AACN Adv Crit Care 2016;27:56–61. doi:10.4037/aacnacc2016436Abstract/FREE Full TextGoogle Scholar ↲Salas E, Wilson KA, Burke CS, et al. Using simulation-based training to improve patient safety: what does it take Jt Comm J Qual Patient Saf 2005;31:363–71. doi:10.1016/s1553-7250(05)31049-xPubMedGoogle Scholar ↲Scavone BM, Toledo P, Higgins N, et al. A randomized controlled trial of the impact of simulation-based training on resident performance during a simulated obstetric anesthesia emergency. Simul Healthc 2010;5:320–4. doi:10.1097/SIH.0b013e3181e602b3CrossRefPubMedGoogle Scholar ↲Lapierre A, Lavoie P, Castonguay V, et al. The influence of the simulation environment on teamwork and cognitive load in novice trauma professionals at the emergency Department: Piloting a randomized controlled trial. Int Emerg Nurs 2023;67:S1755-599X(22)00118-5.

doi:10.1016/j.ienj.2022.101261Google Scholar ↲Gardner AK, Scott DJ, Pedowitz RA, et al. Best practices across surgical specialties relating to simulation-based training. Surgery 2015;158:1395–402. doi:10.1016/j.surg.2015.03.041Google Scholar ↲Ziv A, Wolpe PR, Small SD, et al. Simulation-based medical education: an ethical imperative. Acad Med 2003;78:783–8. doi:10.1097/00001888-200308000-00006CrossRefPubMedWeb of ScienceGoogle Scholar ↲McGaghie WC, Issenberg SB, Cohen ER, et al. Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. Acad Med 2011;86:706–11.doi:10.1097/ACM.0b013e318217e119CrossRefPubMedGoogle Scholar ↲Ilgen JS, Sherbino J, Cook DA. Technology-enhanced simulation in emergency medicine: a systematic review and meta-analysis. Acad Emerg Med 2013;20:117–27. doi:10.1111/acem.12076CrossRefPubMedWeb of ScienceGoogle Scholar ↲Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for Characterising and designing behaviour change interventions. Implement Sci 2011;6:42. doi:10.1186/1748-5908-6-42Google Scholar ↲Foley J, Umana E, Patton A, et al. The establishment of the Irish Trainee emergency research network (ITERN). Ir Med J 2020;113:216.Google Scholar ↲Marshall B, Cardon P, Poddar A, et al. Does sample size matter in qualitative research?: A review of qualitative interviews in is research. J Comput Informat Syst 2013;54:11–22. doi:10.1080/08874417.2013.11645667Google Scholar ↲Blaikie N. Confounding issues related to determining sample size in qualitative research. Int J Soc Res Methodol 2018;21:635–41. doi:10.1080/13645579.2018.1454644Google Scholar ↲Guest G, Namey E, McKenna K, et al. How many focus groups are enough? building an evidence base for Nonprobability sample sizes. Field Methods 2017;29:3–22. doi:10.1177/1525822X16639015CrossRefGoogle Scholar ↲Creswell JW. Qualitative inquiry and research design: choosing among five traditions. Thousand Oaks, CA: Sage Publications, 1998. doi:10.1186/s13012-016-0534-zGoogle Scholar ↲Nowell LS, Norris JM, White DE, et al. Thematic analysis: striving to meet the trustworthiness criteria. Int J Qual Methods 2017;16:1609406917733847.Google Scholar ↲O'Brien BC, Harris IB, Beckman TJ, et al. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med 2014;89:1245–51. doi:10.1097/ACM.0000000000000388CrossRefPubMedGoogle Scholar ↲Myllykangas M, Ryynänen O-P, Kinnunen J, et al. Comparison of doctors', nurses', politicians' and public attitudes to health care priorities. J Health Serv Res Policy 1996;1:212–6. doi:10.1177/135581969600100406CrossRefGoogle Scholar ↲Köbberling J. Economic pressure in hospitals. Dtsch Arztebl Int 2017;114:795–6. doi:10.3238/arztebl.2017.0795Google Scholar ↲Shetty S, Zevin B, Grantcharov TP, et al. Perceptions, training experiences, and preferences of surgical residents toward Laparoscopic simulation training: a resident survey. J Surg Educ 2014;71:727–33. doi:10.1016/j.jsurg.2014.01.006CrossRefPubMedGoogle Scholar ↲Kurrek MM, Devitt JH. The cost for construction and operation of a simulation centre. Can J Anaesth 1997;44:1191–5. doi:10.1007/BF03013344CrossRefPubMedWeb of ScienceGoogle Scholar Department of Health. Equity and excellence: Liberating the NHS. UK: Department of Health,Google Scholar

Oral Presentation – Thursday 16.30-16.40
Medical/Education Management

How to Motivate and Support Irish Paediatric Trainees to Work in a Local Paediatric Unit

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Aims: This study aimed to assess how many current Irish Paediatric trainees plan to pursue a career as a consultant in a local Paediatric unit. Other aims were to evaluate the concerns of Paediatric physicians in Ireland about practicing in this setting, and to assess which of these concerns relate to training.

Methods: This was a mixed-methods original research study. Current higher specialist trainees' career plans and attitudes to working in a local unit were assessed by survey (70 participants; 46.7% response rate). Twenty-five consultants working in local units responded to a survey that explored how they thought more trainees could be enticed to pursue this career path. The above data was triangulated with semi-structured interviews (three each of consultants and trainees).

Results: Of trainees who want to work in Ireland (66), most (35) want to work in CHI (53%). Five (7.6%) said their first preference was to work in a local unit. The most common primary reason for trainees to want to work in a local unit was to be near family/friends and the most common deterrent was not suiting a spouse's/partner's career, followed by a previous negative training experience. Both consultants and trainees thought dedicated training pathways and increased special interest fellowship opportunities in Ireland would encourage more trainees to pursue this career option. For those interviewed, opportunity to acquire and maintain appropriate skills (especially in resuscitation), better support networks, recognition of skills, support to develop services and personal factors were important determinants of willingness to work in these units. Overall agreement between consultants and trainees was high.

Conclusions: Difficulty encouraging Paediatricians to work in local units in Ireland remains an issue. Targeted training with emphasis on resuscitation skills, better support networks and improved recognition of this type of work are needed.

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Oral Presentation – Thursday 16.40-16.50
Medical/Education Management

Language Suitability of the "Purpose Of The Study" in Patient Information Leaflets (Pils)

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Background: Patient information Leaflets (PILs) are necessary for informed consent forms (ICF). They are essential and ethical cornerstone(1) of all standard healthcare trials(2). The challenges are that attempt to comply with heavily regulated PIL guideline can result in a more difficult to understand PIL. There is a gap in the literature and numerous studies that readability, content or structure alone is not enough for adequate understanding. Investigating the language suitability of PILs for only the 'purpose of the study' will be most efficient in the assessment of participant understanding of the trial and a truly informed consent.

Aim: To determine if the PILs section detailing the purpose of the study meets recommended readability age and written in lay language.

Methods: Study-Within-A-Trial (SWAT) on recruitment. Previously collated 220 PILs from Clinical-Trial-Units (CTUs) was used. Trial characteristics data and readability score extracted. Readability test via online tool WebFX (https://www.webfx.com/tools/readable/#enter-text-tab) for reading age. Compatibility with the plain English UK and NALA guidelines(6,7) using the 6 common criteria of sentence-length, font-type, font-size, line-spacing, use of passive verb, use of justified text and a 7th criteria- use of uppercase/lowercase headings.

Results: No PIL achieved combined recommended readability age and plain English guideline. The purpose-of-study-heading and text readability score: 70% (n=150)-difficult, 25.6%(55)-average and only 4.65%(10) were easy and met the recommended reading age of 11-12years and below. 90%(9) of these are PIL written for children. 75% of the children specific PIL did not achieve recommended reading age. Those that attained reading age are still inadequate for targeted age group. Mean reading age is 16.4 years.

Conclusions: Despite health literacy model previously proposed(8) to improve PIL/ICF, it is discouraging to conclude that all the 'purpose-of-study' section of PIL in this study did not meet all the plain English language guideline and traditional readability score combined with implied questionable consent and assent. More effort and mandatory readability testing is recommended to achieve the reading age recommendation with active collaboration of researchers, patients and public.

1) Gillies Katie et al. Patient information leaflets (PILs) for UK randomised controlled trials: a feasibility study exploring whether they contain information to support decision making about trial participation. Trials 2014, 15:62; http://www.trialsjournal.com/content/15/1/62 2) World Medical Association. World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. JAMA. 2013;310(20):2191–2194.doi:10.1001/jama.2013.281053

https://jamanetwork.com/journals/jama/fullarticle/1760318 (accessed 21 April 2023) 3) EMA, 2016. https://health.ec.europa.eu/system/files/2016-11/2009_01_12_readability_guideline_final_en_0.pdf (accessed 30 April 2023) 4) HPRA, 2022. http://www.hpra.ie/docs/default-source/publications-forms/guidance-documents/guide-to-clinical-trials-conducted-under-the-ctr-in-ireland_v3.pdf?Status=Master&sfvrsn=30 (accessed 30 April 2023) 5) International Conference on Harmonisation (ICH): ICH Harmonised Tripartite Guideline: Guideline for Good Clinical Practice E6 (R1), Step 4 version. Geneva: ICH; 1996. 6) National Adult Literacy Agency. Plain English Guidelines at a Glance, https://www.nala.ie/publications/plain-english-guidelines-at-a-glance/ (2008, accessed 21 April 2023). 7) Plain English Campaign. Plain English Campaign Free Guides., http://www.plainenglish.co.uk/free-guides.html (2009, accessed 21 April 2023). 8) O'Sullivan L, Sukumar P, Crowley R, et al. Readability and understandability of clinical research patient information leaflets and consent forms in Ireland and the UK: a retrospective quantitative analysis. BMJ Open 2020; 10:e037994. doi:10.1136/ bmjopen-2020-037994 9) Shiely F, Daly A. Trial lay summaries were not fit for purpose; Journal of clinical Epidemiology 156 (2023) 105-112.

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Oral Presentation – Thursday 16.50-17.00
Neonatal

REPRODUCIBILITY OF THE EL-KHUFFASH PDA SEVERITY SCORE AND PDA DIAMETER MEASUREMENTS IN EXTREMELY PRETERM INFANTS

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Aims: Most randomised controlled trials (RCTs) use a Patent Ductus Arteriosus (PDA) diameter ≥ 1.5 mm to ascribe haemodynamic significance to the PDA despite strong evidence that PDA diameter in isolation is a very poor predictor of adverse outcome in preterm infants. We hypothesised that the PDA Severity Score (PDAsc) possesses superior intra- and inter-rater reproducibility when compared against measurement of PDA diameter alone.

Methods: Echocardiograms performed on infants < 30 weeks gestation at 36 to 72 hours of age between July 2020 and December 2022 we assessed to calculate the PDAsc. Intra-observer reproducibility of the PDAsc were assessed by blinded repeated measurements performed by one investigator (AS) 4 weeks apart. One set of those measurements was compared with blinded measurements by another investigator (RM) to assess inter-rater reliability.

Results: Echocardiograms from 150 infants were examined. Their mean ± SD gestation and birthweights were 26.5 ± 1.7 weeks and 903 ± 249 grams respectively. The PDAsc has superior intra- and inter-reproducibility values when compared with PDA diameter measurements alone, with near perfect agreement values as demonstrated by a low bias and LOA, ICC values > 0.98 and COV values < 1.5%. PDA diameter and LVO measurements demonstrated the poorest reproducibility values. The PDAsc demonstrated near perfect agreement both within raters (Kappa 0.97, $p<0.01$) and between raters (Cohen's Kappa 0.94, $p<0.01$) with regards to the threshold for treatment (a cut off ≥ 5.0). The PDA diameter threshold only demonstrated moderate agreement within raters (Cohen's Kappa 0.57, $p<0.01$) and between raters (Cohen's Kappa 0.54, $p<0.01$). In this cohort, 31% of infants with a low risk PDAsc (< 5.0) also had a PDA diameter greater than 1.5mm.

Conclusion: We demonstrated excellent intra- and inter-rater reproducibility of the PDA Severity Score. Future PDA RCTs should strongly consider abandoning PDA diameter in isolation as a criterion for recruitment into trials.

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Oral Presentation – Friday 09.50-09.55
Medical/Education Management

PROFESSIONALISM TEAM IMPLEMENTS A CHI DOCTOR MENTORSHIP PROGRAMME ACROSS THE CONTINUUM OF TRAINING FROM INTERN THROUGH TO CONSULTANT

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Aims: To establish a hospital group-wide doctor mentorship programme across the continuum of training and to involve > 130 doctors.

Methods: Phase 1 established the 'Children's Health Ireland (CHI) Mentorship Project for Recently Appointed Consultants' (October 2022). A specific curriculum for mentor training was developed. Mentors were peer-nominated. Mentees were invited from consultants appointed within the previous 18 months.
Phase 2 involved a 'Near-peer Mentorship for Non-Consultant Hospital Doctors' (NCHDs, March 2023), modelled on phase 1. Supported by the Faculty of Paediatrics, the Intern Network Coordinator for Dublin East and the CEO of the Forum of Irish Postgraduate Medical Training Bodies. Funding was obtained from the National Doctors Training Programme Development Funding Call 2023. Mentors and mentees were invited. Mentors underwent training and mentees attended an information session.

Mentor-mentee breakfasts were held. The mentorship programme has a structured format including 3-4 mentor-mentee meetings per year; a mentor-mentee pack including a template to guide meetings and a confidentiality agreement; regular check-in meetings with the faculty for both mentors and mentees; programme evaluation through multiple feedback channels.

Results: Phase 1 recruited 46 doctors (23 mentor-mentee pairs) and phase 2 recruited 109 doctors (25 consultants mentoring 25 registrars; 25 registrars mentoring 25 Senior House Officers (SHOs); 5 SHOs mentoring 5 interns). This surpassed our aim. One senior registrar requested to be both mentor and mentee. Following feedback at check-in meetings, amendments were made to the programme including frequency of meetings and evaluation forms as part of a continuous improvement process.

Conclusions: This CHI mentorship programme, the first of its kind nationally, implements one of the recommendations of the MacCraith Report (2024, Strategic Review of Medical Training and Career Structure). Interest in this programme exceeded expectations. This mentorship programme may be a template for other hospital groups.

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Oral Presentation – Friday 09.55-10.00
Sub-Specialty

Sleep Problems in Children and Adolescents in an Attention Deficit Hyperactivity Disorder Service.

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Aim: Sleep problems are common amongst children and adolescents with attention deficit hyperactivity disorder (ADHD). Despite this, they remain incompletely understood and there are inconsistencies in the literature regarding the types of sleep disturbances associated with ADHD. It is, therefore, challenging for ADHD services to recognise and manage sleep disturbances effectively using an evidence-based approach. As such, there is a strong imperative to further research in sleep problems within CAMHS to better serve the needs of service users with ADHD. The purpose of this study was to investigate sleep problems in children and adolescents attending a specialist ADHD service.

Methods: This was a cross-sectional online survey combined with a retrospective chart review, conducted in the ADHD Assessment, Diagnosis, Management, initiation, Research and Education (ADMiRE) service, the first public specialist ADHD service for young people in Ireland. Participants were caregivers of children and adolescents with ADHD attending ADMiRE. Sleep was assessed using The Children's Sleep Habits Questionnaire (CSHQ) and ADHD symptoms using an abbreviated version of the SNAP-IV. Details regarding patient demographics, comorbidities and medication were collected from patient records.

Results: Eighty-four percent of young people scored above the clinical cut-off for a sleep disorder. The most frequently reported sleep problems were related to sleep onset and sleep duration, and 64% of respondents met the criteria for two or more sleep problems. ADHD severity was associated with greater sleep problems. Co-morbid physical, neurodevelopmental, and mental health disorders as well as stimulant use were not associated with greater sleep problems.

Discussion: Sleep problems are very common amongst children and adolescents with ADHD. This study has demonstrated an association between more sleep problems and ADHD severity. These findings highlight the need for both effective ADHD treatment to ensure optional sleep in young people as well as effective interventions for sleep problems to prevent worsening of ADHD symptoms.

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October 24th, 2024

Oral Presentation – Friday 10.00-10.05
Sub-Specialty

Early Impact of Hybrid Closed-Loop Insulin Pump Systems in a Regional Paediatric Diabetes Population.

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Background: Hybrid closed-loop insulin pump systems recently became available within the Irish healthcare system, with potential to improve glycaemic control using algorithmic partially-automated insulin delivery.

Methods: We conducted a retrospective review of all patients who commenced hybrid closed-loop insulin pump systems between Jan 2022 and May 2023. Data were averaged across 3-monthly blocks (HbA1c, GMI, TIR, Hypos, CoV, %basal) at baseline and at 3 and 6 months after system commencement. Primary outcomes were difference in HbA1c and Time-in-range (TIR).

Results: Forty patients (M=50%) commenced hybrid systems, with a mean age of 12.4 ± 3.5 years and duration of diabetes of 7.7 ± 3.8 years. Mean HbA1c at baseline was 64 mmol/l (8.0%) which improved to 58.2 mmol/l (7.48%) at 3-months and 59.6% (7.56%) at 6-months post-commencement ($p<0.001$). Mean TIR at baseline was 47%, improving to 65% at 3 months and 62.4% at 6 months post-system start ($p<0.001$). Non-significant trend to reduction in hypoglycaemia was demonstrated with mean at baseline 1.85% and 1.55% at 6 months ($p=0.81$).

Conclusion: This early study suggests use of such insulin pump systems can result in improved glycaemic control in a paediatric population and these improvements in control are sustained at six months. Mean reduction in HbA1c of 0.5% was seen, with mean increase in TIR of 14.6%, showing promise for reduction in diabetes-related complications.

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Oral Presentation – Friday 10.05-10.10
Sub-Specialty

Outcome of Irish Children Admitted to PICU with Severe Myocarditis in the Last Decade, a Single Centre Experience.

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Aim: This study describes the course and the outcome of children who were admitted with severe myocarditis requiring PICU level of care.

Method: A 10-year retrospective data review of children admitted to PICU in CHI@Crumlin with a primary diagnosis of myocarditis between 2012 and 2022. Demographic data, PICU length of stay, requirement for invasive ventilation, Extracorporeal life support (ECLS), renal replacement therapy (RRT), cardiac function parameters, cardiac enzymes, kidney and liver functions, brain imaging, mortality and requirements of a heart transplant were collected

Result: During the last decade, 22 Irish children were admitted to PICU with severe myocarditis. Eleven males and eleven females, median age 3 years (IQR:1-8). All of these children were well with no comorbidities. A causative virus was isolated in 18/22 patients (82%). Initial Echocardiographic evaluation showed severe cardiac dysfunction, Median ejection fraction of 23% (IQR:16-30), and median fraction shortening of 11% (IQR:8-15). These parameters improved after Balloon Atrial Septostomy which was required in 11/22 patients (50%) and inotropic support required in 22/22 patients(100%).

9/22 patients (41%) required ECLS, median duration 8 days. 19/22 patients (86%) required invasive ventilation median duration 10 days (IQR:8-25). Cardiac enzymes (troponin, BNP and CK) were markedly elevated. 18/22 patients (80%) of patients had elevated markers of kidney and liver injury secondary to poor perfusion, and 5/22 patients (23%) required haemodialysis median duration 7 days (range 3-10).

3/22 patients(14%) died during their PICU stay. 4/22(18%) patients required cardiac transplant, and one patient required temporary LVAD. The remaining 14 patients were discharged alive from PICU. Median PICU length of stay was 14 days (IQR:10-31).

Conclusion: Myocarditis in children is a serious disease with high morbidity and mortality. A high index of suspicion is required for diagnosis. Early referral to PICU is necessary to improve the outcome.

Alan CK, Fulton DR (2023) Clinical manifestations and diagnosis of myocarditis in children. Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. http://www.uptodate.com.

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Oral Presentation – Friday 10.10-10.15
Sub-Specialty

ADJUNCTIVE METHOTREXATE IN THE MANAGEMENT OF ANTI-INFLIXIMAB ANTIBODIES IN PAEDIATRIC IBD

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Aim: Anti-TNF therapy is a highly effective therapy for inflammatory bowel disease (IBD) but anti-drug antibodies (ADAs) limit its durability and effectiveness. The aim of this study to investigate whether adding methotrexate co-immunosuppression following antibody development abrogates titre progression and averts secondary loss of response in children diagnosed with IBD.

Methods: We analysed the data of participants of the DOCHAS study of children with IBD who commenced on infliximab between January 2020 to December 2022. Clinical characteristics, disease phenotype, clinical activity indices, infusion frequencies and corresponding anti-drug antibody levels were analysed. Outcomes including secondary loss of response, medication durability and ADA titres were compared between groups with and without adjunctive methotrexate therapy.

Results: Between January 2020 to December 2022, 373 patients were newly diagnosed with IBD, and 184 (50%) patients commenced infliximab (median age at diagnosis 13 years; 108 (59%) male). Of these, 33/184 (18%) developed ADAs, 14 (42%) within 6 months of starting infliximab, 7 (21%) between 6months and 1 year and 2 (6%) after more than 1 year). Methotrexate was commenced in 20/184 (11%) patients: 2 to improve symptomatic response and 18/20 to manage asymptomatic ADAs. Reduced ADA titres were seen in 11/18 (61%), including 3 who needed a dose increase and 1 who needed re-induction. No ADA reduction was seen in 7/18 (39%). By comparison, of the 15 patients without adjunctive methotrexate, 3/15 (20%) lost infliximab response, ADAs were unchanged in 6/15 (40%), ADAs reduced spontaneously in 2/15(13%), reduced in 3/15 (20%) after infliximab dose increases, and 1/15 following re-induction of infliximab.

Conclusion: Anti-infliximab antibodies developed in less than 1 in 5 patients treated with infliximab within 2 years following a proactive therapeutic drug monitoring regimen. A modest benefit of adjunctive methotrexate in sustaining infliximab response was observed. Larger scale protocolised studies would help determine which patients may benefit from this approach.

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Oral Presentation – Friday 10.15-10.20
Sub-Specialty

PAEDIATRIC HIV IN IRELAND 2022, RESULTS OF THE NATIONAL HIV TREATMENT AUDIT

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Aims: To audit the level of virological control among paediatric patients living with HIV in Ireland as part of a national audit to assess Ireland's progress towards the UNAIDS targets of 90-90-90.

Methods: The Rainbow clinic at CHI is the national paediatric HIV treatment centre and the only provider of paediatric HAART. This audit was part of the HSE National HIV treatment audit. The inclusion criteria was access to HAART in 2022. The key outcome was viral suppression (copies/mL).

Results: There was a 700% increase in new referrals with paediatric HIV between 2021 and 2022. Thirty-two patients met inclusion criteria. Thirty (93.75%) attended Rainbow clinic in Crumlin. The mean age was 14 years (range 1-19 years). Twelve(37.5%) were male and 20(62.5%) were female. Eight(25%) were born in Ireland while the other 24 (75%) where migrants to the country since birth. Nine (28.12%) attended HIV care for the first time in Ireland in 2022. Thirty-two (100%) had ART dispensed at least once in 2022 and all 32(100%) had viral loads of <40cpm on their final measure in 2022.

Conclusion: There is a growing number of children attending HIV services in Ireland, mostly due to trends in inward migration. Paediatric HIV control for those attending services in 2022 was excellent. This is the result of intensive multi-disciplinary adherence support including nursing, social work and psychology. Adolescents and late paediatric diagnoses are vulnerable to poor adherence. Early detection if HIV among new arrivals depends on a high index of suspicion in paediatric units nationwide. Dedicated adolescent and transition services are essential.

1.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9352102/#:~:text=In%20December%202020%2C%20UNAIDS%20released,have%20viral%20suppression%20by%202025
2.https://www.hpsc.ie/az/hivandaids/hivtreatmentandprep/HSE%20Position%20on%20Antiretroviral%20Therapy_vFeb2018.pdf

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Oral Presentation – Friday 10.20-10.25
Sub-Specialty

ATOPIC OUTCOMES IN THE CORAL COHORT AT 3 YEARS

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Aims: To investigate atopic outcomes in the CORAL cohort born in COVID-19 lockdown at 3 years old.

Methods: A cross sectional analysis of a longitudinal observational study was performed. An electronic questionnaire was sent to consenting parents and statistical analysis was performed in SPSS version 28.

Results: 94 patients were restudied at 3 years. 22/94, (23%) have a frequent wheeze and 25/94, (27%) had used a short-acting Beta agonist inhaler (SABA) in the last 12 months. Maternal cigarette smoking N=5/94 (5%) had a significant association with infant wheeze, (4/5 (80%) vs 18/89 (22%), p<.05).

12/94 (13%) have persistent eczema at 3 years, a decrease from 20% at 2 years. There was no major difference in urban, 10/74 (14%) vs rural 2/20 (10%) rates of eczema. A household pet may be protective for eczema, no child with a pet had eczema at 3 years vs N=12/63 (19%) of those without a pet, p<.05.

Living on a busy road was associated with eczema,7/30 (23%) vs 5/64 (8%) not living on a busy road, p<.05.
There were no new food allergies reported from 2-3 years. Infants with eczema at 12 months have some increased SABA use at 3 years than those without {8/22, (36%) vs17/71,(24%), p=0.25}

Conclusions: Environment has a significant impact on childhood wheeze. Maternal smoking is rare but is predictably associated with frequent wheezing. Childhood eczema and food allergy decreased in prevalence from 2-3 years.

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Oral Presentation – Friday 14.00-14.10
Neonatal

IS THE CURRENT NEONATAL RESUSCITATION PROGRAM RECOMMENDED GUIDELINE ON ENDO-TRACHEAL TUBE DEPTH DETERMINATION A REPLACEMENT OF THE OLD GUIDELINE?

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Aims: To gain insight into the adherence of the healthcare providers to the current Neonatal Resuscitation Program (NRP) recommended guideline on the neonatal Endotracheal tube (ETT) depth determination.

Methods: We conducted an online survey of members of the American Academy of Pediatrics Section on Neonatal-Perinatal Medicine comprising neonatologists, nurse practitioners (NPs), neonatology fellows, physician assistants, hospitalists, and respiratory therapists from September 2022 through March 2023. The questionnaire contained 26 questions: 5 on demographics and 21 on ETT depth determination. The State University of New York Institutional Review Board at Stony Brook approved the study.

Results: Healthcare professionals from level 1 (n=3), level 2 (n=33), level 3 (n=293), and level 4 (n=386) Neonatal Intensive Care Units (NICU) participated in the survey. The 7-8-9 rule (weight in Kilogram + 6 cm) was the preferred method of the ETT depth determination compared to the current NRP guideline: the distance from the nasal septum to ear tragus plus 1cm (NTL formula) or the gestational age-based (GA) table ($p<0.0001$). Most responders were neonatologists (77.5%), 59.% had >10 years of intubation experience, 19.3% intubated ≥3 per month, and 33.1% of the intubations were by NPs. While “simplicity” made 67% of the healthcare providers use the 7-8-9 rule, “unavailability” of measuring tape or table prevented 62% and 58% of healthcare providers from using the NTL or GA-based table, respectively.

Conclusion: The 7-8-9 rule remains the method of choice for most healthcare providers for ETT depth determination despite the current recommendation of NRP for either the NTL or the GA-based table. The diverse opinion on the method of ETT depth determination indicates the necessity for the NRP to add the 7-8-9 rule as one of the methods of ETT depth determination in the next edition of the NRP textbook.

1. Response: Blayney MP, Logan DR. First thoracic vertebral body as reference for endotracheal tube placement. Arch Dis Child Fetal Neonatal Ed 1994; 71:F32-5. 2. Thayyil S, Nagakumar P, Gowers H, Sinha A. Optimal endotracheal tube tip position in extremely premature infants. Am J Perinatol 2008; 25:13-7. 3. Tochen ML. Orotracheal intubation in the newborn infant: a method for determining depth of tube insertion. J Pediatr 1979; 95:1050-1. 4. Kattwinkel J. Textbook of neonatal resuscitation. Lesson 5, endotracheal intubation. 6th ed. Dallas: American Heart Association and Elk Grove Village (IL): American Academy of Pediatrics; 2011. p. 182. 5. Shukla HK, Hendricks-Munoz KD, Atakent Y, Rapaport S. Rapid estimation of insertional length of endotracheal intubation in newborn infants. J Pediatr 1997; 131:561-4. 6. Kempley ST, Moreiras JW, Petrone FL. Endotracheal tube

length for neonatal intubation. Resuscitation 2008; 77:369-73. 7. Wang TC, Kuo LL, Lee CY.Utilizing nasal-tragus length to estimate optimal endotracheal tube depth for neonates in Taiwan. Indian J Pediatr 2011; 78:296-300. 8. Flinn AM, Travers CP, Laffan EE, O'Donnell CP. Estimating the endotracheal tube insertion depth in newborns using weight or gestation: a randomized trial. Neonatology 2015; 107:167-72. 9. Haubner LY, Barry JS, Johnston LC, Soghier L, Tatum PM, Kessler D, et al. Neonatal intubation performance: room for improvement in tertiary neonatal intensive care units. Resuscitation. 2013; 84:1359–64. 10. Leone TA, Rich W, Finer NN. Neonatal intubation: success of pediatric trainees. J Pediatr. 2005; 146:638–41.

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Oral Presentation – Friday 14.10-14.20
Neonatal

USING QUALITY IMPROVEMENT METHODS TO AVOID ORAL AVERSION IN A COMPLEX NEONATAL COHORT

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Background: Oral aversion is a learnt aversion to feeding (Goday et. al. 2019). Oral aversion is a key contributor to failure to thrive (FTT) (Haliburton et al., 2015). Even in the absence of FTT, children with aversive feeding problems are at risk of negative developmental, social and emotional outcomes (Romano, 2015) and their parent's experience higher rates of caregiver-related stress (Silverman, Erato and Goday, 2020).

Studies have reported on prevalence rates of feeding difficulties post discharge from NICU as between 33% and 80% (Wood et al. 2003, Mathisen et al. 2000, Jadcherla 2016, Sweet al. 2003, Cerro et al. 2002). Over half of these infants presenting with feeding difficulties would present with an oral aversion or lack of motivation to feed as their primary feeding deficit (Budd et al. 1992).

High oral aversion rates of 71% were noted in medically and surgically complex neonates in our service prompting the authors to undertake a journey of improvement with the aim of decreasing the number of patients presenting with aversive feeding behaviours.

Methods: We developed a feeding protocol and provided same to all patients admitted with Congenital Diaphragmatic Hernia (CDH) from October 2022. Supportive oral cares with colostrum were introduced consistently and staff training on oral aversion was initiated. The model of improvement (Langley et al. 2009) was the framework utilised for achieving improvement.

Results: From September 2022 to August 2023, 90% of patients were discharged on full oral feeds without features of an oral aversion. The subsequent reduction in feeding deficits resulted in a reduction in length of stay for these patients. The one patient discharged with features of oral aversion progressed to full oral feeds without aversive features 3 months post discharge.

Conclusion: Our project has shown that with consistent dysphagia provider led early intervention oral aversion can be significantly reduced in this cohort of surgically and medically complex infants.

Goday, P.S., Huh, S.Y., Silverman, A., Lukens, C.T., Dodrill, P., Cohen, S.S., Delaney, A.L., Feuling, M.B., Noel, R.J., Gisel, E., Kenzer, A., Kessler, D.B., Kraus de Camargo, O., Browne, J. and Phalen, J.A., 2019. Pediatric Feeding Disorder: Consensus Definition and Conceptual Framework. Journal of Pediatric Gastroenterology and Nutrition, 68(1). Haliburton, B., Mouzaki, M., Chiang, M., Scaini, V., Marcon, M., Moraes, T.J. and Chiu, P.P., 2015. Long-term nutritional morbidity for congenital diaphragmatic hernia survivors: failure to thrive extends well into childhood and adolescence. Journal of pediatric surgery, 50(5), pp. 734-738. Silverman, A.H., Erato, G. and Goday, P., 2020. The relationship between

chronic paediatric feeding disorders and caregiver stress. Journal of Child Health Care, 25(1), pp. 69-80. Wood, N.S., Costeloe, K., Gibson, A.T., Hennessy, E.M., Marlow, N. and Wilkinson, A.R., 2003. The EPICure study: growth and associated problems in children born at 25 weeks of gestational age or less. Archives of Disease in Childhood-Fetal and Neonatal Edition, 88(6), pp. F492-F500. Mathisen, B., Worrall, L., O'Callaghan, M., Wall, C. and Shepherd, R.W., 2000. Feeding problems and dysphagia in six-month-old extremely low birth weight infants. Advances in Speech Language Pathology, 2(1), pp. 9-17. Jadcherla, S., 2016. Dysphagia in the high-risk infant: potential factors and mechanisms1–3. The American Journal of Clinical Nutrition, 103(2), pp. 622S-628S. Sweet, M.P., Hodgman, J.E., Pena, I., Barton, L., Pavlova, Z. and Ramanathan, R., 2003. Two-year outcome of infants weighing 600 grams or less at birth and born 1994 through 1998. Obstetrics & Gynecology, 101(1), pp. 18-23. Cerro, N., Zeunert, S., Simmer, K.N. and Daniels, L.A., 2002. Eating behaviour of children 1.5–3.5 years born preterm: Parents' perceptions. Journal of paediatrics and child health, 38(1), pp. 72-78. Budd, K.S., McGraw, T.E., Farbisz, R., Murphy, T.B., Hawkins, D., Heilman, N. and Werle, M., 1992. Psychosocial concomitants of children's feeding disorders. Journal of Pediatric Psychology, 17(1), pp. 81-94. Langley, G.J., Moen, R.D., Nolan, K.M., Nolan, T.W., Norman, C.L. and Provost, L.P., 2009. The improvement guide: a practical approach to enhancing organizational performance. USA: John Wiley & Sons.

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Oral Presentation – Friday 14.20-14.30
Neonatal

INFLAMMATION PROTEINS INCREASE AFTER PLATELET TRANSFUSIONS IN THE NEONATAL INTENSIVE CARE UNIT

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[2]Neonatology, University College Dublin, Dublin , Ireland
[3]Neonatology, Rotunda Hospital , Dublin , Ireland
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Aims: Studies have demonstrated increased morbidity and mortality with platelet transfusions in the neonatal period and at two years corrected. Platelets are as important for host immunity and inflammation as for haemostasis. Increased inflammation may explain the dose-associated increase in mortality, bleeding, and lung disease noted after platelet transfusions in the NICU population. Mouse models have demonstrated an increase in inflammation levels after platelet transfusions. This study aims to assess if the there are any changes in inflammatory cytokines post-platelet transfusion in babies in NICU

Methods: This prospective observational study recruited babies due to receive a non-emergency platelet transfusion. Samples were collected prior to and two hours post-platelet transfusion. Samples were processed using multiplex immunoassay to enable analysis of tiny blood volumes in dried bloodspot samples. Statistical analysis was performed using R. Results corrected for multiple pairwise comparisons.

Results: 17 babies underwent 26 platelet transfusions across two centres. Median birthweight was 1545g (535-3960g) and median birth gestation was 31 weeks and one day (23+1 – 40+5). Median pre-transfusion platelet count was $19.5x10^9$/l.

There was a significant increase in levels of CXCL5 ($p<0.001$), CD40 ($p=0.001$), TGF-β ($p=0.001$) in neonatal blood samples post-platelet transfusion in the study group.

Conclusion: The increase in the pro-inflammatory cytokines CXCL5, CD40 and TGF-β noted in this study after platelet transfusion in babies in NICU could potentiate existing inflammation, NEC, lung, or white matter injury. This is the first time that this has been demonstrated in human neonates. This could potentially explain long-term harm from platelet transfusion in babies.

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Oral Presentation – Friday 14.30-14.40
Neonatal

IN VITRO PLATELET TRANSFUSION THROUGH LONG LINES USED IN NICU IS SAFE AND FEASIBLE

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[4]School of Public Health, University College Dublin, Ireland

Aims: There is very limited evidence available on transfusing platelets through long lines that are used in NICU – including umbilical venous catheters and peripherally inserted central catheters (PICC). There are anecdotal concerns that platelet transfusions could block long lines in NICU. Handling an unwell baby to site an extra PIVC for a platelet transfusion could This study aims to assess the safety and feasibility of platelet transfusion through small bore long lines used in the Neonatal Intensive Care Unit (NICU), including double lumen umbilical venous catheters and 24G (2Fr) and 28G (1Fr) peripherally inserted central catheters (PICC)

Methods: This prospective *in-vitro* controlled study recruited donors to donate platelet apheresis units for research. The study was approved by the REC. *In-vitro* platelet transfusions were set-up as per NICU practice in the Blood Services Laboratory. Transfusion line pressure was monitored. Post transfusion swirling, presence of aggregates, pH analysis and automated cell count were assessed. *In-vitro* activation response by flow cytometry assessing CD62P expression were assessed.

Results: All 80 transfusions completed successfully. Rate of infusion was reduced in 5/16 transfusions through 28G lines due to 'pressure high' alarms. There was no difference in swirling values or transfusion aggregate formation, CD62P expression levels, platelet count, platelet distribution width, mean platelet volume, plateletcrit (PCR) or platelet-large cell ratio (PLCR) across transfusions post-transfusion.

Conclusions: This study showed that *in vitro* platelet transfusion performed through 24G and 28G neonatal PICC lines and double lumen UVCs is non-inferior to 24G short cannulas, using outcome measures of platelet clumping, platelet activation, and line occlusion. This suggests that where available these lines can be used if necessary for transfusion of platelets

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Oral Presentation – Friday 14.40-14.50
Neonatal

RISK OF ADMISSION TO NICU FOR INFANTS BORN TO MOTHERS WITH DIABETES: AN EVIDENCE-BASED APPROACH TO COUNSELLING

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Background

- An increasing prevalence of pregestational and gestational diabetes(GDM) in pregnancy.
- Early diagnosis and strict glucose control in the antenatal period reduces maternal and neo natal complications.

Aim

- To define neonatal outcomes including admission rate to the NICU by gestational age and d iabetes type.
- To provide up-to-date, local data to support health care professionals when counselling pa tients with diabetes in pregnancy.

Methods

- A retrospective observational study in an Irish tertiary maternity hospital From January 201 8-December 2020
- 3,891 infants born between 32-42weeks gestation to mothers with pregestational and gest ational diabetes
- *Neonatal factors:* Gestational age, birth weight, mode of delivery, APGARs, reason for admi ssion, length of stay, need for respiratory and fluid support, hypoglycaemia and mortality
- *Maternal factors:* Age, smoking, BMI≥30, pre-eclampsia/pregnancy-induced hypertension, a nd use of antenatal steroids

Results

- 3,891 infants were identified (GDM n=3755, T1DM n=70, T2DM n=66)
- <10% were preterm (<37 weeks, n=336)
- Mothers with T1DM were more likely to have a preterm delivery [OR (95%CI) T1DM 6.02(3 .57-9.9);T2DM 2.56(1.29-4.6); GDM 0.08 (0.07-0.09)]
- There was a statistical difference in gestational age at delivery (Fig.1) without a difference i n birth weight(p=0.49)
- Infants <34weeks were automatically admitted for prematurity
- The admission rates were 12.5%, 40% and 30% for GDM, T1DM and T2DM cohorts respecti vely
- Risk ratios were 0.13 (0.12-0.14) for the GDM cohort; 3.32(2.33-4.58) for the T1DM; and 2.3 9(1.55-3.50) for the T2DM
- Respective median(IQR) length of stay was 2.1 (1.104.5), 4(2-9.1), 3.1(0.9-8.8) for GDM, T1D M and T2DM cohorts.

Conclusion

- A large but unbalanced data set. Prematurity was rare

- Relative macrosomia may trigger earlier delivery in the T1DM cohort, where a high association with respiratory distress but low association with perinatal stress/HIE was seen
- The T1DM cohort had a higher rate and risk of admission than T2DM and GDM
- The T2DM cohort were most likely to be admitted with hypoglycaemia, possibly reflecting a difference in glycaemic control
- Length of stay for the T1DM cohort was almost twice that of the GDM group. This forms part of an ongoing study

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Oral Presentation – Friday 14.50-15.00
Neonatal

IMPACT OF A RISK-BASED PATENT DUCTUS ARTERIOSUS TREATMENT PROGRAMME IN A LEVEL THREE NEONATAL INTENSIVE CARE UNIT: AN INTERIM ANALYSIS.

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Introduction: The management of a haemodynamically significant patent ductus arteriosus (hsPDA) in extremely preterm infants is an area of ongoing controversy. Our group recently devised a PDA severity score (PDAsc) that showed promise in potentially reducing the rate of chronic lung disease (CLD) when used to identify and treat high-risk infants with a hsPDA[1]. In this study, we present the impact of early hemodynamic screening and treatment using the PDAsc in a cohort of preterm infants.

Methods: Retrospective cohort study of prospectively gathered data. A cohort of infants < 30 weeks GESTATION from July 2020 onwards who received a targeted hsPDA treatment approach based on the PDAsc (Epoch 2) were compared with a historical high-risk cohort who underwent screening using the PDAsc but were not offered treatment (Epoch 1). Echocardiogram was performed between 24-48 hours. Treatment was with ibuprofen/paracetamol if deemed high-risk (PDAsc ≥ 5.0). Repeat treatment was administered if PDA patency was documented after initial treatment. The composite outcome of CLD/mortality and its individual components were assessed.

Results: Eighty-five infants were included in Epoch 2 (active treatment) and were compared to 104 infants in Epoch 1 (no PDA treatment). There was no difference in PDA diameter or PDAsc between the two groups. Infants in Epoch 2 had a lower number of ventilation days, oxygen days, CLD/Death and CLD alone ($p < 0.05$). Further improvement in outcomes were seen when those who successfully closed their PDA were compared with those who did not close their PDA ($p < 0.05$).

Conclusion: Precise identification of high-risk infants is key to the success of early-targeted PDA therapy and may have an effect on reducing respiratory morbidity.

1. Bussmann N, Smith A, Breatnach CR, et al. Patent ductus arteriosus shunt elimination results in a reduction in adverse outcomes: a post hoc analysis of the PDA RCT cohort. Journal of perinatology : official journal of the California Perinatal Association 2021;41(5):1134-41.

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Oral Presentation – Friday 15.00-15.10
Neonatal

SMALL FOR GESTATIONAL AGE INFANTS HAVE DELAYED PHYSIOLOGIC MATURATION

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Aims: We reported previously (1) that babies born 1300-1800g and small for gestational age (SGA) had a significantly later postmenstrual age (PMA) at physiologic maturity (PM). In that study, we relied on "obstetrical best dating" for gestational age (GA), but not all mothers had a first trimester ultrasound. We performed a new study to test the hypothesis that accurately-dated SGA infants reach PM later than non-SGA infants.

Methods: We examined retrospectively all SGA infants born <37 weeks (w) GA in 2021-2022, with dating confirmed by first trimester ultrasound, and compared to GA-matched exactly non-SGA control infants. PM was based on AAP guidelines (2): (1) no apneas/bradycardias for 5 days (d) without caffeine, (2) thermoregulation for 48 hours (h) in an open crib, (3) oral feeding of ≥ 120ml/kg/day without gavage feeding, (4) consistent weight gain for minimum of 2d, and (5) no unprompted desaturations for 24h. A sample size calculation based on the ~one-week difference we found previously indicated we needed 26 babies in each group, but we used a larger n to not miss a smaller difference.

Results: In 182 infants studied, with average GA of 34.8w, PMA at PM was higher in the SGA group (37.4±2.8 vs. 36.6±1.1, P= 0.01, by t-test). The most discrepant of the five PM milestones individually was the PMA apnea/bradycardia-free for 5d (37.0w vs. 36.2w, P=0.004, by Wilcoxon rank-sum test). However, all PM milestones except 2d weight gain were reached ~0.4-0.6 weeks later by the SGA infants. When assessing birth weight (BW) percentile as a continuous variable, lower BW percentile was highly significantly associated with a higher PMA at PM by linear regression (P=0.005).

Conclusion: These data support our hypothesis that growth restriction is associated with delayed maturation. We believe this is the first study to report this association.

(1) Desai RK, Bhola M, Ronis S, Ryan RM. How much does a minimum weight at discharge delay discharge from the neonatal intensive care unit? J Neonatal Perinatal Med. 2023 Sep 14. Online ahead of print. PMID: 37718866 (2) Stark AR, Adamkin DH, Batton DG, Bell EF, Bhutani VK, Denson SE et al. Hospital discharge of the high-risk neonate committee on fetus and newborn. Pediatrics. 2008; 122: 1119–1126.

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Oral Presentation – Friday 15.10-15.20
Neonatal

Increased Number of Congenital Syphilis (CS) in Ireland 2001-2023

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[10]Department of Paediatric Infectious Diseases, Children's Health Ireland, Dublin, Ireland

Aims: Congenital syphilis caused by vertical transmission of Treponema pallidum can manifest as stillbirth, neonatal death and multiorgan clinical signs[1]. Infant management is risk stratified based on maternal serology and treatment. The aims of this study were 1) to determine the number of CS since 2001 and 2) describe the clinical and demographic features of these cases with a focus on risk factors for infant transmission.

Methods: Retrospective chart review using a pre-defined data extraction tool to identify a case series of confirmed or probable CS as per centres for disease control (CDC) guidelines[3].

Results: From 2001 there were 11 cases of CS (8 confirmed, 3 probable); 7 (64%) diagnosed since June 2022.

Pre-2022, 4 infants confirmed postnatally; 1 stillbirth, 1 neonatal death and 2 multiorgan manifestations of congenital syphilis. Mothers had no antenatal care.

Seven CS from June 2022, 4 confirmed. women presented late for antenatal care; 1 in-utero diagnosis, 1 did not receive recommended treatment, 1 delayed antenatal treatment, and one had adequate timely treatment. Respective infants; 1 multiorgan CS and 3 with long bone signs.

Three probable CS infants with high cerebrospinal fluid white cell counts with no other cause; 2 mothers had inadequate treatment or treatment failure for recent or active syphilis and one had timely adequate antenatal treatment.

Conclusion: There is a recent increase in CS in Ireland mirroring the global increase of syphilis in heterosexual populations in resource rich settings.

Late presentation to antenatal care was highly associated with the risk of CS. However treatment failure and no additional risks for infant transmission were also identified. Gestational syphilis management algorithms are complex. Early involvement of infectious disease/genitourinary teams may

prevent CS. Public health interventions for timely access to antenatal care and infection screening in vulnerable populations are essential.

1. Hussain SA, Vaidya R. Congenital Syphilis. [Updated 2023 Aug 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK537087/ 2. The Rainbow Clinic Children's Health Ireland - Butler K, Ferguson W, Goode M, Lyons F. Preventing Perinatal Transmission. A practical guide to antenatal and perinatal management of HIV, Hepatitis B, Hepatitis C, HSV and Syphilis. 1st ed. 2015. 3.Congenital syphilis - STI treatment guidelines [Internet]. Centers for Disease Control and Prevention; 2021 [cited 2023 Sept 29]. Available from: https://www.cdc.gov/std/treatment-guidelines/congenital-syphilis.htm

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Oral Presentation – Friday 15.20-15.30
Medical/Education Management

DIGITAL WAYS OF WORKING IN PAEDIATRICS IN IRELAND: HOW (IN)EFFICIENT ARE WE?

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[2]Digital Health, Children's Health Ireland, Dublin, Ireland

Aims: Clinicians work with inefficient digital infrastructure and systems. There is international evidence for time and money lost(1)(2) but none from an Irish Healthcare setting. This study aimed to quantify delays in the compilation of patient data due to inefficient or lacking digital systems.

Methods: Over 6 weeks, doctors of varying seniority in an Irish Children's Hospital– both in an emergency and inpatient department setting - were observed for 5 hours a day. Time loss was recorded using a stopwatch. Data collected was compiled into an Excel database and thematic commonalities were established.

Results: The data revealed that 19.25 hours out of 46.54 hours were lost in clinical documentation due to inefficient working practices. Translated into an 8-hour shift, consultants, registrars and SHOs lost 73, 58 and 70 minutes respectively or 17 days when looking at annual loss.

Consultants and registrars lost time in system disjointedness (multiple logins, data duplication) (33.87% and 36.34%respectively) whereas SHOs struggled with finding/filling prescription pads (30.75%). Clinicians on the wards lost 26.05% of time in manual duplication of data while the ED clinicians lost 31.85% owing to system disjointedness.

When comparing the average of 10 equivalent documentation events in the ED against IPD, we found that 46.09% of time was saved per patient on typing patient notes into the Symphony system as opposed to using paper charts.

Conclusion: Paper-based methods were resented by clinicians andcontributed to time loss. Where digital systems are present, delays occurred due to numerous logins and data duplication. Implementation of digital solutions like single sign-on systems are known to reduce time loss and disjointedness with a reduction in password entry frequency. (3) This study supports the need for efficient digital infrastructure and systems and provides evidence for the cost savings achievable in an Irish healthcare setting.

1) Hilton J. (2020). Careless costs related to inefficient technology used within NHS England. Clinical medicine (London, England), 20(1), 115. https://doi.org/10.7861/clinmed.2019-0340 2) Hospitals Lose $8.3 Billion Using Old Technology [Internet]. AJMC. 2013 [cited 2023 Sep 15]. Available from: https://www.ajmc.com/view/hospitals-lose-83-billion-using-old-technology 3) Purkayastha S, Gichoya JW, Addepally AS. Implementation of a single sign-on system between practice, research and learning systems. Applied Clinical Informatics. 2017;26(01):306–12.

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Oral Presentation – Friday 15.30-15.40
General Paediatrics

The Maskey Impact Survey: the Impact of the Maskey Report on Child and Adolescent Psychiatrists in Ireland

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Aim: The Maskey review of South Kerry CAMHS and subsequent Mental Health Commission reviews has led to significant public and political discussion and concern. The study aimed to explore any clinical or personal impact on child and adolescent psychiatrists (CAP) following the Maskey report (MR).

Method: The study was cross-sectional and mixed methods. An anonymous researcher-devised questionnaire was distributed electronically by the College of Psychiatrists of Ireland (CPI) to all CAP consultants and senior registrars. The study sought participants' perspectives on the impact, of the MR regarding clinical practice, public perception of CAMHS, views on the HSE response, motivation and stress in work and challenges of working within CAMHS.

Results: A total of 102 clinicians responded (63.8% response rate). Respondents reported improved psychopharmacological vigilance including increased adherence to international clinical guidelines (*n*=59, 57.8%), medical record keeping (*n*=65, 63.7%) and increased medical monitoring (n=62, 60.8%). Negative impacts reported were of prescription hesitancy (*n*=44, 43.1%), increased bureaucracy, and distrust of management. Fifty-two respondents (51.0%) felt that NCHD training in psychopharmacology was poor. Adverse personal impacts reported included increased low morale, increased stress, with many respondents considering leaving CAMHS. Psychiatrists identified many perpetuating factors making service delivery at CAMHS challenging, including low staffing, unmanageable workloads, a lack of resources and teaching opportunities, negative media reporting and unclear expectations from patients/caregivers regarding the remit of CAMHS.

Discussion: With growing evidence of medication effectiveness as part of treatment for youth with mental illness, it is of concern that respondents indicated high levels of medication hesitancy, even when considered clinically indicated. This is even more concerning given the recognized resource poor and lack of available and timely access to evidence based psychotherapeutic approaches for youth in CAMHS. Recommended improvements to CAMHS will require not only dedicated resourcing but also restoration of competencies and confidence in an effective treatment modality.

Poster No. 1
General Paediatrics

INITIAL VBG AND LACTATE MEASUREMENT ON FEBRILE CHILDREN PRESENTING TO ED

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Aims: Early recognition and timely intervention leads to improved outcomes in sepsis. Elevated initial lactate levels in children with suspected sepsis has been associated with increased mortality. I wanted to assess if lactate levels were being measured in our patients who presented to ED with pyrexia. Secondly, to educate and endorse routine lactate measurement as part of our septic work up.

Methods: 6 month retrospective review of lactate measurement from febrile children (Temp >38C) admitted from ED (July 2022 – December 2022). Medical and lab records were accessed to ascertain lactates.

Results: There were 57 patients included, 63.2% were female, 100% had phlebotomy and all were admitted. Only 31.6% had a lactate taken, mean level was 2.2(range 1.1-4). The Patient with lactate of 4 was diagnosed with sepsis. 15.8% of VBGs were acidotic.

Conclusions: Lactate measurement is currently not being routinely undertaken on patients with pyrexia. This can be an important prognostic tool for this cohort and is advised as part of the HSE National Sepsis Programme (NSP). Education sessions have taken place to highlight, encourage and endorse lactate measurement as part of our triage bloods in febrile patients. A re-audit of this data will take place later in the year to complete the audit cycle.

References:

1. Scott, H. F., Brou, L., Deakyne, S. J., Kempe, A., Fairclough, D. L., & Bajaj, L. (2017). Association between early lactate levels and 30-day mortality in clinically suspected sepsis in children. JAMA pediatrics, 171(3), 249-255.
2. National Implementation Plan for SSCGC Paediatric Sepsis Guidelines. HSE (2020).

Poster No. 2
General Paediatrics

OBJECTS ARE FAR OR NEAR TO ME! – ALICE IN WONDERLAND SYNDROME: A RARE NEUROLOGICAL MANIFESTATION.

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[2]Adjunct Clinical Lecturer, University College Cork, Ireland.
[3]Senior Clinical Lecturer, University College Cork, Ireland.

Aims: To report, raise awareness and highlight the symptoms, causes and management of Alice in Wonderland syndrome in pediatrics age group.

Methods: Case presentation and retrospective review of clinical notes, data and investigations results. Literatures review of Alice in Wonderland syndrome with search in PubMed, Cochrane and Google scholar. Consent obtained from the patient's careers.

Results: A previously healthy 12-year-old boy presented with three-day history of seeing objects near or far away from him lasting for few seconds. He was frightened and had to sit outside his home to escape his apparent visual misconception. No neurological deficit, head injury or injection of unusual mushroom. His development is normal. No family history of genetic, metabolic, social or mental health issues. His symptoms persisted daily during the ward admission and at discharge it improved but continues to occur 1-2 times/week in the last 2 months. His physical examination especially his eyes and neurological examination were normal. Laboratory results including FBC, U&E, LFT, Bone profile, TFT, CRP, ESR were unremarkable. CSF analysis and urine toxicology were negative. MRI-brain was normal. Viral serology, PCR in serum and CSF were negative. Borrelia burgdorferi (Lyme) serology, ASOT, Anti NMDA antibody in serum and CSF, and Electroencephalogram are pending at the time of this report.

Conclusion: Alice-in-Wonderland syndrome (AIWS) first described in 1955 is a perceptual disorder embracing a spectrum of self-experienced paroxysmal body image illusions including most commonly distortions of shape (metamorphopsia), distance (pelopsia or teleopsia), size (macropsia or micropsia) color and movement, among other visual and somesthetic distortions. Auditory hallucinations, depersonalization and derealization, have also been described (1). Divided into 8 main groups, with neurologic disorders affecting mostly adults and elderly patients and encephalitis affecting mostly patients aged ≤18 years(2). The condition is relatively rare. If any etiology is identified such as migraine, Lyme, encephalitis, etc. treatment is directed at the cause. In our index case no cause was found and supportive management is advised.

1.Perez-Garcia, L., Pacheco, O., Delgado-Noguera, L. et al. (2021). "Infectious causes of Alice in Wonderland syndrome." Journal of NeuroVirology, 27, pp. 550–556. Doi: https://doi.org/10.1007/s13365-021-00988-8. 2.Blom JD. Alice in Wonderland syndrome: A systematic review. Neurol Clin Pract. 2016 Jun;6(3):259-270. doi: 10.1212/CPJ.0000000000000251. PMID: 27347442; PMCID: PMC4909520

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Poster No. 3
General Paediatrics

ONGOING KNEE PAIN – PSYCHSOMATIC?

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[2]Adjunct Clinical Lecturer, University College Cork, Tralee, Ireland
[3]General Practitioner Trainee, University Kerry Hospital, Tralee, Ireland
[4]Clinical lecturer, University College Cork, Tralee, Ireland

Aims: Primary benign bone tumors have been known to be a rare occurrence in pediatric population to which their exact incidences are unknown [(1)]. The aim is raise an awareness of the benign bone tumors in pediatrics age group. Therefore, the poster presents a case of a 6 years old girl complained of three weeks, intermittent, nocturnal, left knee pain. The pain was getting worse and was partially relieved by paracetamol and ibuprofen. She had normal clinical examination with normal range of movement of the limbs. During day time, the child would be playing well in the play area. Her laboratory results including FBC, U&E, LFT, Uric acid, Rheumatoid factor, CK, LDH, ESR and ASOT were normal. Her X-ray and ultrasound left knee were reported as normal. Her MRI knee was inconclusive and Her CT left knee showed osteoid osteoma. Subsequently, she was transferred to tertiary center for surgical care because of being symptomatic.

Methods: This is a retrospective case presentation. Information was gathered from the patient medical chart keeping in mind the general data protection regulation (GDPR) and after taking the appropriate consent from the patient's careers. The main references are listed below.

Results: A poster presentation was compiled to present a case of osteoid osteoma.

Conclusion: A clinical presentation of benign bone tumors is non-specific and inconsistent and can be difficult to distinguish from malignant tumors[(1)]. A histological diagnosis is not necessary, if the radiological finding is clear and consistent with clinical picture but is required if inconclusive [(1)]. Up to 40 percent of osteoid osteomas are not evident on radiography and require computed tomography (CT) for recognition[(2)]. The case illustrates a structured approach in a symptomatic child leading to the diagnosis of osteoid osteoma.

1. Jonathan R. Perera, Asif Saifuddin and Rob Pollock (2017). "Management of benign bone tumours." Orthopaedics and Trauma, 31(3), pp. 151-160. Doi: https://doi.org/10.1016/j.mporth.2017.03.008. 2. John E Tis, MD "Nonmalignant bone lesions in children and adolescents" up to date.

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Poster No. 4
General Paediatrics

CASE REPORT OF 15-YEAR-OLD PATIENT WITH SPINAL CORD COMPRESSION: T-CELL RICH LARGE B-CELL LYMPHOMA THAT IS C-MYC REARRANGEMENT IN PAEDIATRIC PATIENT

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[1]Department of Pediatrics, University Hospital Kerry, Tralee, Ireland.
[2]Adjunct Clinical Lecturer, University College Cork, Ireland.
[3]Senior Clinical Lecturer, University College Cork, Ireland.

Aims: Report a rare case of T cell rich large B cell lymphoma in a child with unusual neurological presentation. To raise awareness of its possible occurrence in children.

Methods: Case presentation and retrospective review of clinical notes, data, investigations and management results. Literatures review of T cell/Histiocyte-rich B cell lymphoma from PubMed and Google scholar. Consent was obtained.

Results: A 15 years old boy presented with a 6 weeks history of progressive back pain after heavy lifting and 4 weeks of lower extremities weakness and altered sensation. He denied any headaches, vomiting, B-symptoms, and bowel or bladder dysfunction. He had absent knee reflexes and an unsteady gait. The rest of the clinical examination and blood investigations were normal, apart from slight elevation of creatinine. His MRI spine with contrast report showed diffusely neoplastic process with multiple lesions in the vertebral bodies throughout the spine. In the mid thoracic region, an epidural mass was noted from C7-T9. In addition, there was an extensive paraspinal soft tissue component to the mass at these levels. In conclusion, there was an extensive neoplastic process throughout the spine and para-spinal soft tissue with mass effect on the spinal cord. His diagnosis was challenging to arrive at in the beginning but after extensive investigations he was diagnosed with T-Cell/Histiocyte rich large B-Cell lymphoma with C-MYC rearrangement. He was commenced on the treatment and responded effectively at the time.

Conclusion: Diffuse large B-cell lymphoma (DLBCL) is the most common histologic subtype of non-hodgkin lymphoma (1). In all cases, they have some infiltrating reactive T-cells and macrophages (histocytes), but in some tumors these cells predominate (1) and are called T-cell histocyte rich B-cell lymphoma. It is rare in children (2) and few cases reported. In 2017, World Health Organization classified it as a separate entity (1).

1- A.S. Freedman, A.Lister, A.G.Rosmarin, (2022). “Epidemiology, clinical manifestations, pathologic features, and diagnosis of diffuse large B cell lymphoma” UpToDate. Available at: https://www.uptodate.com/contents/epidemiology-clinical-manifestations-pathologic-features-and-diagnosis-of-diffuse-large-b-cell-lymphoma (Accessed: 5 October 2023). 2- Kamara, I., Womey, K. M. C., Silué, D. A., Botti, R.-P., Djeket, R., Kouakou, B., Koffi, G. (2023). “T-cell/Histiocyte-rich Large B-cell Lymphoma in Pediatric Patients: a Reported Case of a 16-year-old Patient in Clinical Hematology Department of the University Teaching Hospital of Yopougon (Abidjan-Ivory Coast).”European scientific journal, 13, 22. Available at: https://eujournal.org/index.php/esj/article/view/16315 (Accessed: 5 October2023).

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Poster No. 5
General Paediatrics

ADHERENCE TO NICE GUIDELINES IN DIAGNOSIS AND MANAGEMENT OF PAEDIATRIC URINARY TRACT INFECTION (UTI) AT UNIVERSITY HOSPITAL WATERFORD

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Background: UTIs in children commonly encounter bacterial infections that can pose severe complications if misdiagnosed or inadequately managed. Accurate diagnosis is challenging due to non-specific symptoms, emphasizing the need for adherence to evidence-based guidelines like those provided by NICE.

Aims: To evaluate our paediatric department's diagnostic and therapeutic approach towards urinary tract infections (UTI) in children against NICE guidelines, identifying potential gaps and areas for refinement.

Methods: A cross-sectional review involved patients presenting UTI symptoms to our paediatrics department at University Hospital Waterford from January to June 2022. Data related to patient demographics, diagnostic measures, and prescribed treatments were documented and subsequently analysed using Excel software.

Results: Twenty-seven patients were examined; 66.6% were female. Age distribution: 40.7% aged <6 months, 33.3% between 6 months-3 years, and 25.9% >3 years. All underwent urine dipstick testing on arrival. Guideline adherence varied, particularly concerning imaging protocols across different age categories. For instance, 82% of infants had an admission ultrasound (as recommended), and 73% received unnecessary follow-up scans. Culture predominantly revealed E.coli (90%); every UTI-diagnosed child was administered antibiotics.

Conclusion: Despite a broad alignment with NICE guidelines in managing paediatric UTIs, a need exists to improve specific practices, especially imaging protocols. Challenges include subjectivity in UTI categorization and delays in hospital consultations due to preliminary treatments at primary health centres.

Urinary tract infection in under 16s: diagnosis and management NICE guideline [NG224]Published: 27 July 2022

Poster No. 6
General Paediatrics

IS IT AN EATING DISORDER (ED) OR INFLAMMATORY BOWEL DISEASE (IBD)?

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Aims: In order to raise the awareness of atypical presentations of IBD in the paediatrics age group, our poster aims to highlight a case of IBD/Crohn's Disease in a 10-year old female patient with a presentation highly suggestive of Avoidant Restrictive Food Intake Disorder (ARFID), all laboratory tests and investigations were normal on admission, however following a lengthy hospital stay and repeated investigations a diagnosis of Crohn's disease was reached.

Methods: This is a retrospective case presentation. Information was gathered from the patient's medical records in line with GDPR requirements and parental consent.

Result: A poster presentation was created to demonstrate the significant aspects of this case, highlighting the importance of ruling out organic causes associated with atypical gastrointestinal (GI) symptoms in children. A 10-year-old patient initially presented with symptoms of decreased appetite, restrictive food patterns and weight loss, 6 weeks after recovering from gastroenteritis. Her baseline laboratory and imaging studies were normal. She was admitted and treated under dietician review, however her weight continued to drop over 6 weeks, with no gastrointestinal symptoms. A faecal calprotectin level sent was elevated (1090), however due to the lack of other symptoms suggestive of IBD, no further investigation was indicated. A repeat calprotectin level 4 weeks later had returned higher (2993), with the ongoing weight loss, the patient underwent colonoscopy- which diagnosed Crohn's disease and commenced treatment with good effect.

Conclusion: It is crucial to rule out organic causes of GI symptoms in patients with suspected eating disorder. Normal laboratory results do not rule out organic disease; where a high index of suspicion is present, further investigation should always be undertaken. A structured diagnostic approach leads to prompt diagnosis and initiation of management. High Faecal calprotectin is very specific in diagnosing paediatric inflammatory bowel disease.

1. Ye Y, Manne S, Treem WR, Bennett D. Prevalence of Inflammatory Bowel Disease in Pediatric and Adult Populations: Recent Estimates From Large National Databases in the United States, 2007-2016. Inflammatory Bowel Disease 2. Wong K, Isaac DM, Wine E. Growth Delay in Inflammatory Bowel Diseases: Significance, Causes, and Management. Digestive Diseases and Sciences. 2021 Jan 12;66(4):954–64 3. Ajbar A, Cross E, Matoi S, Hay CA, Baines LM, Saunders B, et al. Diagnostic Delay in Pediatric Inflammatory Bowel Disease: A Systematic Review. Digestive Diseases and Sciences. 2022 Mar 14; 4. Ricciuto A, Mack DR, Huynh HQ, Jacobson K, Otley AR, deBruyn J, et al. Diagnostic Delay Is Associated With Complicated Disease and Growth Impairment in Paediatric Crohn's Disease. Journal of Crohn's & Colitis [Internet]. 2021 Mar 5 [cited 2022 Dec 3];15(3):419–31 5. Jeong SJ. The role of fecal calprotectin in pediatric disease. Korean Journal of Pediatrics. 2019 Aug 15;62(8):287–91. 6. Ashton JJ, Harden A, Beattie RM. Paediatric inflammatory bowel disease: improving early diagnosis. Archives of Disease in Childhood. 2017 Nov 24;103(4):307–8. 7. von Allmen D. Pediatric Crohn's Disease. Clinics in Colon and Rectal Surgery. 2018 Feb 25;31(02):080–8.

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Poster No. 7
General Paediatrics

MULTIDISCIPLINARY CARE OF A PAEDIATRIC PATIENT WITH GRADENIGO'S SYNDROME POST MASTOIDITIS: A CASE REPORT

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[2]School of Medicine, University Hospital Limerick

AIMS

Gradenigo's syndrome is a characteristic triad of suppurative otitis media, pain in distribution of trigeminal nerve and abducens nerve palsy that is caused by contiguous spread of petrous apicitis secondary to otitis media. It is rare disorder, with incidence of 2 per 100,000.

METHOD

We reviewed the case of a 14-year-old boy who presented with severe mastoiditis and developed symptoms consistent with Gradenigo's syndrome.

RESULT

A 14-year-old boy presented with a three-day history of blood-streaked, profuse discharge from the right ear, mastoid bone tenderness, and restricted neck mobility. Initial neurological assessments were unremarkable. Several hours following admission, additional symptoms including swelling and painful movement of the right eye; as well as right 6th and 7th nerve palsies developed. Urgent CT Head and Neck showed severe otitis media and mastoiditis with thrombosis of right transverse sinus, internal jugular vein and cavernous sinus.
MRI brain and MRV Cerebral veins revealed an extensive epidural abscess at the skull base with intracranial extra axial extension, extensive cerebral sinus thrombosis and narrowing of internal carotid arteries. A multidisciplinary strategy resulted in his transfer to CHI Crumlin's ENT department, where he underwent a right-sided cortical mastoidectomy. The predominant growth on culture was a streptococcus milleri. Post-surgery, the Infectious Disease and Microbiology teams consulted and recommended IV ceftriaxone and oral metronidazole for six weeks. A three-month course of rivaroxaban was prescribed on advice of Haematology.
Follow-up at three months demonstrated considerable improvement, with no residual cranial nerve anomalies. Nonetheless, he experiences recurring, intermittent hearing loss on the right side and is receiving audiological input. Presently, he awaits additional imaging to evaluate the status of the thrombi.

CONCLUSION

Gradenigo's syndrome is a rare and life threatening complication of acute otitis media that requires prompt identification, with multidisciplinary intervention and care.

Poster No. 8
General Paediatrics

A CASE OF SPONTANEOUS PNEUMOMEDIASTINUM AND SUBCUTANEOUS EMPHYSEMA IN A TEENAGER

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BACKGROUND

Spontaneous pneumomediastinum refers to the presence of air in mediastinum. It's a rare condition, having an incidence ranging from 1 in 800 to 1 in 42000 paediatric cases [1]. The clinical triad of chest pain, respiratory distress and subcutaneous emphysema is classic [2].

AIM

To report case of pneumomediastinum in a teenager due to lower respiratory tract infection.

METHOD

To describe a case of pneumomediastinum in a teenager with LRTI. We describe the case history, physical exam findings, investigations that lead to the diagnosis of pneumomediastinum along with its management plan.

RESULTS

A 13 year old boy had been unwell for 2 days, with sore throat and mild coughing. Presented in A&E with acute onset of respiratory distress and chest discomfort.

Initial observation showed oxygen saturation of 92%, heart rate 118bpm and respiratory rate of 24/min. He was having increased work of breathing with intercostal and subcostal recession, using accessory neck muscles. There was bilateral equal air entry, with wheeze audible on auscultation. Crepitus was palpable in left supraclavicular fossa. A trial of back to back nebulisation with salbutamol was given, which resulted in mild improvement in work of breathing and saturation. Investigation revealed neutrophilia and a raised CRP of 22. Blood gas was normal. Chest radiograph revealed surgical emphysema and mild pneumomediastinum. IV Co-amoxiclav and Azithromycin were started along with 40% O2 through venturi mask. CT neck/thorax showed inflammatory changes in lingula along with extensive pneumomediastinum and surgical emphysema. Barium swallow was done to rule out oesophageal involvement. Pneumomediastinum had resolved completely on x-ray by day 5. Child was discharged on 2 week course of Co-Amoxiclav.

CONCLUSION

A predisposing condition can be found in most cases. Respiratory conditions account for most cases, asthma exacerbations being the most common trigger followed by lower respiratory tract infection. Although pneumediastinum is a benign condition, requiring conservative management; concomitant pneumothorax, oesophageal perforation, and underlying asthma needs to be ruled out[2].

1.Chalumeau, M., Le Clainche, L., Sayeg, N., Sannier, N., Michel, J.-L., Marianowski, R., Jouvet, P., Scheinmann, P. and de Blic, J. (2001), Spontaneous pneumomediastinum in children. Pediatr. Pulmonol., 31: 67-75. https://doi.org/10.1002/10990496(200101)31:13.0.CO;2-J. 2. José Meireles,

Sara Neves, Alexandra Castro, Margarida França,Spontaneous pneumomediastinum revisited,Respiratory Medicine CME,Volume 4, Issue 4,2011,Pages 181 -183,ISSN 1755-0017,https://doi.org/10.1016/j.rmedc.2011.03.005

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Poster No. 9
General Paediatrics

UTILITY OF RADIOLOGICAL INVESTIGATIONS IN PAEDIATRIC PATIENTS PRESENTING WITH ABDOMINAL PAIN IN THE EMERGENCY ROOM

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Aim: Paediatric abdominal pain is a frequent presentation to the emergency department in Ireland and a wide differential diagnosis contributes to the challenges involved in assessing these patients. The aim of this study was to determine the type of radiological investigations done in ED for paediatric patients presenting with abdominal pain and whether the investigations were indicated.

The Royal College of Radiologist guidelines for abdominal[1], and chest x-ray's[2] were used.

The American Institute of Ultrasound in Medicine guidelines for abdominal ultrasound was used[3].

Methods: This is a retrospective audit. Children between the ages 1-16 in the period 01/01/2023 – 31/01/2923 were identified using the Wexford General Hospital citrix portal 'ICTS abdominal pain triage' classification. All radiological reports and documented requests were reviewed anonymously.

Results: 79 patients were included, 36 male and 43 female.

12 abdominal ultrasounds were done. Two cases were gynaecological. The appendix was not visualized in three cases, the findings were nonspecific in 2 and one was uncomplicated appendicitis. 2 were normal. One showed splenomegaly and intussusception respectively. One was to rule out a fluid collection and the other for generalized abdominal pain >1 week.

10 Chest x-rays were done. 50% was done to rule out visceral perforation and 50% to rule out chest pathology.

2 abdominal x-rays were done, one for a swallowed foreign body and one to rule out free air under diaphragm.

One CTB and 3 MRI brains were done.

Conclusion: This retrospective audit demonstrated that all radiological investigations which were done were indicated as per guidelines[1,2,3].

In particular, our findings did not show an excess of abdominal x-rays being done with the added risk of unnecessary radiation exposure.

The limitations of abdominal ultrasound as a diagnostic tool for appendicitis were demonstrated by the finding that findings were inconclusive in 50% of ultrasound studies done for suspected appendicitis.

As an additional outcome of this study we realized the need for an algorithm as a guideline for the triage of acute abdominal pain.

References:

1. iRefer Guidelines, RCR Version 8.0.1 May2017 https://www.irefer.org.uk/guidelines
2. Royal College of Radiologists working party. Making the best use of clinical radiology services. 6th EDN. London: Royal College of radiologists; 2007 (PUBMED)(Google Scholar)
3. (2022), The AIUM Practice Parameter for the Performance of an Ultrasound Examination of the Abdomen and/or Retroperitoneum. J Ultrasound Med, 41: E1E8. https://doi.org/10.1002/jum.15874

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Poster No. 10
General Paediatrics

SUBGALEAL HEMATOMA IN AN ADOLESCENT AS A RARE RESULT OF HEAD MASSAGE

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Aim: To investigate the occurrence, clinical presentation, and management of subgaleal hematoma in an adolescent as a rare result of head massage.

Method: A 15-year-old boy presented with sudden onset of headaches following a head massage. Detailed clinical, radiological, and neurological assessments were carried out. Computed tomography (CT) scan was utilized for diagnostic confirmation. Full blood count and coagulation profile was normal. Conservative management was adopted, with close monitoring of the patient's clinical and neurological status.

Result: CT scan revealed a well-defined subgaleal hematoma. There was no evidence of any intracranial injuries, such as skull fractures or contusions. The location and nature of the hematoma suggested a direct link to the massage's applied mechanical force. The patient's symptoms gradually subsided over two weeks, paralleled by radiological signs of hematoma resorption. There was no need for surgical intervention, and the patient was discharged with instructions on precautionary measures and potential risks associated with similar future incidents.

Conclusion: In some cases, head massage, which is generally thought to be a safe procedure, can result in serious complications such as subgaleal hematoma. It is critical that healthcare providers and therapists are aware of this potential risk, particularly in younger people with more elastic brain tissues. Patient education, gentle massage techniques, and prompt medical attention in the event of post-massage neurological symptoms can all help to prevent and manage this uncommon complication.

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Poster No. 11
General Paediatrics

RETT SYNDROME

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Aim: To investigate the clinical characteristics, the process of diagnosis, and therapeutic interventions of a 4-year-old girl with Rett syndrome who was presented with a regression of milestones.

Method: The clinical history, neurological examinations, and genetic testing of the patient were all reviewed. The presence of specific MECP2 mutations was confirmed as a diagnostic criteria for Rett syndrome. The patient was also evaluated for developmental milestone regression. Based on the identified needs, interventions and therapeutic measures were implemented.

Results: The patient showed normal development until the age of 16 months, when there was a noticeable decline in verbal communication, hand skills, and social engagement. She began to exhibit stereotypic hand movements and signs of impaired gross motor function. Genetic testing revealed a mutation in the MECP2 gene, which is consistent with a Rett syndrome diagnosis. The metabolic workup was uneventful. Following the diagnosis, a multidisciplinary team approach was implemented, which included physical, occupational, and speech therapy.

Conclusion: Young girls who exhibit a regression in developmental milestones should be evaluated for Rett syndrome, despite its rarity, especially if the condition is accompanied by stereotypical hand movements. A multidisciplinary therapeutic approach and early diagnosis through genetic testing can significantly enhance these patients' quality of life. It is advised that more research be done to examine the long-term effects and potential for new treatments for Rett syndrome.

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Poster No. 12
General Paediatrics

MANAGEMENT OF HIGH HBA1c > 9% (75 MMOL/MOL)

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Aim: We audited management of our patients with high HbA1c (> 9% or 75 mmol/mol) against the national guideline 1 , aiming to improve quality.

Method: Children attending our diabetes clinic 01/12/2022 to 28/02/2023.during this time were identified from the iPMS. We examined management as per guidance by reviewing clinic letters retrieved from T-Pro and from patient charts. We measured HbA1c using Point-of Care testing.

Results: Of 52 patients identified, 15 (29%) had high HbA1c. Of these, 12 were <11 years. 3 patients were newly diagnosed, so 11 were long term patients. 2 of the new patients carb managing, as were 2 of the long term patients; the remainder were carb counting. All long term patients were already using continuous glucose monitoring (CGM) devices. All new patients started CGM during the audit period. Of the 14, all had the checks recommended at their initial appointment. One patient was advised for lumpy sites. Only 5 had follow-up within the 6 weeks recommended in the guideline. 3 patients (2 new and 1 old) had HbA1c >9% (75 mmol/mol) at follow-up.

The guideline recommends MDT review; all 14 were seen by doctor and nurse but staffing shortages meant there was no dietitian in the clinic, none had a separate review. One patient was receiving a youth counselling service (FDYS); one was waitlisted for community psychology services; the remainder had no psychological support (some had declined referral).

Conclusion: We were unable to adhere to guidance for the majority of our patients. We identified a
cohort of long-term patients aged > 11 years needing frequent MDT follow up. Our quality improvement plan is to increase the frequency of doctor and nurse appointments and offer group sessions for diabetes education and carb counting. Structural issues including lack of community psychology prevent full MDT service.

1. NATIONAL CLINICAL GUIDELINE: Management of Paediatric Type 1 Diabetes Patient with a HbA1c > 9% or 75mmol/mol. (2019) Clinical Strategy and Programme Division, Health Service Executive. http://13.94.105.41/eng/about/who/cspd/ncps/paediatrics- neonatology/resources/management-of-paediatric-type-1-diabetes-patient-with-a-hba1c- greater-than-9-.pdf 2. PPPG CLIN 000 241 Policy: High HbA1c in children with Type 1 Diabetes. Wexford General Hospital, 2020.

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Poster No. 13
General Paediatrics

LEG PAIN, COULD IT BE SEPSIS?

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Introduction: International Guidelines for the Management of Septic Shock and Sepsis-Associated Organ Dysfunction in Children (SSCGC) were introduced by the Surviving Sepsis Campaign group in the year 2020 and were adopted by the HSE. Paediatric sepsis forms were introduced for the evaluation of a child with suspected sepsis, which suggested altered functional status like severe leg pain as an amber flag for sepsis. Sepsis is defined as life threatening organ dysfunction resulting from dysregulated host response to infection.

Method: A 15 years old boy presented to the Emergency Department (ED) with six days history of fever, vomiting, diarrhoea and one day history of severe calf muscles pain. His examination was unremarkable except for moderate dehydration and bilateral calf muscles pain.

His blood work up showed high inflammatory markers, CK, liver and kidney function tests. (CRP 163, WCC 11.4, neutrophils 10.1, HB 13.7, platelets 82, urea 12.6, Sodium 132, Potassium 3.4, creatinine 144, ALT 90 Gamma GT 111 CK 4698. Urine microscopy was normal.

Results: The impression was of sepsis secondary to acute gastroenteritis with acute kidney injury and myositis. Haemolytic uremic syndrome was considered unlikely.

He received two 10ml/kg boluses of Hartman solution followed by 5% dehydration fluids with IV Cefotaxime. Repeat bloods in four hours showed improvement in all the markers.

His presentation was discussed with the infectious diseases team who suggested it may be sepsis with toxic shock syndrome. Intravenous Clindamycin and a stat dose of IV Immunoglobulins were added to the management and his care was accepted by the PICU. His clinical condition and biochemical markers returned to normal in ten days. All of his microbiology work up was negative.

Conclusion: This demonstrates the multi-disciplinary approach and multi system history for early recognition and management of sepsis. It shows atypical symptoms like leg pain could be sepsis.

References:

HSE (2021). International Guidelines for the Management of Septic Shock & Sepsis Associated Organ Dysfunction in Children (SSCGC): National Implementation Plan.

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Poster No. 14
General Paediatrics

INVESTIGATING PERMANENT CHILDHOOD HEARING LOSS: AETIOLOGIES IDENTIFIED AND AN AUDIT OF COMPLIANCE WITH BRITISH ASSOCIATION OF AUDIOLOGICAL PHYSICIANS GUIDELINES

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Aims: Investigating childhood hearing loss is important as determining the underlying cause can have management and prognostic implications for both hearing loss and potential co-occurring conditions. Our study aimed: 1) to determine the aetiological causes of hearing loss identified through investigations at our centre, and 2) to evaluate compliance with British Association of Audiological Physicians (BAAP) 2015 guidelines.

Methods: We retrospectively reviewed outpatient clinic letters of 80 patients who underwent aetiological investigations for permanent hearing loss at the University Hospital Waterford Department of Paediatrics between April 2015 to April 2022 (7 year period).

Results: The aetiology of hearing loss was inconclusive in 66% (53/80) while no cause was found in 14% (11/80), pathogenic DFNB1 gene mutations were found in 13% (10/80), neurological abnormality was seen in 3% (2/80), bacterial meningitis was the cause in 1% (1/80), an ear anatomical cause was identified in 1% (1/80) and CHARGE syndrome was diagnosed in 1% (1/80). Of the cases that required the following investigations to comply with the BAAP guidelines, family audiogram referral was missing in 97% (77/79), urinalysis was missing in 72% (42/58), ECG was missing in 61% (11/18), Guthrie card for CMV testing was missing in 61% (11/18), ophthalmology referral was missing in 33% (26/79), imaging was missing in 27% (21/79), genetic testing was missing in 7% (4/60) and CMV testing was missing in 1% (1/79).

Conclusion: The aetiology of hearing loss could not be determined in over half of cases due to missing investigations. 19% (15/80) of cases had an identified aetiological cause after completed investigations. The majority of cases had missing investigations, thus did not comply with BAAP guidelines. Family audiogram, ECG, urinalysis and Guthrie card CMV testing were the most commonly missed investigations. A proforma with a checklist was developed to streamline the investigations to improve compliance with BAAP guidelines.

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Poster No. 15
General Paediatrics

ESTIMATION OF RESPIRATORY SYNCYTIAL VIRUS BURDEN FOR INFANTS IN SECONDARY CARE HOSPITAL RECORDS IN IRELAND 2017-2021 USING ICD-10 DIAGNOSIS CODES

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Background: RSV has been a notifiable disease in Ireland since 2012 and is the second most common respiratory virus after influenza [1, 2]. RSV is a leading cause of lower respiratory tract infections (LRTI) (primarily bronchiolitis and pneumonia) and hospitalisations in children worldwide resulting in a substantial clinical and economic burden [3-6].

Objective: To describe RSV-related inpatient hospitalisations and estimate direct healthcare costs in infants <2 years of age in Ireland.

Methods: Data for inpatient hospitalisations due to RSV in infants <2 years of age between 2017–2021 in Ireland were obtained from the Hospital Inpatient Enquiry (HIPE) database based on RSV-specific ICD-10 codes (J12.1/J20.5/J21.0/B97.4) [7]. Additional bronchiolitis ICD-10 codes (J21.1/J21.8/J21.9) are also useful for capturing LRTI hospitalisations [7]. Hospital costs were estimated by applying unit costs to the number of hospitalisations. Unit costs were based on the cost per day for an inpatient stay from the ABF 2022 admitted price list for minor respiratory infection (€2,719.70) [7, 8].

Results: The number of RSV-specific hospitalisations in infants <2 years of age was 2,073 in 2021, compared to 1,200 notifications in 2017. This represents a 73% increase in discharges due to RSV from 2017 to 2021. In addition, 949 hospitalisations were reported under non-RSV-specific ICD-10 codes in infants <2 years in 2021. The corresponding cost of secondary care admissions for laboratory-confirmed RSV was €3,263,641 in 2017 rising to €5,637,940 in 2021. However, these costs could be as high as €8,218,936 in 2021 if discharges due to bronchiolitis are considered.

Conclusion: The burden of RSV may be underestimated due to under-reporting of RSV. The data presented in this study does not include GP, emergency or outpatient department visits, which means that the full economic burden of RSV in Ireland remains unknown. Further studies are required to understand the true burden of RSV to inform future policy decisions.

References 1. Health Protection Surveillance Centre (HPSC). Respiratory Syncytial Virus (RSV) factsheet. 2022 03/03/2023]; Available from: https://www.hpsc.ie/a-z/respiratory/ respiratorysyncytialvirus/factsheet/. 2. Health Protection Surveillance Centre (HPSC), Special data request 2023. 2023. 3. Fauroux, B., et al., The Burden and Long-term Respiratory Morbidity Associated with Respiratory Syncytial Virus Infection in Early Childhood. Infect Dis Ther, 2017. 6(2): p. 173-197. 4. Ledbetter, J., et al., Healthcare resource utilization and costs in the 12 months following hospitalization for respiratory syncytial virus or unspecified bronchiolitis among infants. J Med Econ, 2020. 23(2): p. 139-147. 5. Palmer, L., et al., Healthcare costs within a year of respiratory syncytial virus among Medicaid infants. Pediatric pulmonology, 2010. 45(8): p. 772-781. 6. Shi T, M.D., O'Brien KL, Simoes EAF, Madhi SA, Gessner BD, et al., Global, regional, and national disease burden estimates of acute lower respiratory infections due to respiratory syncytial virus in young children in 2015: a systematic review and modelling study. Lancet, 2017. 7. Hospital Inpatient Enquiry (HIPE), Special data request 2023. 2023. 8. Healthcare Pricing Officer (HPO). ABF 2022 Admitted Patient Price List. 2022; Available from: https://www.hpo.ie/abf/ABF2022AdmittedPatientPriceList.pdf.

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Poster No. 16
General Paediatrics

IMPROVING THE ASSESSMENT OF CHILDREN WITH SUSPECTED DEVELOPMENTAL COORDINATION DISORDER IN A PERIPHERAL CENTRE

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Aims: After numerous children required re-assessment for suspected DCD due to incomplete evaluation or documentation, the decision was made to implement a proforma. The aims of this project were to improve the care provided and ensure children referred to the general paediatric clinic for a suspected diagnosis of DCD were appropriately assessed with relevant documentation sent to all involved. The aim thus, was to minimise re-referrals and optimise use of clinic appointments.

Methods: A review of international guidelines on the diagnosis and management of DCD was undertaken and informed the devised proforma. A copy of the proforma can be included on the poster. This included prompts for relevant history and examination which may help to differentiate DCD from other potential diagnoses. It also outlines the criteria for diagnosis and a clear space to outline the diagnosis, as well as listing the relevant parties to be copied in the documentation of such assessment.

Results: A review of documentation was conducted for five patients before and five patients after the introduction of the proforma. Ages ranged from 6-16 years. The diagnosis was clearly documented in the letter for all patients after the introduction of the proforma, vs 60% previously. Two patients assessed prior to the introduction of a proforma had a second letter dictated to clarify the diagnosis. Letters were written to the GP in 4/5 pre-introduction and 5/5 post-introduction, to the MDT in 80% both pre- and post-introduction, to the parents in 40% pre-introduction and 80% post-introduction, and to the school for no patients pre-introduction and 2/5 post-introduction.

Conclusion: The introduction of a proforma may improve documentation of DCD assessments thereby minimising the need for re-assessment in clinic. It is essential that staff are educated on the topic and that new doctors rotating through the department are supported in using local documentation by senior clinicians.

Poster No. 17
Medical/Education Management

FIGHTING FIRES; ESTABLISHING A PAEDIATRIC ASSESSMENT UNIT IN A PERIPHERAL CENTRE FOLLOWING A MAJOR INCIDENT

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Aims: Following the fire at Wexford General Hospital on the 1st of March 2023, the inpatient paediatric ward and emergency department were closed. This put immense pressure on surrounding hospitals, with repair of the building expected to take a number of months. A decision was made to establish a paediatric assessment unit in Wexford General Hospital to alleviate some pressure on neighbouring units.

Methods: Considerable engagement from all stakeholders allowed a framework to be established. The HSE Framework for Paediatric Urgent and Ambulatory Care Centres was used as a basis for this (1). Consultation and advice was sought from other Urgent Care Centres. Once a framework with inclusion and exclusion criteria as well as referral pathways had been agreed internally, this was communicated to nearby units, GPs and Caredoc services.

Results: The Paediatric Assessment Unit opened on 28th of March 2023 with hours agreed from 8am – 10pm, 7 days per week. While the paediatric presentations to our fully operational emergency department in 2022 were 949, 1062 and 943 in April, May, and June respectively, the limited Paediatric Assessment Unit in 2023 saw 610, 817 and 664 presentations in the same period. Patients expected to be discharged within 24 hours remained in Wexford General Hospital for short stay admissions. All patients who required full admission were transferred to one of the nearby units, depending on bed availability.

Conclusions: Stakeholder engagement and teamwork both internally and with neighbouring centres was essential incaring for the children of Wexford during this difficult period. While the emergency department has re-opened, the inpatient ward remains closed and the continued situation requires ongoing dynamic management.

1. HSE Framework for Paediatric Urgent and Ambulatory Care Centres, National Clinical Programme for Paediatrics & Neonatology and National Clinical Programme for Emergency Medicine. https://www.hse.ie/eng/about/who/cspd/ncps/emp/resources/framework%20for%20paediatric%20urgent%20and%20ambulatory%20care%20centres%20.pdf

Poster No. 18
General Paediatrics

CRAIC, CEOIL AGUS COVID-19: THE IMPACT OF 'FLEADH CHEOIL NA HÉIREANN' ON PRESENTATIONS TO THE EMERGENCY DEPARTMENT OF MIDLANDS REGIONAL HOSPITAL MULLINGAR

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Aims: To assess the impact hosting the 'Fleadh Cheoil na hÉireann' (the world's largest annual celebration of Irish music, language, song and dance) had on presentations to the local emergency department(ED) at Midlands Regional Hospital, Mullingar(MRHM).

Methods: We used the online IPMS (Inpatient management system) to collect data on ED presentations from 23/7/2023 to 02/09/2023. This period includes the 2 weeks prior to the Fleadh, the 2 weeks of the Fleadh and the 2 weeks after. We also used 'Lab Enquiry' to collect data on COVID-19 swab results.

Results: 1949 patients presented to the ED at MRHM during the 2 weeks of the Fleadh. This was 178 more presentations than the 2 weeks prior, a 10% increase. There was a marked increase in COVID-19 presentations, increasing > four-fold across the general population with a three-fold increase seen in the Paediatric population.

Conclusion: The 'Fleadh Cheoil na hÉireann' is an extremely important cultural event for Ireland. However, the influx of nearly 600,000 people led to an increase in ED attendances and a marked increase in COVID-19 cases presenting to the local hospital.

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Poster No. 19
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THE SECONDARY SURVEY IN PAEDIATRIC TRAUMA

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Background: The secondary survey is an essential part of trauma resuscitation. Its purpose is to identify the non–life-threatening injuries that may have occurred in the severely injured child. If missed, these injuries could have long-term impacts for the patient. Good communication between inter-professional teams is paramount. A secondary survey following the steps laid out in our case will give you a structure and methodical approach to identify injuries and improve outcomes.

Methods: This case provides a structured approach of the head-to-toe examination required for the secondary survey. We use the case of a 9-year-old boy who was involved in an accident involving an electric scooter versus car. After resuscitation and primary survey, we are asked to carry out the secondary survey. The secondary survey entails a full head-to-toe examination including the back, assessing every orifice, moving every joint and must include a full neurological examination. The case based description is used to guide the reader through the secondary survey in an interactive manner.

Results/Conclusions: This is a guide of the steps to follow in order to carry out a comprehensive examination to ensure nothing is missed. It highlights the importance of good communication and documentation. Since trauma is a dynamic process, frequent reassessment is required

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Poster No. 20
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SERENDIPITY IN PAEDIATRICS: A HISTORICAL PERSPECTIVE OF CHANCE PAEDIATRIC DISCOVERIES

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Background: Serendipity is the occurrence and development of events by chance in a beneficial way. It's role in medicine is frequently overlooked yet science and serendipity often go hand in hand. Many major breakthroughs were consequences of fortuitous chances and though often downplayed, failure to acknowledge its role in scientific advancement within clinical medicine is remiss. Far from simple happenstance, serendipity preferences the prepared and curious mind that knows to look to the spaces in between.

Methods: We outline a number of cases which describe exemplars of serendipity in the development of modern paediatrics as we know it today; from developments in treatment such as the origins phototherapy for neonatal jaundice; to astute pattern recognition calling a halt to the use of thalidomide in pregnancy. The interplay of insight, observation and perpetual curiosity is paramount to progress, as the cases we outline demonstrate.

Results/Conclusions: The history of medicine is replete with examples of serendipity and good fortune enabling scientific innovation. However, closer examination reveals that just like Newton being hit on the head with his proverbial apple, the steps leading to a new discovery often tell a different story. It takes more than being in the right place at the right time to make a serendipitous discovery. In our article, we describe a few such exemplars which changed the face of paediatric medicine.

Poster No. 21
Sub-Specialty

A RARE CASE OF HYPOGLYCAEMIA; THE IMPORTANCE OF REVISITING THE DIAGNOSIS

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Aims: Phosphoenolpyruvate carboxykinase (PEPCK) deficiency is a disorder of gluconeogenesis presenting with childhood-onset hypoglycaemia, deficient ketosis, lactic acidosis and a recognisable urine organic acid pattern. It is very rare with only 34 cases reported in the literature [1]. Owing to its' rarity, and resultant lack of familiarity amongst paediatricians, it may go underrecognized in cases of recurrent hypoglycaemia.

Method: We present the case of a 5 year-old girl who presented to the emergency department with hypoketotic hypoglycaemia and a high anion gap lactic acidosis in the context of a 9 hour history of vomiting (pH 7.05, Base deficit -22, HCO3 7, Lactate 16, Glucose 2.1mmol/L, ketones 0.5mmol/L). She was shocked at presentation with a prolonged capillary refill time but responded well to fluid resuscitation and correction of hypoglycaemia. The patient had a history of recurrent hypoglycaemia with a hypoglycaemic seizure at 8 months of age.

Result: A hypoglycaemia panel in 2018 was non-yielding and she previously tolerated a 14-hour fast (normal glucose and lactate profile). In addition to critical samples (prior to resuscitation), whole exome sequencing was performed and identified two likely pathogenic variants in the PCK1 gene (c.709G>A;pGly237Arg, c824delG;pGly275Valfs*21) . The PCK1 gene encodes phosphoenolpyruvate carboxykinase (PEPCK) which catalyses a rate-determining step in gluconeogenesis. Biallelic pathogenic variants in PCK1 cause PEPCK deficiency which results in fasting hypoglycaemia. It is characterised by episodic apnoea, hypoglycaemic seizures, hepatomegaly, impaired gluconeogenesis and lactic acidosis. The patient was counselled regarding the mainstay of treatment which involves a reduced fasting time and access to fast-acting carbohydrate during intercurrent illness. The family have been referred to genetic counselling and undergo follow-up both with general paediatrics and metabolic services.

Conclusion: The genetic aetiology of recurrent hypoglycaemia is highly heterogenous. Establishing a diagnosis ensures appropriate and tailored management of both the child and their family. We hope that this case will increase awareness of PEPCK deficiency as a consideration in children presenting with recurrent hypoglycaemia.

References

1. Vieira P, Nagy II, Rahikkala E, Keski-Filppula R, Haanpää MK, , Nuutinen M, Uusimaa J, Myllynen P. Cytosolic phosphoenolpyruvate carboxykinase deficiency: Expanding the clinical phenotype and novel laboratory findings. J Inherit Metab Dis. 2022 Mar;45(2):223-234. doi: 10.1002/jimd.12446. Epub 2021 Nov 11. PMID: 34622459.

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Poster No. 22
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UNDIAGNOSED DERMOID CYST WITH SECONDARY MENINGITIS: A CASE REPORT

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Aims: Dermoid cysts represent the most common scalp lesions in the paediatric population. This case report demonstrates the value of a high clinical suspicion of intracranial extension of a dermoid sinus tract as a cause for acute meningitis. This case report aims to outline the importance of radiological imaging in diagnosing dermoid cysts and guiding the management of any associated intracranial extension.

Methods: This case report was derived from a retrospective chart review.

Results: A 7-year-old previously well female presented with a one day history of vomiting, pyrexia ranging from 39-40°C, altered mental status and photophobia. History of posterior occipital subcutaneous swelling requiring oral antibiotics on two occasions over the preceding 18 months. Three days prior to presentation the swelling became erythematous with purulent discharge. CT brain demonstrated a tract extending intracranially through the occipital bone into the posterior cranial fossa. MRI brain confirmed a midline, posterior fossa dermoid associated with dermoid sinus tract extending through the occipital bone. Clinical presentation and lumbar puncture were consistent with acute meningitis. Treatment included 14 days IV antibiotic therapy guided by infectious diseases followed by surgical excision of the dermoid cyst and associated neurocutaneous tract.

Conclusion: A high index of suspicion for dermoid cyst is essential in children with scalp or midline spinal stigmata as early intervention is necessary to avoid the risk of meningitis secondary to cranial or spinal neurocutaneous tracts. Radiological imaging is integral in diagnosing a dermoid cyst and establishing intracranial location and any associated neurocutaneous tract. Radiological input informs the surgical approach, which is often required to ensure complete resolution. This case demonstrated the serious adverse outcomes that can arise due to intradural extension of a dermoid cyst through the skull. A timely diagnosis of meningitis and early empiric antimicrobial cover is essential in reducing morbidity and mortality.

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Poster No. 23
General Paediatrics

'STARLING' ACUTE MEDICAL ADMISSION UNIT (AMAU) – A NEW MODEL FOR SHORT-STAY GENERAL PAEDIATRIC ADMISSIONS

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Aims: The Starling AMAU opened on the 14th August 2023 at CHI Crumlin, initially as a 5-day inpatient unit. The aim of this 9-bed ward is to cohort patients admitted with common paediatric medical presentations with an anticipated length of stay (LOS) < 72 hours, facilitating early senior review and timely discharge. The Starling AMAU has pre-defined inclusion/exclusion criteria for admission and employs a 'consultant-of-the-week' model and early, criteria-led discharge planning. The aim of this project was to evaluate the implementation of this new acute model of care.

Methods: Data on all general paediatric admissions during the first 6 weeks following the unit's opening was extracted from the hospital's IPMS and Symphony databases and analysed in Microsoft Excel. Day ward attendances were excluded from analysis.

Results: Ninety-nine patients were admitted to Starling between 14/08/2023 and 22/09/2023. Twelve (12.1%) admissions were deemed 'unsuitable' in accordance with the exclusion criteria, mostly due to limited bed availability followed by unfamiliarity with admission criteria. These were, therefore, excluded from analysis. Starling patients represented 87/385 (22.6%) of all general paediatric admissions during this timeframe. The median length-of-stay for patients admitted to Starling was 32 hours (n=87, Range:0-144 hours), while the median duration for patients admitted to general wards was 63 hours (n= 286, Range:1-684 hours). 95% (83/87) of admissions remained within the 72-hour target. One patient required transfer to PICU, one was re-admitted within 48 hours, and 13 were transferred to general wards prior to weekend closing. The most common conditions treated were 'Asthma/Wheeze', 'Gastroenteritis' and 'Viral Infection, Non-Specified'.

Conclusion: This new working model was effectively implemented, with good adoption of inclusion/exclusion criteria. Moving to a 7-day unit will improve continuity of care for patients on Starling AMAU. Ongoing data collection is needed to guide implementation of this model of care within Children's Health Ireland.

Poster No. 24
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EXPLORING FACTORS ASSOCIATED WITH READMISSION RATES FOR MEDICALLY UNSTABLE ADOLESCENTS ADMITTED WITH ANOREXIA NERVOSA

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Aims: Anorexia Nervosa (AN) has the highest mortality rate of any psychiatric illness and is often associated with poor long-term outcomes.[1,2] Prevalence rates of disordered eating in Ireland are estimated at 10%.[3] The average daily hospital cost of treatment for acute mental health illness has been estimated at €1,978/person admitted.[4] Studies have demonstrated the impact of the COVID-19 pandemic on young people with eating disorders, including increased hospitalisation rates, poorer mental health and limited access to outpatient treatment.[5] We aimed to explore admission/readmission rates in AN, demographics, clinical characteristics and predictors impacting (re-)admission rates and clinical outcomes and costs of these cohorts.

Methods: A retrospective review of a prospective database was undertaken to identify patients admitted at our institute for medical stabilisation of AN between June 2020 and June 2023. Data were collected in accordance with pre-defined criteria from patient chart reviews to identify clinical characteristics pertinent to their admission.

Results: Eighty paediatric patients were admitted for medical stabilisation of AN during this timeframe. The median age of admission was 14 years (Range: 9.47-17.97years). Male-to-female ratio was 1:9(8:72). Among this cohort, 9 patients had required readmission. The mean length-of-stay of initial admission was 22.8 days (SD=18.854, Range:1-78 days), with that of readmission lasting 31.1 days (SD=28.308, Range: 3-71days). Pre-morbid Ideal Body Weight for newly referred patients (101.7%, SD=14.78) was significantly higher compared with patients requiring readmission (86.5%, SD=7.06), (N=43, df=41, p=0.009).

Conclusion: While outpatient settings are considered most appropriate for treatment of AN, a disproportionate increase in cases, driven by a global pandemic, coupled with limited community provision may have contributed to higher hospitalisation rates. Rehospitalisation rates reflect the chronic nature of AN but whilst often medically necessary, can result in poorer psychological outcomes and parental disempowerment. Early recognition of predictors of poor outcomes post-discharge is important to minimise the financial and psychological burden of readmission.

1. Edakubo S, Fushimi K. Mortality and risk assessment for anorexia nervosa in acute-care hospitals: a nationwide administrative database analysis. BMC Psychiatry 20 [Internet]. 2020 Jan 13 [cited 2023 Sep 28];19(2020). Available from: https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-020-2433-8#:~:text=Anorexia%20nervosa%20(AN)%20is%20a,rate%20of%20all%20psychiatric%20diseases. 2. Marzola E, Longo P, Sardella F, Delsedime N, Abbate-Daga G. Rehospitalization and 'Revolving Door' in Anorexia Nervosa: Are There Any Predictors of Time to Readmission? Front. Psychiatry [Internet]. 2021 July 23 [cited 2023 Sep 28]; 12 (2021). Available from: https://www.frontiersin.org/articles/10.3389/fpsyt.2021.694223/full 3. McNicholas F et al. Eating problems in Irish children and adolescents – EPICA. Ir J Psychol Med [Internet]. 2010 Dec [cited 2023 Sep 29]; 27(4): 172-178. Available from: https://pubmed.ncbi.nlm.nih.gov/30199926/ 4. Kehoe C, McNicholas F. Hidden Costs in Paediatric Psytchiatry Consultation Liaison Services. Ir Med J [Internet]. 2018 March [cited

2023 Sep 29]; 111(3):715. Available from: https://pubmed.ncbi.nlm.nih.gov/30376233/ 5. Schlissel AC, Richmond TK, Eliasziw M, Leonberg K, Skeer MR. Anorexia nervosa and the COVID-19 pandemic among young people: a scoping review. J Eat Disord [Internet]. 2023 Jul 20 [cited 2023 Sep 29]; 11(1):122. Available from: https://pubmed.ncbi.nlm.nih.gov/37474976/

Poster No. 25
General Paediatrics

AUDIT OF BLOOD CULTURE ACQUISITION METHOD AMONG PAEDITRIC HOSPITAL STAFF IN CHI AT CRUMLIN

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Aims: To assess the clinical staff involved in blood culture sampling for their practice/knowledge about adequate volume required for a blood culture and to compare it with gold standard practice from the literature.

Method: The information was collected from clinical staff involved in phlebotomy in a questionnaire form which included the volume of blood deemed adequate for a blood culture

Standard: Standard blood volume is 0.5 ml in < 5 months and more than or equal to 1ml in patients 1 to 36 month of age. Patient older than 36 months require blood volume of 4.0ml or more. (5).

The audit indicates variations in appropriate and inappropriate responses across age groups, clinical staff roles, and departments. Notably, Phlebotomy staff consistently had higher rates of appropriate responses (100%), while Senior House Officers had relatively lower rates of appropriate responses (47.3%). Appropriate response rate is different among different age groups: those aged with the highest rate of appropriate response (82%) obtained in children more than 36 months and the lowest response was (40%) in infants less than 1 month, those aged between 1month and 36 month the percentage of appropriate response was (76%). Department-wise, heath cadre working in the Emergency Department tended to have higher rates of appropriate responses(94%) compared to those from non-ED group(60.3%) while those who work in ED/Non-ED had Appropriate response rate of (60.3%) .

Results: The audit also highlights the awareness of doctors and nurses regarding the necessity of cleaning the blood culture bottle with an alcohol swab before collection. Properly disinfecting the culture bottle helps minimize the risk of contamination and ensures the integrity of the sample. However, the findings revealed that [100] % of doctors and nurses routinely used alcohol swabs for

In conclusion, this audit highlights the need for ongoing efforts to enhance the awareness and adherence of the doctors and nurses to essential blood culture procedures in pediatrics. By addressing these issues through education, guidelines, and regular audits

References: 1. Singer M,Deutschman CS,Seymour CW, et al The third International consensus definitions for sepsis and septicshock(Sepsis3). JAMA 2016;315:80110.doi:10.1001/jama.2016.0287pmid:http:/www.ncbi.nlm.nih.g ov/pubmed/26903338 2. Fleischmann-Struzek, C. et al. The global burden of paediatric and neonatal sepsis: a systematic review. Lancet Respir. Med. 6, 223–230 (2018) 3. Gonsalves WI, Cornish N, Moore M, Chen A, Varman M. Effects of volume and site of blood draw on blood culture results. J Clin Microbiol. 2009 Nov;47(11):3482-5. doi: 10.1128/JCM.02107-08. Epub 2009 Sep 30. PMID: 19794050; PMCID: PMC2772646 Aronson, M. D., and D. H. Bor. 1987. Blood cultures. Ann. Intern. Med. 106:246-253. [PubMed] [Google Scholar] [Ref list] 4. Cantey JB, Baird SD. Ending the Culture of Culture-Negative Sepsis in the Neonatal ICU. Pediatrics. 2017;140(4):2200063. doi: 10.1542/peds.2017-0044. [PubMed] [CrossRef] [Google Scholar] [Ref list] 5. Hall MM, Ilstrup DM, Washington JA. Effect of volume of blood cultured on detection of bacteremia. J Clin Microbiol1976;3:643–5. 6. Shafazand, S., and A. Weinacker. 2002. Blood cultures in the critical care unit: improving utilization and yield.

Chest 122:1727-1736. [PubMed] [Google Scholar] [Ref list] 7. Gonsalves WI, Cornish N, Moore M, Chen A, Varman M. Effects of volume and site of blood draw on blood culture results. J Clin Microbiol. 2009 Nov;47(11):3482-5. doi: 10.1128/JCM.02107-08. Epub 2009 Sep 30. PMID: 19794050; PMCID: PMC2772646. 8. Health Service Executive Southeast Laboratory. Recommendations for blood culture collection January 2017; Adapted from Taking blood cultures, A summary of best practice. NHS 2007

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LEARNING INITIATIVE PROJECT AT A TERTIARY PAEDIATRIC HOSPITAL PILOTING INTERPROFESSIONAL TEACHING

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Background: A pilot non-consultant hospital doctors (NCHD) learning initiative project where teaching was delivered, almost exclusively by Health and social care practitioners (HSCPs). We aimed to highlight barriers and enablers to future trans-professional teaching plans at a tertiary paediatric hospital.

Methods: A nine-week, lunchtime teaching programme delivered by paediatric HCSPs e.g. dieticians, social workers, nurse specialists was established. The teaching programme was agreed collaboratively between NCHDs and the HSCPs. A NCHD committee meeting discussed this project prior to initiation to help promote attendance and outcomes. Questionaries were sent to NCHDs pre and post the teaching sessions.

Results: 40 NCHDs responded to the initial survey: 15 (37.5%) senior house officers (SHOs), 18 (45%) specialist registrars (SPRs) and 7 (17.5%) registrars. 26 were on the general paediatrics or cardiology training schemes and 7 were adult trainees, currently on paediatric placement. 9 (22.5%) NCHDs were dissatisfied with the current available teaching, 21 (52.5%) were some-what satisfied but could be more and 10 (25%) were satisfied. 34 (85%) NCHDs wanted more formal teaching. 30 (75%) wanted different specialty topics.

9 NCHDs responded to the follow up survey after the project was complete, 3 of whom could not attend any session. 8 (89%) enjoyed the HSCP sessions. 9 (100%) would like more consultant-led teaching. NCHDs reported that they were unable to attend due to clinics running overtime or as a result of high activity on the wards.

Conclusion: There is an interest for more group NCHD teaching. Trainees benefitted from formal HSCP teaching. More trans and interprofessional teaching opportunities should be explored. An educational culture needs to be promoted where attendance and teaching opportunities are prioritised when possible.

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INFANTILE HAEMANGIOMA - DON'T JUST LOOK, LISTEN

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Aims: Infantile haemangiomas are a benign vascular tumour with a prevalence of 3-10%. These tumours typically proliferate over several months before spontaneous resolution occurs. However, when haemangiomas occur in areas associated with risk of complication or disfigurement such as breasts, eyes, ears, nose or throat, intervention may be necessary. Association between structural cardiac defects and infantile haemangioma has been documented in some studies and should be highlighted in clinical practice.

Methods: We report case of 3 month old male infant who presented with enlarging haemangioma of the left breast. History revealed that bilateral breast enlargement was noted at birth without haemangioma. At 8 weeks of age the right breast reduced to normal whilst left breast continued to enlarge with concomitant progression of an overlying haemangioma. Examination revealed a 6cm x 7cm haemangioma which was palpable beneath superficial tissue. In addition, a grade 3 systolic murmur was heard over the left sternal edge. Echocardiogram revealed atrial septal defect [ASD]. He was commenced on propranolol 2mg/kg per day in three divided doses with subsequent reduction in size of breast. ASD required no intervention.

Results: Review of literature reveals documented associations between cardiac structural abnormalities and infantile haemangiomas. One study revealed an incidence of 21% for structural cardiac anomalies in infants with infantile haemangiomas, ASD being the most common defect. Incidence of structural cardiac defects in the general paediatric population is estimated to be 0.5-1%. Treatment of infantile haemangiomas must individualised. Propranolol is the first-line treatment for infantile haemangiomas. Significant side effects of propranolol include bradycardia, hypotension, and poor cardiac contractility.

Conclusion: Thorough clinical evaluation is essential pre-treatment to exclude cardiac abnormalities, exclude contraindications to propranolol and identify risk of side effects. Literature review reveals further study is required into association between infantile haemangioma and cardiac structural anomalies.

References

Andrea Bassi, A. A. A. V. a. C. M., 2022. Infantile Hemangioma and Cardiac Defects: a Puzzling Association. A Single-center Experience. Dermatol Practical Conceptual., 12(3).
Clemens Schiestl, K. N. S. Z. U. S. I. F.-K. R. M. C. B. &. L. W., 2011. Efficacy and safety of propranolol as first-line treatment for infantile hemangiomas. European Journal of Paediatrics , Volume 170, pp. 493-501.
Francine Blei M.D., M. D. B. M. M. A. G. S. P. M., 2014. Cardiac Screening in Infants with Infantile Hemangiomas before Propranolol Treatment. Pediatric Dermatology, 31(4).

Poster No. 28
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CONFESSIONS OF A CHILD: A CASE OF SALBUTAMOL TOXICITY MIMICKING SEPSIS AND MYOPERICARDITIS

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Aim: Salbutamol is a selective β2-receptor agonist commonly used in paediatrics. Although uncommonly associated with significant adverse reactions, this case report describes the toxicity that can arise when taken in excess of the recommended dose.

Method: A comprehensive chart review was performed of a patient with a severe episode of inhaled salbutamol toxicity.

Results: A 12-year-old female, with a background of neurodivergent disorder and mild asthma, presented with palpitations and chest tightness. She had a five-day history of cough/coryza, alongside her family. She received a single dose of oral antibiotics and prednisolone earlier that day without improvement. Her parents reported that she hadn't received any inhalers or nebulisers prior to ED presentation, nor was she treated with same in ED. At triage, she was tachycardic to 140bpm and hypotensive at 103/43mmHg. Bloodwork demonstrated a lactate of 9.6mmol/L, potassium 2.6mmol/L, CRP 2mg/L and Hs-Troponin-T 78ng/L. Two 10ml/kg IV fluid boluses were given, as well as broad-spectrum antibiotic cover. 12-lead ECG demonstrated non-specific ST-changes. ECHO showed a trivial pericardial effusion and hyperdynamic function. She was transferred to tertiary-level PICU for ongoing management.

IV fluid support resulted in rapid clinical improvement. No inotropic or respiratory support was required. Blood cultures demonstrated no growth, bacterial serum PCR results were negative. Echocardiography the following day demonstrated no progression of effusion and normalisation of function. On return to her transferring hospital, the child confessed, when questioned directly, that prior to presentation, she had taken a minimum of 8 puffs of a salbutamol inhaler that belonged to her sibling. A thorough infectious disease, metabolic and endocrine work-up demonstrated no alternative pathology, and her presentation was ultimately attributed to salbutamol toxicity.

Conclusion: The above case highlights the importance of the consideration of salbutamol toxicity in the event of an unwell child presenting with lactic acidosis, hypokalaemia, tachycardia, and hypotension. It also emphasises the need to deeply explore history taking from children, who may surprise us with their confessions.

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Poster No. 29
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NEVER FORGET THE HIDDEN HELMINTHS!

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Aims:

- Presentation of an case report for a unusual presentation of a Helminth infections in a 10 year old boy.
- Provide education regarding paediatric helminth infection and their complications.
- Overview of treatment of helminth infections.

Methods:

- Construct a clinical case review based on anonymous patient information from chart review and including CT imaging of interest without identifiable information.

Results:

- This clinical case report discusses the presentation of a 10 year old Ukrainian refugee with a left upper quadrant abdominal mass who presented to Tallaght university Hospital with persistent hyperglycaemia (not in DKA). Subsequent imaging revealed a small bowel perforation with peri-colic abscess. A repeat CT in Crumlin revealed a ascaris infestation in the ileum. This is the possible cause of his bowel perforation. We also investigate possible causes of his failure to thrive (weight and height below the 0.4th centile) and also provide an overview of complex social issue surrounding refugee in Ireland.

Conclusions:

- Although rare, ascaris infestation can result in small bowel obstruction and perforation in children and has been described in multiple studies .
- It is important to consider helminth infections in paediatric populations from endemic regions that have moved to Ireland.
- Multifactorial causes of low weight and height centiles are possible in this case.
- Engagement of appropriate MDT services can assist in improving the outcomes in complex social cases.

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Poster No. 30
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LIMITATIONS OF SCREENING TESTS: A CASE REPORT OF ADRENOCORTICAL CARCINOMA

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Aim: Biochemical laboratory tests are widely used for screening of Cushing's syndrome (CS). We present the case of a young girl presenting with clinical features of Cushing syndrome. This case study illustrates importance of reviewing lab results in clinical context.

Introduction: Cushing's syndrome is a disorder caused by excessive administration or overproduction of glucocorticoids, resulting in truncal weight gain, plethoric facies, hirsutism, acne and hypertension. Baseline screening tests for suspected CS (endogenous cortisol oversecretion) include elevated 24-h urinary-free cortisol (UFC), loss of diurnal pattern and failure to suppress cortisol secretion after Dexamethasone loading.

Method: A 10-year-old girl was admitted via the Emergency Department with a 4-month history of classical symptoms of CS. Loss of cortisol diurnal variation was seen (midnight cortisol 690 nmol/l; ACTH <0.7 pmol/l).

Results: MRI brain and pituitary and pituitary hormone levels were all normal. Adrenal DHEAS was markedly elevated at 14.3 µmol/l, as was androstenedione at 10.5 nmol/l. Initial 24-h UFC was reported as <12 nmol/24h. Liaison re this incongruity with the laboratory confirmed the absolute level was 2,065 nmol/24h (4 times x ULN) and incorrect result was released initially due to post-analytical human error. Subsequent 24-h UFC was reported as abnormal. Ultrasound and MRI pelvis revealed a suprarenal mass. Histology confirms an adrenal cortical neoplasm as a cause of CS in this patient.

Conclusion: This case report highlights the importance of taking the full clinical picture into account when reviewing lab results. Diagnostic accuracy, limitations of screening test and possibility of lab error must be taken into consideration when results do not fit clinical picture. Clinically discordant results warrant additional testing and collaborative communication between clinical and laboratory staff. Human error my result in release of erroneous lab result and provision of appropriate clinical details on the request form may help in mitigating this risk.

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SALMONELLA, NOT JUST A DIARRHOEAL ILLNESS: TWO RARE CASES OF SALMONELLA SEPTIC ARTHRITIS IN IMMUNOCOMPETENT CHILDREN

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AIM: Salmonella septic arthritis in immunocompetent patients is rare and isolated in less than 1 percent of cases of septic arthritis in the UK and Ireland. In Ireland, the incidence of salmonellosis is 7.6/100,000. Although children contributed to the highest number of the reported cases of salmonella infection, the pathogen is rarely known to cause septic arthritis in the paediatric population.

METHOD: We report two cases of immunocompetent children with confirmed salmonellosis presenting with septic arthritis.

RESULT:
Case 1: A 6-month-old female infant presented with a five-day history of fever, vomiting, diarrhoea and restricted movement of her right arm. *Salmonella enteritidis* was confirmed from blood culture and ultrasonography demonstrated right shoulder septic arthritis. Bacterial PCR from joint washout also grew the same organism. She had arthrotomy and debridement promptly performed and was treated with intravenous ceftriaxone for four weeks and oral amoxicillin and ciprofloxacin for six weeks. She recovered well after completion of antibiotics treatment with extensive physiotherapy support.

Case 2: A 14-year-old male came with a three-day history of fever and right hip pain. *Salmonella Hithergeen* was isolated from blood culture. Initial MRI of his hip on day one of presentation showed no musculoskeletal involvement, but due to persistent pain over the right sacrum, repeated MRI of the hip two weeks later showed features of right sacro-iliac septic arthritis, osteomyelitis, capsulitis with psoas and iliacus abscesses. The diagnosis of septic arthritis was also delayed due to initial suspicion of appendicitis. He was treated conservatively with six weeks of IV antibiotics and physiotherapy and made full recovery.

CONCLUSION: Although salmonella septic arthritis is rare, localised musculoskeletal complaints should raise the suspicion of haematogenous spread to the bone and joint. Early recognition of septic arthritis and osteomyelitis is important to warrant immediate treatment and intervention.

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A MEASURE OF SUCCESS - ANTHROPOMETRIC MEASUREMENT ACCURACY IN A PAEDIATRIC OUTPATIENT DEPARTMENT

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Audit Aims: To improve the accuracy of anthropometric measurements and documentation of growth centiles in the Paediatric outpatient setting, as per an international standard[1].

Methods: This was an observational study of 30 children attending General Paediatrics clinic in a peripheral hospital over a three-week period. The measurement of patients' weights was observed, as well as clothing and shoes worn, and the scales utilized. The measurement of patients' height/length was also observed. It was noted if shoes were worn, and if the correct method of measuring was followed. A retrospective chart review was undertaken, noting if these children's measurements were accurately recorded on an appropriate WHO growth chart[2].

Results: 13 children observed (43%) were non-compliant to the ESPGHAN Quality of Care Initiative. For children under 2 years old (7), 3 children were correctly weighed on infant scales, and 2 of these were weighed naked. 3 of these children's lengths were measured using the advised 2 person method with an infantometer. 22 out of 23 children observed over 2 years old were weighed with standing scales wearing light clothes. However, only 12 of these children were weighed with their shoes off (52%). The heights of all children over 2 years were correctly measured. 6 children (20%) did not have their centiles documented on a growth chart.

Conclusion: Almost half of patients observed were not compliant with the correct measurement of weight or height/length as set out in the ESPGHAN initiative. This could potentially have an effect on patient care, given that the monitoring of growth is an essential component of Paediatric medicine. Furthermore, an accurate weight is required to calculate medication dosages in the Paediatric population. We aim to improve compliance to the ESPGHAN initiative by giving an education session to the relevant caregivers and then re-audit compliance to the ESPGHAN initiative.

1.ESPGHAN Quality of Care Initiative on Anthropometry, August 2022 2.World Health Organization 2006 Child Growth Standards and 2007 Growth Reference Charts: A Discussion Paper. Turck et al, JPGN, August 2013

Poster No. 33
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CORAL 2.0- MEASURING HEALTH OUTCOMES AT 3 YEARS OF AGE IN CHILDREN BORN DURING THE COVID-19 LOCKDOWN IN IRELAND

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Aims: The CORAL birth cohort initially followed infants born during the SARS-CoV-2 lockdown to 2y of age, examining allergic and autoimmune outcomes. CORAL 2.0 reports this globally unique group's health outcomes at 3y.

Methods: This is a cross sectional analysis of a longitudinal observational study. A questionnaire was posted to parents who consented on repeat contact from CORAL. Statistical analysis was performed using SPSS Statistics version 28.

Results: Among the 94 (27%) respondents, 3 (3.2%) received breast milk, 2 children were avoiding cow's milk (2%), with 15 (16%) opting for dairy alternatives once a week or more. There were no new food allergies between 2y and 3y. Peanut is the most consumed nut. Supplementation use was high with 39 (42%) taking a daily multivitamin, 25 (27%) vitamin D alone , and 16(21.7%) taking probiotics regularly.
Of the cohort, 43 (45.7%) tested positive for SARS-CoV-2 in the preceding year aligning with the findings at 2y (n = 157, 49%). Systemic antibiotic use increased from 1 and 2y (17% and 52.7% respectively) to 74.5% at 3y. No statistically significant differences were found between those with or without siblings with regard antibiotic exposure, the total number of antibiotics taken (p = .528), or the number of doctor appointments attended (p = .182). there was no statistical significant difference in SARS-CoV-2 rates in those who attended child care compared to those minded at home. There was an increase in hospital admission at 3y of age compared with findings at 2y, from 28/319 (8.8%) to 16/94 (17%).

Conclusion: Despite low hospitalisation and antibiotic use in the first 2 years of life, a notable increase is observed by age 3. Dietary supplementation use was common. There were no new food allergies reported after the age of 2.

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Poster No. 34
General Paediatrics

Introduction of Oral Fluid Challenge Protocol in the Management of Paediatric Acute Gastroenteritis

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Aims: Oral Fluid Challenge (OFC) can be used to assess a child's oral fluid tolerance in ED setting and has been shown to reduce the rates of intravenous fluid therapy. Our aim was to compare the management of acute gastroenteritis to the NICE Guidelines at our hospital and introduce an OFC protocol.

Methods: We performed a retrospective chart review on admissions to the paediatric ward in the Mercy University Hospital, Cork from the emergency department between 01/01/22 and 30/06/22. The age range selected was between 0-12 years of age. 59 charts were included in the final data analysis.

Results: The mean age was 3.43 years old with an average length of stay of 1.73 days. Of the 59 patients included, 22 patients underwent an oral fluid trial (37%). Of these 22 patients, 17 went on to receive IV fluids and 5 passed the ORT and did not require IV fluids. Of the 59 patients included, 45 patients received intravenous fluids (76%). 7 patients underwent nasogastric (NG) rehydration (11%). 42 patients received ondansetron as part of their initial management (71%). On assessment of level of dehydration, we found that only 20 patients (33%) had a level of hydration documented.

Conclusions: Few patients were treated in accordance with NICE guidelines with only 37% commenced on oral fluid therapy. A significant percentage of patients received IV fluids. (76%). Only 33% had a level of hydration documented. We have created a proforma for managing acute gastroenteritis mild to moderate dehydration including an educational page on acute gastroenteritis for parents. An education session was held for paediatric doctors and nursing staff in order to facilitate implementation. We hope to see an increase in the number of oral fluid trials commenced and an improvement in the documentation of hydration levels.

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Neonatal

ADMISSION TO THE NEONATAL UNIT AND ITS IMPACTS ON BREASTFEEDING RATES AT CORK UNIVERSITY MATERNITY HOSPITAL

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Aim

Breastfeeding rates in Ireland are amongst the lowest in Europe. Currently, rates of exclusive breastfeeding on discharge from Cork University Maternity Hospital are 25-35%. Neonatal unit admission can interfere with the establishment of breastfeeding. This study aimed to describe the impact of admissions to NICU on breastfeeding practices in babies >37 weeks gestation.

Methods

A retrospective chart review was performed analysing all babies partially breastfed, exclusively breastfed or with the intention to breastfeed if feeding had not yet been commenced at time of admission. All babies born after 37 completed weeks gestation (37+0 and above) who are admitted to the neonatal unit from February 1 2023 to March 31 2023 were included. Babies who were exclusively formula-fed prior to admission were excluded.

Results

There were 72 babies included in the study. The median age at admission was 9.25 hours. The median length of admission was 2 days.

55 had already initiated breastfeeding, 36 of which were exclusively breastfeeding. 17 had the intention to breastfeed.

During admission 83% of babies received artificial supplementation. On discharge 25 were exclusively breastfed, 43 were breastfeeding and supplemented with artificial formula and 4 were exclusively formula fed.

The three most common reasons for admission were hypoglycaemia (24% n=17), jaundice (21% n=15) and respiratory distress (17% n=12).

Conclusions

Supplementation of babies admitted to the unit is very common and exclusive breastfeeding rates are lower than the wider neonatal numbers throughout the hospital. Additional education and support of breastfeeding could be beneficial within our unit.

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Neonatal

THE IMPACT OF CAESAREAN SECTION DELIVERIES ON THE RATES OF EXCLUSIVE BREASTFEEDING AT CORK UNIVERSITY MATERNITY HOSPITAL

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Background: Breastfeeding rates in Ireland are amongst the lowest in Europe. The rate of caesarean sections has been noted to be rising in Ireland and also internationally.

Objective: This study aims to assess the impact caesarean sections have on breastfeeding rates in babies >37 weeks gestation.

Methods: A retrospective chart review was performed analysing all babies born via caesarean section during the month of February 2023 in Cork University Maternity Hospital. All babies born after 37 completed weeks gestation (37+0 and above) who were born via caesarean section from February 1st 2023 to February 28th 2023 were included.

Results: 163 babies were included in the study. The mean gestation was 39 weeks. The mean birth weight was 3.44kg.

The average time to first feed was 59.29 minutes.

106 babies (65%) received a breastfeed as their first feed. 51 babies (31%) received formula as their first feed.

On discharge 55 were exclusively breastfed (34%), 60 were exclusively formula fed (37%) and 48 were combined feeding (29%). 120 babies received artificial supplementation (74%).

31 babies were admitted to NICU (19%).

Conclusions: The exclusive breastfeeding rate on discharge from the hospital for February 2023 was 30%. This is a similar number seen in our caesarean section cohort of 34%. The rate of non-exclusive breastfeeding on discharge from the hospital was 29% which is the same in the caesarean section cohort. Although the does not seem to be a notable difference in the exclusive breastfeeding rate on discharge there is a high rate of supplementation in the caesarean section cohort (74%). An admission rate of 19% to the NICU poses many issues to the breastfeeding journey also. While it is reassuring that the breastfeeding rates are similar it may be useful to look at a longer period of time.

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A RETROSPECTIVE AUDIT OF UNSCHEDULED PAEDIATRIC ATTENDANCES IN A REGIONAL PAEDIATRIC ASSESSMENT UNIT USING THE HEALTH PERFORMANCE VISUALISATION PLATFORM

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Aims: This audit aims to identify trends in unscheduled attendances to the Paediatric Assessment Unit in Cavan General Hospital using the Health Performance Visualisation Platform (HPVP). The National Service Plan (2013) recommends a Patient Experience Time (PET%) of less than 6 hours for all patients attending Irish Emergency Departments. Using HPVP we aimed to produce meaningful insights and contribute to strategic and operational decision making within the unit.

Methods: Data was collected retrospectively over a one year period (June 2022- June 2023) using HPVP and analysed using Microsoft Excel. Daily attendance rates, time of presentation, admission rates, PET% and referral source were recorded. A sub-analysis was performed on the data over a three-month period (April– June 2023) comparing PET% and presentation numbers. Presentations resulting in a PET% of less than 90% were categorised by diagnosis, time of presentation and disposition.

Results: A total of 7235 unscheduled attendances were recorded over a 12 month period. 39% of unscheduled attenders presented between 7AM-3PM, 43% between 3pm-11pm and 19% between 11pm-7am. Referral source comprised of self (55%), GP (30%), NEDOC (9%) and other (6%). Admission rates were 13% in 2022 rising to 17% on days where PET% fell below 90%. PET% breaches comprised of fever (32%), vomiting and diarrhoea (13%), rash (13%), abdominal pain (13%) and airway/breathing difficulties (9%). PET% breaches occurred between 12pm-5pm (37%), 9am-12am (34%), 5pm-12pm 21% and 12pm-7am (8%). Admitted patients have a lower PET% versus non-admitted (79.3% vs 93%).

Conclusions: Using HVPV, we identified patients arriving during daytime hours were more likely to experience longer waiting times and that increased attendances do not have a clear negative impact on PET%. Medical patients are more likely to wait in excess of 6 hours than surgical patients who arrive at the PAU. Targeted allocation of staff may help to improve PET%.

HSE National Service Plan 2013 Sills, M Fairclough, D. Ranade, D. Kahn, M (2011) Emergency Department crowding is associated with decreased quality of care for children, Pediatric Emergency Care, Vol.27, no.9 837-845 The King's Fund Commission on Leadership and Management in the NHS (2011): The future of leadership and management in the NHS: No more heroes. The King's Fund. A Three-Month Prospective Audit of Paediatric Attendances at a Regional Emergency Department and Paediatric Assessment Unit Dr. Kevin Gaughan, Dr. Sean Casey, Dr. Alan Finan1 Paediatric Department, Cavan General Hospital

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AN AUDIT ON THE ANTIBIOTIC CHOICE FOR LOWER RESPIRATORY TRACT INFECTIONS IN THE PAEDIATRICS' COHORT IN ST LUKE'S HOSPITAL KILKENNY

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Aim: This audit aims to improve the compliance of antibiotic choice for lower respiratory tract infections (LRTI) among the paediatric population in St Lukes Kilkenny Hospital. The guideline used to audit against is the National Antimicrobial Guideline in the Paediatric Formulary Children's Heath Ireland (CHI).

Methods: A retrospective analysis of medical records was conducted among patients diagnosed with LRTI in St Luke's Hospital for duration of two months from December 2022 to January 2023. Data collected included patients' demographics, co-morbidities, clinical course, nasopharyngeal aspirate findings, CXR findings and antibiotics choice.

Results: A total of 28 patients was diagnosed with LRTI and required admission in St Lukes Hospital Kilkenny from December 2022 to January 2023. 25% (n=7) of the patients were under one year of age while 75% (n=21) of the patients were above one year old. 36% (n=10) of the patients had co-morbidities including cardiac defects while 64% (n=18) does not have any pre-existing conditions. 54% (n=15) of the patients had confirmed focal consolidation on Chest X Ray performed during admission. 82% (n=23) of the patients also had viral aetiology isolated on the nasopharyngeal aspirate conducted. Co-amoxiclav was prescribed in 50% (n=14) of the patients. Intravenous ceftriaxone was given to 30% (n=8) of the patients. The other choices included cefotaxime, azithromycin, gentamycin, and cephalexin. The percentage of compliance to the National Antimicrobial Guideline is 28%(n=8) and percentage of non-compliance is 72% (n=20).

Conclusion: This audit highlighted that the antimicrobial choice for LRTIs in St Lukes' Kilkenny Hospital is markedly different than the National Antimicrobial Guideline. Adherence to the guideline is necessary to reduce antimicrobial resistance, ensures appropriate treatment and to reduce healthcare costs. Recommendations include providing education in departmental teaching.

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OUT PATIENT DEPARTMENT WAITING TIMES. THE PATIENT JOURNEY FROM ARRIVAL UNTIL SEEN. A QUALITY IMPROVEMENT PROJECT

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Background: Waiting time is crucial for assessing healthcare quality and patient satisfaction, influencing the timely, efficient, and patient-centered delivery of care.

Aim:

- To ensure high-quality healthcare
- To compare current practices with parental expectations.

Method: Prospective cross-sectional study conducted from October 3-21, 2022, including all consultant clinics held four times weekly (Monday to Thursday) from 13:45 to 14:00. Typically, 2 consultants and 2-4 NCHDs are present, seeing an average of 15 patients daily.

All Patients seen physically and have prebooked appointment are included.

Detailed survey conducted by the audit team asking how long the parent-caregiver- was prepared to wait from arrival at their appointment until seen by the doctor.

Audit team considered the average time the parents replied that they expected to be seen within. This feedback from the parents is used to create an auditable standard.

The pilot audit was conducted in one day by one doctor who agreed to trial the audit form.
The time between patient arrival until seen by doctor was measured.

Results: In a survey of 50 parents/caregivers, 80% expected to be seen within 20 minutes.

Of 59 audited cases (did not attend), 80% were seen within 20 minutes, and 10% were seen earlier than their prebooked appointment. each doctor saw 3-5 patient and spent 30-45 minutes per patient. Nurse triage took 5.7 minutes. It noticed that the new to follow up patient ratio is 2:3.

Discussion: The time spent with each patient varied (20-90 minutes) based on patient type follow-up or new, doctor level, consultant availability, and chart organization. Preassigning charts and displaying clinical letters and lab results improved efficiency. Point-of-care testing increased appointment duration but reduced hospital visits.

Conclusion: Clinical staffing, nurse triage showed to be reasonable, early doctor attendance, chart organization, equipment's availability showed to reduce waiting times, also the consultant availability and the pre-assignment of the charts benefit NCHD decision making, and the capacity scenario challenges might be of benefits to enhance the critical thinking.

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RETROSPECTIVE RE-AUDIT ON THE MANAGEMENT OF CHILDREN WITH EATING DISORDERS - COMPLIANCE TO THE MARSIPAN GUIDELINE

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Aims:

This audit aims to evaluate compliance of the management of children with eating disorders according to MARSIPAN guidelines.

Methods:

This is a retrospective re-audit of patients admitted with eating disorders in the Year 2021 and 2022 in St Luke's Hospital, Kilkenny. The fourteen patients included in the study are patients with eating disorder of 16-year-old and below. The assessment, management, allied health professional involvement and discharge plan were audited against the MARSIPAN guideline. Initial audit was performed in 2020 included 9 patients.

Results:

Our findings showed that 71% (n=10) of the patients had MARSIPAN guideline referenced in the chart. 57 %(n=8) have HEADSS assessment documented. The dietician has seen 86 %(n=12) of the patients within their first week of the admission while 14%(n=2) were reviewed in the outpatients. The CAMHS team reviewed 14 %(n=2) of the patients during their inpatient stay. However, 78 %(n=11) of the patients were offered outpatient CAMHS review.
In terms of investigations, ECG was performed in 76% (n=11) of the patients and sitting plus standing blood pressure was done in 86 %(n=12) of the patients. Refeeding markers (Calcium, Magnesium, Phosphate, Blood glucose level) were done in 93% (n=13) of the patients for five consecutive days of admission. In terms of meal supervision, 79% (n=11) of the patients had supervision during eating.

Conclusion:

There is marked progress that made in terms of psychiatric review and dietician involvement as compared to the previous audit that conducted in Covid times because the inpatient assessment was stopped, on the other hands the finding suggest that the patient are still receiving suboptimal care. And it is vital to highlight the gaps that will lead to better outcomes for children with eating disorders.

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A RARE CAUSE OF RECURRENT ABDOMINAL PAIN IN AN 11YO BOY

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Aim: We would like to present the clinical, biochemical, genetic and radiological findings of a 11yo boy who presented to our hospital with recurrent abdominal pain.

Methods: We retrospectively looked at the patient chart and investigations on our laboratory.

Results: 11yo boy, initially presented to ED with 3 weeks of intermittent upper left sided abdominal pain, vomiting and diarrhoea. The symptoms were not preceded by a viral illness. On exam, there was epigastric tenderness no guarding or rigidity. His investigations revealed CRP of 128, raised WCC and neutrophils. LFT's, bone profile, fasting lipid profile and extended viral panel were normal. He was managed conservatively for Acute Pancreatitis. Amylase on next day was 273 IU/L (28-100). His Ultrasound abdomen was normal. He recovered well over the following days and was discharged after 3 days.

He re-presented two weeks later with severe pain in the left upper abdomen. Again, his amylase was raised at 706. His repeat ultrasound abdomen was reported normal. MRCP revealed that the pancreas was oedematous with peripancreatic free fluid and no pseudocyst. His enteric bio-faecal screen was negative. He was managed conservatively and testing sent for work up of recurrent acute pancreatitis. Genetic testing revealed a mutation in CFTR gene of unknown clinical significance. Further investigation for CF revealed a positive sweat test.

Conclusion: Being rare in paediatrics and recurrence of acute pancreatitis with no structural cause prompted further investigation in this case. Mutations in PRSS1, SPINK1 and CTRC gene can cause pancreatitis with or without associated manifestations of cystic fibrosis. This case is unique in that he genetically tested positive for CFTR gene variants of unknown clinical significance and positive sweat chloride but showed no features of CF.

References:

1. Saeed, S.A. (2020). Acute pancreatitis in children: Updates in epidemiology, diagnosis and management. Current Problems in Pediatric and Adolescent Health Care, 50(8), 100839. doi:10.1016/j.cppeds.2020.100839.
2. Fonseca Sepúlveda, E.V., & Guerrero-Lozano, R. (2019). Acute pancreatitis and recurrent acute pancreatitis: An exploration of clinical and etiologic factors and outcomes. Jornal de Pediatria, 95(6), 713-719. doi:10.1016/j.jped.2018.06.011.

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PAEDIATRIC NCHD LED ONLINE TEACHING PROGRAM FOR THE MRCPI PART 2 CLINICAL EXAMINATION

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Introduction

In response to infection control measures imposed by the COVID-19 pandemic an online tutorial program was developed to help non-consultant hospital doctors (NCHDs) prepare for the Membership of the Royal College of Physicians of Ireland (MRCPI) Part 2 Clinical Examination. Following sustained demand this program has continued to run following easing of public health measures. We sought to evaluate the efficacy of the 7th cycle of this program.

Methods

The online teaching program was designed according to the MRCPI Clinical Examination content blueprint and feedback received from previous cycles. Tutorials were delivered between the 24th April and 5th May 2023 by senior NCHDs working in Children's Health Ireland. Participants were coordinated through an instant messaging service. Anonymous online surveys were completed by participants prior to and after the teaching program. Tutorials were delivered using online video conferencing software.

Results

An average of 61 participants attended the training sessions per day. A total of 35 participants completed the before survey and 14 participants completed the after survey. A total of 71% of participants were enrolled to sit the MRCPI Part 2 Clinical Exam in May 2023.The majority (57%) of respondents were enrolled in Basic Specialist Training with the RCPI, 28% of participants were working in standalone registrar posts and two respondents attended from international sites. All participants rated the course as either very good or excellent. The course material was rated as useful by 86% of participants.

Conclusion

Overall, this program was well received. Participants responded positively to course content and agreed that material covered was relevant, however the decrease in post-course survey responses may lead to bias. Feedback was consistent with feedback from previous cycles. While online tutorials are an imperfect method of preparation for a clinical exam, this survey indicates that participants are of the opinion they can complement preparation efforts. Participant feedback will be incorporated into future cycles.

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LUMBAR PUNCTURE PROCEDURE DOCUMENTATION IN PAEDIATRIC PATIENTS IN CHI AT TALLAGHT EMERGENCY DEPARTMENT

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Aim: To audit and improve the documentation of diagnostic lumbar puncture in paediatrics at Tallaght University Hospital and to introduce a novel proforma to help doctors completing the required aspects of documentation.

Methods: A retrospective review of patients' medical notes over 4 months period (from July 2022 to October 2022). We have included patients with age of less than 18 years old for whom diagnostic lumbar punctures were performed.

Results: We collected 30 cases of which 26 cases were below 1 year old. Out of those 30 cases, 21 were done in ED and 9 cases were inpatient.

Most of the cases (28 cases) presented with signs of sepsis, while one case presented with seizures and another one was floppy on presentation.

Regarding investigations pre-procedure, coagulation studies were done for 18 patients and while imaging was done for only one case. Verbal consent was documented in only 11 patients.

Documenting the steps of the procedure was variable. Starting with sterilisation, which is documented in 20 patients, while local anaesthetic was documented only in 2 patients and the level of needle insertion was mentioned in 4 cases. Appearance of the CSF sample was documented in all performed LPs. Number of attempts was mentioned in 21 patients. complications were documented in 19 patients. Post procedure advice was documented in only 3 cases. Results of the CSF analysis were documented in all cases.

Conclusion: We noticed wide variability in documentation regarding LP procedure in our hospital. While the documentation of appearance of the CSF sample and results of the analysis were documented in all the audited patients, other areas like consent and post-procedure advice were not adequately documented.
We plan to give an educational session to all paediatric NCHDs in our hospital for emphasising the importance of the documentation of the LP procedure and to introduce a guidance proforma for helping doctors to complete the required aspects of documentation.

1- Guidelines on the preparation and care of patients undergoing lumbar puncture, OLCHC Guidelines 2- Hewett R, Counsell C. Documentation of cerebrospinal fluid opening pressure and other important aspects of lumbar puncture in acute headache. Int J Clin Pract. 2010 Jun;64(7):930-5. doi: 10.1111/j.1742-1241.2010.02415.x. PMID: 20584226. 3- Bhattacharjee S, Kaur G. A study on the standard of documentation of lumbar puncture in neurology department of a major Irish Teaching Hospital in Ireland. Ann Indian Acad Neurol. 2013 Oct;16(4):627-30. doi: 10.4103/0972-2327.120498. PMID: 24339594; PMCID: PMC3841615.

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Poster No. 44
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REDUCING ERRORS IN GENETIC TEST SAMPLING

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Aim: To improve the compliance of genetic investigations procedure guidelines and to reduce unwanted errors in sampling of genetic investigations within the paediatric department in CUH.

Methods: Using the Plan-Do-Study-Act (PDSA) quality improvement methodology, sampling errors in genetic testing were identified based on a previously conducted audit. To improve unwanted errors, a checklist drafted with reference to the results of a previous audit on genetic investigation results, as well as the genetic investigations samples submitting standards of the Department of Clinical Genetics, as per the Children's Health Ireland (CHI). A premade pack of relevant bloods bottles, were introduced into the phlebotomy rooms & the topic added into the induction pack for new medical staff in the paediatric department of Cork University Hospital.

Results: Recent Audit identified up to 20% of paediatric genetic testing samples were rejected in CUH due to inappropriate labelling of blood bottles, collection of sample in the wrong blood bottle, inadequate sample, and incomplete forms.

The introduction of the improved awareness among the junior medical staff, a genetic testing checklist and premade pack intervention has shown a reduction in sampling errors in genetic testing.

A re-audit is to be conducted in 12 months' time comparing pre-intervention and post-intervention rates in genetic testing sampling errors.

Conclusion: Improved compliance to genetic investigations procedural guidelines and reduction in sampling errors in genetic testing is possible by implementing simple Quality Improvement measures.

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A RETROSPECTIVE STUDY OF ANTIBIOTIC RESISTENT URINE CULTURES AND EMPIRIC ANTIBIOTIC PRESCRIPTION FOR UTI IN PAEDIATRIC EMERGENCY DEPARTMENT

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AIMS:

Our aims were to look at the common organisms causing urinary tract infections in paediatric age group and their sensitivities to antibiotics. Find out the effectiveness of current empirical antibiotics against usual micro-organisms causing urinary Tract Infections (UTI).Compare the current hospital antibiotic policy with the antibiotic sensitivities of the study.

METHODS:

Positive urine cultures of children presented to the Emergency Department (ED) were obtained from the lab system between January to December 2022.Patients admitted for intravenous antibiotics as well as discharged from ED with oral antibiotics were included in the study. Paediatric ED charts were reviewed to look at the empirical antibiotic prescription for the children with provisional diagnosis of UTI.

RESULTS:

UTI was found to be more common in females than males (71% vs 29%).Most UTI were recorded among the age group of 6 months to 3 years (45%). Incidence of UTI was 18% in less than 6 months of age and 37% in children more than three year.

E coli was the most common pathogen causing UTI (85.56 %) followed by klebsiella, pseudomonas, proteus and enterococci. Amoxicillin and co-amoxiclav were found to be least effective antibiotics with resistance of 64.9% and 54.5% respectively. They were followed by trimethoprim and cephalexin with resistance of 31.7% and 13.7% respectively. Cefuroxime was resistant in 12.8% urine cultures.

Nitrofurantoin (99.6%) and ciprofloxacin (89%) were among the most sensitive oral antibiotics. Augmentin was most prescribed antibiotic for UTI in paediatric ED, followed by Cefalexin. Amoxicillin, trimethoprim and nitrofurantoin were the least prescribed antibiotics.

CONCLUSION:

There was increased prevalence of local resistance to usual first line antibiotics including amoxicillin, co-amoxiclav and trimethoprim. Cephalosporin was the appropriate choice of first line empirical antibiotics against UTI. Antimicrobial guidelines to be updated in the light of above results.

1. NICE Guidelines NG224, Urinary tract infection in under 16s: diagnosis and management.

Poster No. 46
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HELP I'M DROWING!

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Background: Non-Sustained Ventricular Tachycardias are defined as an abnormal rhythm that have three or more consecutive ventricular beats that have a rate of greater than 100 beats a minute that last for a duration of less than 30 seconds. These may be only noted to be often asymptomatic but noted that at times they may present with certain complaints as palpitations of the chest. Normally these types of rhythms are benign in nature but may also increase the risk of sudden cardiac death.

Aims: To explore and discuss a case involving a 13-year-old Caucasian male child who was diagnosed with non-sustained Ventricular Tachycardias with his only symptom indicated as having the sensation of drowning.

Method: This is a retrospective case presentation. The information was gathered from the patients' medical records keeping in mind the General Data Protection Regulations (GDPR) and after taking the appropriate consent from the patients' carers. The Main references for the poster presentation are articles obtained through British Medical Journal, UpToDate, and other various medical resources.

Result: A Brief Poster presentation will be constructed to present this case, the associations in regards to Non-Sustained Ventricular Tachycardias in its presentation and in its course and managements.

Conclusion: Non-Sustained Ventricular Tachycardia's in children is a very rare occurrence in the presence of normal cardiac function and structure and their presentations. It is important to mindful in identify these types of arrhythmias and to identify the symptoms as these types of occurrences can present asymptomatically.

1. Fred Kusumoto Non-Sustained Ventricular Tachycardias 2008 Aug;26(3):481-96, vii. DOI: 10.1016/j.ccl.2008.03.002. 2. MD Steven M. Yabek Ventricular arrhythmias in children with an apparently normal heart. Journal of Paediatrics, Volume 119, ISSUE 1, P1-11, July 1991,DOI: https://doi.org/10.1016/S0022-3476(05)81030-3 3. Robert Phang, MD, FACC, FHRS Nonsustained VT in the absence of apparent structural heart disease https://www.uptodate.com/contents/non-sustained-vt-in-the-absence-of-apparent-structural-heart-disease?search=1.%09Nonsustained%20VT%20in%20the%20absence%20of%20apparent%20&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

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General Paediatrics

COMPLIANCE OF NCHD'S NOTE-KEEPING WITH HSE GUIDELINES, IN CASHEL WARD, PAEDIATRICS DEPARTMENT UHK.

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AIMS

Accurate healthcare notes are crucial in ensuring patient and doctor safety. As such, the HSE has set out standards which outline general requirements for all entries in the patients' healthcare record. The objective of these guidelines is to ensure accuracy, improve patient safety and outcomes and emphasise legal obligations associated with proper documentation. This audit aims to assess the trends in entries in patient's healthcare records in compliance with the HSE recommendations.

METHODOLOGY

Retrospective data collected from charts of patients admitted to the Paediatrics ward, at UHK, from 01- 31 July 2023. 50 charts were randomly selected and analysed for compliance with HSE recommendations. An Audit Tool, in the form of a checklist, was created based on the HSE's general requirements. The checklist included 18 criteria, whereby 13 were legal requirements. Entries, made by an NCHD, were analysed for the presence / absence of the predetermined criteria by checking the box that most accurately describes the degree by which the criteria was met. The criteria where either completely present/ partially present / completely absent. The data was then correlated in an Excel Spreadsheet. Analysis was performed using descriptive statistics.

RESULTS

50 entries from patient charts were included in the audit (n=50). Of these entries 0% complied fully with the HSE requirements, 88% fell within the range of 50-75% compliant, 10% had <50% of the criteria met and only 2% met >75% of the criteria. Of the 18 criteria set out by the HSE, on average only 10/18 (57%) were completely present.

CONCLUSION

The data showed that entries made by NCHD's are not fully compliant with the HSE's general requirements and recommendations. As the next stage of this audit a suite of educational interventions is scheduled, with the potential to introduce a QIP that aims to create a structured healthcare record to facilitate compliance. The objective is to re-audit in one month with an aim to improve compliance to >75% with the proposed interventions.

1. Sheikh, A. (2023) 'Medico-legal aspects of record-keeping and documentation'. HSE Open Disclosure , Dublin, 12 April. Available at: https://www.hse.ie/eng/about/who/nqpsd/qps-incident-management/open-disclosure/medico-legal-aspects-of-record-keeping-hse-april-2023.pdf (Accessed: 5 August 2023). 2. HSE.(2013) Health Board Retention Policy- Record Retention. Available at: https://assets.hse.ie/media/documents/Record_Retention_Periods_Policy.pdf (Accessed: 5 August 2023).

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Poster No. 48
General Paediatrics

TWISTING AND TURNING: A CASE OF RECURRENT INTERMITTENT INTUSSUSCEPTION IN A 5 YEAR OLD BOY AT UHK.

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BACKGROUND

Recurrent intermittent intussusception (RII) is a rarely described condition characterized by intermittent attacks of abdominal pain and pallor which is spontaneously remitting in nature. Literature quotes the presence of various lead points including coeliac disease and lymphoid hyperplasia as risk factors for recurrence. Due to its elusive and recurrent nature, it presents a diagnostic challenge often resulting in delayed or missed diagnoses.

AIMS

Describe a case of a 5-year-old Caucasian male child who experienced RII in conjunction with coeliac disease, over a period of 13 months.

METHODS

The case is presented retrospectively, utilizing information from the patient's medical records, following GDPR (General Data Protection Regulation) protocols.

RESULTS

At the age of 3, the patient presented to the Emergency Department at UHK (University Hospital Kerry) with a two-week history of fluctuating nighttime abdominal pain, associated with vomiting and loose stools. Each episode featured intense, short-lived abdominal pain and pallor, which spontaneously resolved. Concurrently, the patient was diagnosed with coeliac disease based on serological findings and initiated a gluten-free (GF) diet. Abdominal ultrasound confirmed acute small bowel intussusception involving the jejunum, with mesenteric lymph nodes suspected to be the lead points. This intussusception resolved with adherence to the GF diet.

Clinical reassessment at age 4 revealed recurrent nighttime spasmodic abdominal pain. Repeat abdominal ultrasound confirmed intermittent, self-resolving small bowel intussusception, consistently associated with mesenteric lymph nodes.

CONCLUSION

This case demonstrates a rare presentation of RII with coeliac disease and intestinal lymphoid hyperplasia as likely lead points. Remarkably, adherence to a GF diet resulted in the resolution of the patient's intussusception. Continued compliance with this diet may further enhance patient outcomes and potentially prevent recurrence. This poster discusses some common causes of RII in paediatric practice.

Gray MP, Li SH, Hoffmann RG, et al. Recurrence rates after intussusception enama reduction:metanalysis. Pediatrics. 2014 Jul; 134(1):110-9 Carroll AG, Kavanagh RG, NI Leidhin C, et al. Comparative

Effectiveness of Imagng Modalities for the Diagnosis and Treatment of Intussussception: A Crtitically appraised topic. Acas Radiol 2017; 24:521 West NJ, Daniels IR, Carr ND. Lessons to be learned: a case study approach: Chronic intussusception in childhood. Journal of the Royal Society for the Promotion of Health. 2003;123(3):181-184. doi:10.1177/146642400312300316 Schulman, H., Laufer, L., Kurzbert, E., Cohen, Z., & Hertzanu, Y. (1998). Chronic intussusception in childhood. European Radiology, 8(8), 1455–1456. https://doi.org/10.1007/s003300050574 Page, A. C., Price, J. F., Salisbury, J. R., Howard, E. R., & Karani, J. (1990). Chronic intussusception. Archives of Disease in Childhood, 65(1), 134–135. https://doi.org/10.1136/adc.65.1.134 Chang ML, Cheung W, Ling YK, Chiu WW. Chronic intussusception in children: report of one case. Zhonghua Minguo Xiao er ke yi xue hui za zhi [Journal]. Zhonghua Minguo Xiao er ke yi xue hui. 1994 Jul-Aug;35(4):335-340. PMID: 8085457.

Poster No. 49

General Paediatrics

STEM CELLS IN THE TREATMENT OF CEREBRAL PALSY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims: Cerebral palsy (CP) is a chronic neurological disability that impairs motor function. As current management fails to target the underlying pathology, stem cell therapies have been identified as a potential treatment. This systematic review and meta-analysis examines the existing randomised controlled trials (RCTs) of stem cell-based therapy for CP and assesses the evidence of its efficacy and safety.

Methods: A search of Web of Science, Ovid, Embase, CINAHL, and Google Scholar identified RCTs investigating stem cell treatments in CP. Relevant papers were screened using inclusion criteria and results were extracted. The primary outcome was gross motor function. A meta-analysis using effect size expressed as standardised mean differences (SMD) with 95% confidence intervals (CI) was performed. Secondary outcomes were adverse effects (AEs), risk of bias, and other functional measures.

Results: Eleven trials containing 672 participants met inclusion criteria. Cell types utilised included; umbilical cord blood, bone marrow mesenchymal stem cells, bone marrow mononuclear cells, mobilised peripheral blood mononuclear cells, olfactory ensheathing cells, and neural progenitor cells. All studies assessed gross motor function using GMFM-88 or GMFM-66. All studies included in the meta-analysis found increases in GMFM scores 12-months post intervention (pooled effect size: 1.81; CI: 1.23, 2.38). The most common AE was fever, experienced by 9.4% of recipients versus 4.4% of controls. One serious AE, a focal cerebral haemorrhage, may have been attributable to the intervention. However, the methods and results of included studies displayed significant heterogeneity, and all displayed some risk of bias.

Conclusion: This systematic review and meta-analysis shows stem cell therapy improves gross motor function in CP while having few adverse effects. However, the medium-to-high risk of bias found in the existing literature must be considered. It is crucial for more high-quality RCTs with longer follow-up observation to improve patient's functioning and quality of life.

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TEN-YEAR INCIDENCE AND SEVERITY OF EATING DISORDERS IN CHILDREN AND ADOLESCENTS IN A GEOGRAPHICALLY-DEFINED CATCHMENT AREA: IMPACT OF COVID-19

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AIM: To review the incidence of eating disorders (EDs) diagnosed by South Galway Child and Adolescent Mental Health Services (CAMHS) per year from 2011 – 2021, establish the trend and consider the possible impact of the COVID-19 pandemic on the incidence and severity of EDs.

METHODS: A pre-existing dataset from 2011-2016 was combined with newly collected data from 2017- 2021 from South Galway CAMHS. Primary data was collected by identifying 107 patients with a possible diagnosis of ED from multi-disciplinary meeting minutes and cross-checked with clinicians. All patient notes were reviewed, 35 patients were excluded who did not have a primary diagnosis of ED. The remaining 72 patients were combined with the pre-existing dataset. Number diagnosed per year, age, gender, percentage median BMI, primary diagnosis, co-morbidities were reviewed.

RESULTS: 133 patients were included; the highest incidence was in 2016 (30) followed by 2021 (27) and 2020 (14). Majority were female aged 15-17 years. Most referrals came via GP. The most common primary diagnoses were anorexia nervosa and eating disorder not otherwise specified. The most common co-morbidities were depression and anxiety. 13% required hospital admission in 2011-2016, 28.5% in 2020 and 18.5% in 2021.

CONCLUSIONS: The National Clinical Programme for Eating Disorders launched in 2018 increased the focus on EDs in Ireland. Internationally, the literature has shown an increase in the incidence and severity of EDs during the COVID-19 pandemic, some reported a particular increase in the child and adolescent population.
The gender, age, primary diagnosis and co-morbidities of this population is similar to that described in the literature. There was an increase in incidence of EDs in 2020-2021 but this trend was seen prior to 2020. More patients required hospital admission during 2020 and 2021 compared to prior years. This suggests increased severity of disease during that time and consequent demand on resources.

1. Agostino, H., Burstein, B., Moubayed, D., Taddeo, D., Grady, R., Vyver, E., Dimitropoulos, G., Dominic, A., & Coelho, J. S. (2021). Trends in the Incidence of New-Onset Anorexia Nervosa and Atypical Anorexia Nervosa Among Youth During the COVID-19 Pandemic in Canada. JAMA Network Open, 4(12), e2137395. https://doi.org/10.1001/jamanetworkopen.2021.37395 2. Hansen, S. J., Stephan, A., & Menkes, D. B. (2021). The impact of COVID-19 on eating disorder referrals and admissions in Waikato, New Zealand. Journal of Eating Disorders, 9(1), 105. https://doi.org/10.1186/s40337-021-00462-0 3. JO Driscoll, D., Jennings, R., Clifford, M., Maher, C., Corbett, M., Wade, S., Dunne, D., Collins, C., & McDevitt, S. (2023). HSE National Clinical Programme for Eating Disorders in Ireland: COVID-19 pandemic and eating disorder care in a new national eating disorder service. International Journal of Eating Disorders, 56(8), 1637–1643. https://doi.org/10.1002/eat.23966

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Poster No. 51
General Paediatrics

ACUTE KIDNEY INJURY SECONDARY TO IV ACICLOVIR IN VARICELLA ZOSTER MENINGITIS IN AN OVERWEIGHT PATIENT.

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AIMS

We aim to discuss the potential pitfalls of IV Aciclovir dosing at extremes of weight highlighting differences between CHI antimicrobial card and CHI full reference/BNF recommendations.

METHODS

We present the case of a 9-year-old girl with a weeklong history of headache, vomiting, decreased intake and normal clinical examination. Her weight was 46kg (98centile), height 145cm (98centile) and BMI 21.9kg/m^2 (91centile). WCC, CRP, Creatinine and MRI brain were normal. IV Aciclovir and Ceftriaxone were started empirically. 48 hours later CSF cytology showed 234 WCC/cm (first sample); 145 WCC/cm (second sample); 100% lymphocytes. PCR was positive for Varicella-Zoster Virus (VZV)**.** Bacterial culture was negative. There was no history of chickenpox. After 2 days of antimicrobials with IV fluids creatinine increased from 40umol/L to 106umol/L (Range:28umol/L-57umol/L).

RESULTS

Initially, Aciclovir was prescribed at 920mg(20mg/kg) using actual bodyweight as per CHI quick reference card. This was reduced to 700mg(500mg/m^2) using ideal bodyweight based on CHI/BNF Guideline. Final dosing was 350mg(250mg/m^2) after Infectious Diseases consultation. Ceftriaxone dose was not adjusted.
Kidney function recovered in 1 week. 10 days Aciclovir and 7 days Ceftriaxone were completed with full recovery.

CONCLUSIONS

Previously, the CHI quick reference card (amended Sept 23) recommended 20mg/kg or 500mg/m^2 in patients 3 months to 12 years.(1) In contrast, CHI full reference guidelines advise 500mg/m^2 exclusively and weight adjustments in obese patients.(2) When plotted on the RCPCH growth chart our patient's BMI was in the overweight range rather than obese range (>98centile).(3) A learning point from this case is the importance of plotting BMI centiles in all children before prescribing Aciclovir. We suggest including weight adjustment on reference card and extending weight adjustment recommendation in the full reference guideline to overweight as well as obese patients. This is particularly important when co-prescribing with cephalosporins as they potentiate the nephrotoxic side effects of Aciclovir.

1. Childrens Health Ireland. Antimicrobial Quick Reference Card (August 2021) [Internet]. Clinibee; 2021. Available from: https://app.clinibee.com/files/2d3a4c54-01d4-40e6-8e01-6946a2e6256a 2. Childrens Health Ireland. clinibee.com. 2021 [cited 2023 Sep 25]. Aciclovir. Available from: https://app.clinibee.com/files/2d3a4c54-01d4-40e6-8e01-6946a2e6256a 3. Girls_2-18_years_growth_chart.pdf [Internet]. [cited 2023 Oct 2]. Available from: https://www.rcpch.ac.uk/sites/default/files/Girls_2-18_years_growth_chart.pdf

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Poster No. 52
General Paediatrics

OVERFEEDING IRISH INFANTS - AN ISSUE IN GENERAL PAEDIATRICS

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Aims

Childhood obesity is a global health priority. Modifiable environmental influences, such as overfeeding, can exert a programming effect on infants, the results of which are carried through childhood to adult life (1). Infants overfed on day 1 of life were significantly more likely to be overweight aged 4 (2), and those infants falling at the heaviest end of weight distribution were at risk of increased risk of obesity in adulthood (3). Anecdotal evidence suggests that overfeeding is an issue amongst Irish infants, however, literature review found no formal studies to date documenting statistics on overfeeding in this cohort. Here, we aim to characterise feeding practices and infant weights in a general paediatric population.

Methods

Eligible infants were defined as infants ≤6 months old that were admitted under general paediatrics team to a major tertiary centre acute inpatient ward. Data was collected over a 7-day period through review of clinical notes and structured interviews with caregivers. Statistical and qualitative analysis was performed. Anthropometric and feeding data was compared with World Health Organisation (WHO) growth references and national Health Service Executive (HSE) guidelines.

Results

51 infants, including 26 males and 25 females were eligible for inclusion. 42 (82%) infants were solely formula fed, 8 (16%) breastfed and 1 (2%) received expressed breast milk. Compared with HSE guidelines 59% of infants exceeded recommended intake, the median volume of milk was 200ml/kg/day ±SD 34ml. 93% of overfed infants had symptoms of gastroesophageal reflux. 24 (47%) parents interviewed felt that inadequate support and information on feeding volumes had been provided prior to their attendance to hospital.

Conclusion

Our data suggests that over-feeding is a significant issue in infants <6months old. Furthermore in this study we found low breastfeeding rates and the feeling amongst parents that they were unsupported- both
significant matters that need to be addressed.

1. De Luca S, Ziko I, Dhuna K, Sominsky L, Tolcos M, Stokes L et al. Neonatal overfeeding by small-litter rearing sensitises 2. Stettler N, Zemel BS, Kumanyika S, Stallings VA. Infant weight gain and childhood overweight status in a multicenter, cohort study. Pediatrics. 2002 Feb;109(2):194-9. doi: 10.1542/peds.109.2.194. PMID: 1182619 3. Watchmaker B, Boyd B, Dugas L. Newborn feeding recommendations and practices increase the risk of development of overweight and obesity. BMC Pediatrics. 2020;20(1).

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Poster No. 53
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THE VARIANT c.49G>C IN UROS IS ASSOCIATED WITH A NON-SEVERE FORM OF CONGENITAL ERYTHROPOIETIC PORPHYRIA

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Aims: Congenital Erythropoietic Porphyria (CEP) is rarest form of porphyria with a reported incidence of 1 per 2-3 million people. Inheritance is autosomal recessive. We aim to describe the clinical characteristics of the first cases of CEP in the Republic of Ireland.

Methods: Retrospective review of clinical, biochemical and genetic data for three patients. The authors of the only previous publication reporting this specific mutation in the gene for Uroporphyrinogen III Synthase (UROS) were contacted.

Results:

Case 1: A male infant had antenatal detection of perihepatic ascites. Postnatally he had splenomegaly and thrombocytopaenia. A lysosomal storage disorder was suspected however white cell enzymes and gene panel were negative. Further analysis of exome data identified the c.49G>C variant in UROS; classified as a variant of uncertain significance. Urine porphyrins were elevated. Subsequent evaluation identified dark urine and erythrodontia.

Case 2: A 5-year-old female, identified by screening the older siblings of case 1. She had erythrodontia and mild cutaneous scarring but no splenomegaly. She was also homozygous for the c.49G>C mutation in UROS.

Case 3: A 5-year-old boy, unrelated to cases 1 and 2, presented with erythrodontia and cutaneous photosensitivity with scarring. He was homozygous for the c.49G>C mutation. All 3 cases are members of the Irish Traveller population. Contact with the authors of a previously published case from North America identified the presence of homozygosity for c.49G>C in a male in his 50's with cutaneous photosensitivity and dark urine. He had a typically Irish surname.

Conclusions: The c.49G>C mutation in UROS has been reclassified as likely pathogenic and causes a non-severe form of CEP. Further analysis is required to establish a founder effect. As the phenotype is not severe, there may be further undiagnosed cases. In addition, we have further expanded the catalogue of inherited disorders in the Irish Traveller population.

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Poster No. 54
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HIGHLIGHTS AND CHALLENGES IN THE IMPLEMENTATION OF EDUCATIONAL AND BEHAVIOURAL INTERVENTIONS FOR MIGRANT CHILDREN IN SWEDEN

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Background and Aim: In the midst of a global displacement crisis caused by ongoing conflicts and increasing natural disasters, understanding and addressing the impact of displacement on children is crucial. The REFUGE-ED project, funded by the European Commission, aims to address the educational and psychosocial needs of migrant children in six EU countries. Particularly, this project aims to study the implementation of REFUGE-ED in Sweden, centre the voices of multiple stakeholders in understanding the successes and challenges of the project, as well as explore the nuances of the impact of place of implementation on the intervention, specifically comparing pre-integration migrant centres (non-fluid sites) and post-integration community centres (fluid sites).

Methods: The project employs a mixed methods approach, combining retrospective and prospective elements. Qualitatively, it involves needs assessment reports, in-person interviews, and focus groups with staff members from local NGOs, teachers engaged in activity delivery, and participating parents. Quantitative analysis utilises baseline survey data from all three pilot sites to compare migrant children (n=29) across fluid and non-fluid sites on well-being, sense of belonging, social support, and academic motivation using non-parametric t-tests.

Results: Quantitative analysis found no significant differences in well-being, sense of belonging, social support, and academic motivation across fluid and non-fluid sites. Thematic analysis described some of the Successes and Barriers to REFUGE-ED implementation in Sweden as well as aimed to understand how implementation was impacted by place, through comparing the experiences of fluid vs. non fluid sites.

Conclusion: In Sweden specifically, the implementation of REFUGE-ED across pre-integration non-fluid migration centres and post-integration offered a valuable ecosystem to study the implementation of the project. Most importantly, findings point to the urgent need for interventions to continue to be adaptable, collaborate with local communities, involve all stakeholders, and be culturally conscious in their approaches to implementation.

Poster No. 55
General Paediatrics

PROTON PUMP INHIBITOR USE AS TREATMENT FOR GASTROESOPHAGEAL REFLUX DISEASE IN PAEDIATRIC PATIENTS´ WITH SEVERE NEUROLOGICAL IMPAIRMENT: AN AUDIT

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Aims:

- To review use of proton pump inhibitors (PPIs) in children with severe neurological impairment (SNI).
- To determine whether regular re-assessments were performed to ensure treatment is still indicated.

Methods: Retrospective review of children with SNI attending a paediatric neurodisability service. Clinic letters held on the hospital's electronic health record were reviewed. Data collected included - specific reasons for treatment initiation and / or discontinuation and whether the indication was reassessed at follow up.

Results: 56 patients with a diagnosis of SNI were included. 32 children were prescribed PPIs during their care. 24 of the patients had never been prescribed PPIs. 17 had documented notes on when they started (and age if discontinued) PPIs. In 15 cases the date of commencement of PPI was not available in the medical notes. On average, PPI use was addressed and documented on 38.8% of outpatient visits. The average length of treatment with PPIs was 3.6 years. Only 23.5% of the patients discontinued their PPI.

Conclusion: Proton pump inhibitors can have significant side effects. The optimal strategy for PPI prescription at this time is for patients with clear indications, avoiding broad off-label use and to have a prudent time-limited endpoint of prescription. From our above data, there is a need to improve the quality of documentation with regard to the indication for commencement and continuation of PPI medication at each clinic visit. This will ensure that any patient on a PPI will be reassessed on their need for the medication at each clinic visit. A re-audit will be performed on completion of the QI project.

1. Orel R, Benninga MA, Broekaert IJ, Gottrand F, Papadopoulou A, Ribes-Koninckx C, Thomson M, Wilschanski M, Thapar N. Drugs in Focus: Proton Pump Inhibitors. J Pediatr Gastroenterol Nutr. 2021 May 1;72(5):645-653. 2. Wang YH, Wintzell V, Ludvigsson JF, Svanström H, Pasternak B. Association Between Proton Pump Inhibitor Use and Risk of Asthma in Children. JAMA Pediatr. 2021 Apr 1;175(4):394-403. 3. Rosen R, Vandenplas Y, Singendonk M, Cabana M, DiLorenzo C, Gottrand F, Gupta S, Langendam M, Staiano A, Thapar N, Tipnis N, Tabbers M. Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American Society for 4. Pediatric Gastroenterology, Hepatology, and Nutrition and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition. J Pediatr Gastroenterol Nutr. 2018 Mar;66(3):516-554. 5. Pasman EA, Ong B, Witmer CP, Nylund CM. Proton Pump Inhibitors in Children: the Good, the Bad, and the Ugly. Curr Allergy Asthma Rep. 2020 Jun 10;20(8):39. 6. Sigterman KE, van Pinxteren B, Bonis PA, et al. Short-term treatment with proton pump inhibitors, H2-receptor antagonists and prokinetics for gastro-oesophageal reflux disease-like symptoms and endoscopy negative reflux disease. Cochrane Database Syst Rev. 2013; 5 Cd002095. 7. Savarino V, Marabotto E, Zentilin P, Furnari M, Bodini G,

De Maria C, Pellegatta G, Coppo C, Savarino E. Proton pump inhibitors: use and misuse in the clinical setting. Expert Rev Clin Pharmacol. 2018 Nov;11(11):1123-1134. 8. Jaynes M, Kumar AB. The risks of long-term use of proton pump inhibitors: a critical review. Ther Adv Drug Saf. (2018). 10:2042098618809927. 9. Chinzon D, Domingues G, Tosetto N, Perrotti M. Safety of long-term proton pump inhibitors: facts and myths. Arq Gastroenterol. 2022. 59(2):219-225. 10. Ward RM, Kearns GL. Proton pump inhibitors in pediatrics : mechanism of action, pharmacokinetics, pharmacogenetics, and pharmacodynamics. Paediatr Drugs. 2013. 15(2):119-31.

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Poster No. 56
General Paediatrics

SAFETY NET: UTILISING QR CODE POSTERS AND SYMPTOM CHECKER WEBSITE TO IMPROVE PAEDIATRIC DISCHARGE ADVICE AND ENHANCE PATIENT SAFETY

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Aims

"Safety netting" at Paediatric discharge refers to the provision of education and health advice to parents, guiding them on ongoing homecare and signposting when to return if deterioration occurs. Optimal advice is specific, reinforced in writing and should be documented. Our aim was to improve both verbal and written safety netting advice in Belfast's Childrens Hospital (RBHSC), where practice is previously unstudied.

Methods

The Belfast Trusts innovative Children's Symptom Checker website was unveiled in October 2022. It was produced with national partners Alder Hey and Healthier Together, and hosts trustworthy medical advice for parents. We commissioned novel QR code posters linking to the website as a source of written discharge information for parents, after clinicians reported limited time to source quality written advice. We also led two dedicated teaching sessions for the General Paediatric team on safety netting best practice.

Over 11 weeks (W1-11), random weekly chart audit (n=92) recorded whether verbal/written discharge advice was documented. W1-3 served as baseline (n=30) pre-interventions: teaching (W4), placement of QR code posters (W8) and further teaching (W9).

Results

Baseline (W1-3) verbal advice was documented in 40% of discharges and written advice in none. Post-initial teaching (W4-7) verbal advice rose to 63.3%; and written to 13.3%. Immediately after poster introduction (W8), verbal advice peaked at 100% and written 42.9%. Following repeat teaching (W9-11), verbal advice was 64%, and written 40%. On a run chart, all verbal data-points remained above the baseline median from W4 and all written data-points from W6.

Conclusion

Results demonstrated a sustained improvement in safety net practice, thereby positively enhancing patient safety. This was achieved relatively simply and at no extra cost, utilising the Trusts innovative and collaborative online Symptom Checker, novel QR code posters and dedicated teaching.

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Poster No. 57
Neonatal

MATERNAL THYROID DISEASE & THE NEONATAL OUTCOMES: FOLLOW-UP OR LET IT GO?

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Aim

In mothers with autoimmune hypothyroidism (Hashimoto's) or hyperthyroidism (Grave's), in-utero antibody transfer can precipitate transient neonatal hypothyroidism or hyperthyroidism (thyrotoxicosis). Belfast's tertiary NICU protocols recommend following-up babies born to mothers suffering either, despite anecdotal claims that local complications are insignificant.

Our aim was to investigate local incidence, practice and outcomes of babies born to mothers with thyroid disease in Belfast's Royal Jubilee Maternity Hospital (RJMH), and to compare against our local tertiary protocol. We also performed a literature and UK-wide guideline search to ascertain current standards.

Methods

A Pubmed search was performed, and guidelines acquired from other UK units. A Northern Ireland Maternity System (NIMATS) database was created of all deliveries by mothers with thyroid disorders in RJMH, and electronic care records (NIECR) of mums and babies reviewed to ascertain local incidence, practice and outcomes.

Results

613 mothers with thyroid disorders delivered 661 live babies between 01/11/2017 and 29/02/2020. 120 to hyperthyroid mothers, 541 to hypothyroid. Per protocol, 47 babies of hyperthyroid mothers warranted follow-up: 77 were reviewed (37 appropriately). 422 babies of hypothyroid mothers warranted reviews primarily due to unknown TSH-Ab status (505 of 541 mothers unknown): 29 were followed-up. Overall, 106 babies had follow-up despite 469 warranting review. 63 babies had TFTs with no abnormalities and there were no missed thyrotoxicosis cases. 3 of 661 had abnormal heel-pricks.

Recent literature shows negligible antibody transfer in Hashimoto's. Guideline review showed many units had ceased Hashimoto's follow-up but maintained Grave's follow-up.

Conclusion

Our protocol isn't being followed and isn't in keeping with the literature. It recommends follow-up in Hashimoto's mothers despite negligible complications (per literature and local data) and lacked clarity regarding Grave's disease, with some babies followed-up unnecessarily or missed. An updated protocol was devised to incorporate evidence and provide clarity.

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Poster No. 58
General Paediatrics

HUDDLE UP! A QUALITY IMPROVEMENT INITIATIVE TO ENHANCE TEAM COMMUNICATION AND PATIENT SAFETY.

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Aim: To improve team communication by increasing the use of the weekly Safety Huddle from <20% to 100% over a two month period from May to June 2023 for General Paediatrics Team C, at CHI Temple Street.

Methods: The initial intervention was education of team members, in person and via email, on the Safety Huddle. A Huddle script was used as a communication tool. Subsequent PDSA cycles involved refining this script and rotating the Huddle chairperson and scribe.

Data was analysed from the Huddle script completed at each meeting. Focus was placed on at risk-patients, staff availability and gaps, avoidable harms and learning points. Patient flow was also addressed by including long term patients (>4weeks) and complex discharges.

Feedback questionnaires regarding the Safety Huddle were analysed at the end of the study period.

Results: There was 100% uptake of the Team Safety Huddle for the first five weeks of the study period. Subsequent dips were attributable to cross-covering staff who did not receive education on the Huddle, and NCHD changeover. The mean number of attendees was 4.17 (range 3 – 5). On no occasion were the pre-specified key number of attendees present. At-risk inpatients were identified and management plans put in place at every huddle (100%). Avoidable harms were highlighted four times (66.7%). All members of the team reported that the huddle was beneficial and made them feel more supported in their role.

Conclusions: Simple interventions increased the occurrence of the Team Safety Huddle over a short period of time. The Team Huddle remains embedded to date with key stakeholder engagement. Overall, there was an improvement in identifying risks for both patients and staff, incident reporting, and team cohesion. As a forum for proactively discussing safety concerns, it contributed to improved psychological safety and staff wellbeing on the team.

1. Joint Commission on Accreditation of Healthcare Organizations. The Joint Commission guide to improving staff communication. Oakbrook Terrace, IL: Joint Commission Resources; 2005. 2. Guo, M., Tardif, G. and Bayley, M., 2018. Medical safety huddles in rehabilitation: a novel patient safety strategy. Archives of Physical Medicine and Rehabilitation, 99(6), pp.1217-1219. 3. Rowan, BL, Anjara, S, De Brún, A, et al. The impact of Huddles on a multidisciplinary healthcare teams' work engagement, teamwork and job satisfaction: a systematic review. J Eval Clin Pract. 2022; 28: 382-393. doi:10.1111/jep.13648

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Poster No. 59
General Paediatrics

A COMPLICATED CASE OF HENOCH-SCHÖNLEIN PURPURA: A CASE REPORT

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Aims: To Investigate a complicated case of Henoch-Schönlein Purpura (HSP)

Methods: A six year old boy who presented with HSP was identified and his care was followed over a two month period. During this time his symptoms, investigations and treatment was monitored.

Results: During this two month period the patient had eight different presentations to hospital for various different complications which are associated with Henoch-Schönlein Purpura. He initially presented with a palpable purpuric rash, fever and arthralgia but subsequent to this he developed complications such as epididymitis, abdominal pain, renal involvement and intussusception. The patient was treated with oral prednisolone 1mg/kg daily with this being tapered by 5mg per week. His renal function is being followed closely by both the paediatric team and his GP

Conclusion: Most cases of Henoch-Schönlein Purpura have a good recovery without any long term complications. However, if renal involvement is present it is important to closely monitor the patients renal function. Renal involvement is the most important prognostic factor which determines morbidity and mortality for patients with HSP

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HATE SUNNY DAYS - A CASE REPORT

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Aims

To illustrate early presentations of Erythropoietic Protoporphyria.

Methods

A 4-year- old female was referred by her GP with recurrent episodes of cutaneous photosensitivity on prolonged sun exposure first noticed at 2 years of age. The symptoms included edema of dorsal surface of hands and severe pain with a violaceous rash self-resolving within 48 to 72 hours.

Results

Laboratory investigations confirmed presence of porphyrins in blood. Biochemical analysis reported a positive plasma porphyrin scan @634nm confirming a diagnosis of EPP. Subsequent genetic analysis of FECH gene confirmed heterozygosity for the "hypomorphic" allele c.315-48T>C, a specific pathogenic variant was not identified using direct Sanger sequencing. This suggests a more complex FECH mutation with further workup required.

Conclusion

Erythropoietic protoporphyria (EPP) is a rare inherited disorder characterized by the accumulation of protoporphyrin IX (PPIX) in various body tissues, resulting in photosensitivity and cutaneous symptoms. Classically EPP presents in infancy with symptoms of immediate photosensitivity that involve the dorsum of hands, bridge of nose and cheeks with scarring. In most cases, patients encounter a delay in the diagnosis by a decade compromising the quality of life. Avoidance of sun exposure is the mainstay of the treatment. Although rare, EPP should be considered in Paediatric patients who present with symptoms of cutaneous photosensitivity.

Keywords: Cutaneous photosensitivity, Erythropoietic protoporphyria, sun exposure.
(Submitted with parent's consent)

References

Kiberd J, Finlayson L. Delayed photosensitivity in a child with erythropoietic protoporphyria : a case report. SAGE Open Medical Case Reports. 2018;6. doi:10.1177/2050313X18772125. PMID: 29854403.
Dickey AK, Quick C, Ducamp S, Zhu Z, Feng YA, Naik H, Balwani M, Anderson KE, Lin X, Phillips JE, Rebeiz L, Bonkovsky HL, McGuire BM, Wang B, Chasman DI, Smoller JW, Fleming MD, Christiani DC. Evidence in the UK Biobank for the underdiagnosis of erythropoietic protoporphyria. Genet Med. 2021 Jan;23(1):140-148. doi: 10.1038/s41436-020-00951-8. Epub 2020 Sep 2. PMID: 32873934.

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Poster No. 61
Medical/Education Management

IMPACT OF TRAINING PROGRAMS ON THE PERCEPTIONS AND EXPERIENCE OF SENIOR HOUSE OFFICERS WORKING WITH THE REGISTRAR

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BACKGROUND

Registrars impact senior house officers' (SHO) early clinical experience. According to Mitchell et al, stand-alone registrars without formal supervision, appraisal, and feedback for core competencies add to inefficiencies of healthcare systems. This study evaluated the SHO experience in Mayo University Hospital (MUH).

MATERIALS AND METHODS

Senior House Officers from various departments of MUH were requested to fill out pre-tested questionnaires with responses recorded on a 7-point Likert scoring system. Departments without specialist registrars were excluded. Demographic data, such as sex, country of origin, training status, clinical experience, and Irish experience, were collected. Senior House Officers' responses for Stand-alone and Specialist Registrar cohorts were gathered, focusing on on-call support, communication, behavior, teaching, and safety. Thematic analysis explored differences between Specialist and Stand-alone Registrars.

RESULTS

40 (57%) of the SHOs participated in the study. There were 13 from Medicine, 8 from Paediatrics, 6 from Gynaecology & Obstetrics, 5 from Anaesthesia, and 4 from Surgery and Orthopaedics.
Of the participants, 70% were men, and 55% were of non-Irish origin. 53.5% of the participants were non-trainee SHOs. The mean values for years post-graduation were 5.5 years, with the average time spent in Ireland in the clinical field between 1 to 2 years. Participant-perceived Likert scores: Approachability (Mean 5, 75% positive skew), Teaching (Mean 4, 50% positive skew), Clear communication (Mean 5, 63% positive skew), Safe practice (Mean 5, 67% positive skew) & Condescending behavior (Mean 1.4, 83% positive skew Thematic analysis showed that SpRs demonstrate strong leadership, clear communication, and greater adherence to hospital guidelines for safe practice. Comparable results were reflected in Chi-square analysis with statistically significant results for communication and safe practice $X^2(4,40) = 10.94$, p-value: 0.03 and $X^2(3,40) = 11.18$, p-value: 0.01.

CONCLUSION

Stand-alone Registrars need improvement in closed-loop communication and according to SHOs' experiences, this could boost the efficiency of the Irish healthcare system and positively impact patient safety.

Keywords: SHO, Service Registrars, Specialist Registrars, Safe Practice

Diskin C, Byrne D, Normand C, O'Neill MB. The early experience of doctors training in pediatrics: patient safety culture and the role and influence of the registrar. Ir J Med Sci. 2022 Feb;191(1):271-278. doi: 10.1007/s11845-021-02520-7. Epub 2021 Feb 11. PMID: 33576922. Lack CS, Cartmill JA. Working with registrars: a qualitative study of interns' perceptions and experiences. Med J Aust. 2005 Jan 17;182(2):70-2. doi: 10.5694/j.1326-5377.2005.tb06578.x. PMID: 15651964. Mitchell R, Milford WJ, Bonning M, et al. Unaccredited registrar positions in Australian public hospitals: is it time for a rethink? Aust Health Review 2013; 37(4):409-411. PMID: 23827256.

Poster No. 62
General Paediatrics

QUALITY IMPROVEMENT AUDIT OF 'ADHERENCE TO IRON SUPPLEMENTATION FOR PRETERM BABIES GUIDELINE' AT MAYO UNIVERSITY HOSPITAL

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Introduction/Aim: Preterm infants require iron supplementation as they are often born with low iron stores compared to term infants due to lack of the accumulation of iron stores that occur during the third trimester of pregnancy[1]. Rapid growth postnatally and earlier erythropoiesis that can occur in preterm infants compared to term infants suggest that they are also at higher risk of iron deficiency anaemia[1,2].

The Paediatrics Department at Mayo University Hospital implemented a guideline in 2021 to improve adherence to prescribing iron supplementation for preterm infants (<37 weeks' gestation). An audit investigating the observance to the guideline was performed and a re-audit then performed, approximately 18 months after, post implementation of 3 primary strategies (as below) to re-emphasise the guideline and further highlighting babies that require iron supplementation:

1) visual aid poster displayed on the wall of the Special Care Baby Unit at MUH
2) 1 hour education session by the Paediatric Dietitian, aimed primarily for the Paediatric Registrars
3) Adding a checkpoint on the discharge checklist for babies from the Special Care Baby Unit at MUH

Methods: Single center, local clinical audit. Data collected included: 1) plan for iron supplementation indicated in the medical notes, 2) compliance with the guideline, 3) clinical reason stated if not compliant with guideline

Results: Of those indicated for iron supplementation, there was a 9.27% increase of a clear plan stated in the medical notes with a 2.37% decrease of no plan documented after implementation of the abovementioned strategies. From the group that had a plan documented, the re-audit showed a 12.28% increase in compliance to the guidelines with a 11.11% decrease in non-compliance with the guideline.

Conclusion: Strategies as described above augmented observance to guideline for iron augmentation for preterm infants, highlighting the importance of education with the implementation of guidelines.

Jin, H.-X. et al. (2015) ‘Early and late iron supplementation for low birth weight infants: A meta-analysis', Italian Journal of Pediatrics, 41(1). doi:10.1186/s13052-015-0121-y. McCarthy, E.K., Dempsey, E.M. and Kiely, M.E. (2019) ‘Iron supplementation in preterm and low-birth-weight infants: A systematic review of Intervention Studies', Nutrition Reviews, 77(12), pp. 865–877. doi:10.1093/nutrit/nuz051. Rao, R. and Georgieff, M.K. (2009) ‘Iron therapy for preterm infants', Clinics in Perinatology, 36(1), pp. 27–42. doi:10.1016/j.clp.2008.09.013.

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THE OUTCOME OF HIP ULTRASOUNDS IN DEVELOPMENTAL HIP DYSPLASIA (DDH) SCREENING, WITH "CLICKY" HIPS AS THE RISK FACTOR.

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Aim: Developmental dysplasia of the hips affects up to 76 newborns per 1000 live births. It is a spectrum of irregular anatomic hip development. Early detection and treatment are critical for good outcomes and prognosis. Indications for screening are first degree family history, breech presentation above 36 weeks' gestation and male sex. The "clicky hip" is a common referral for clinical and sonographic screening for developmental dysplasia of the hip. Although a hip click during examination is a non-specific finding and often does not indicate true hip pathology. Hence the aim of this audit was to review the outcome of hip ultrasounds requested with clicky hips as the indication.

Methods: This retrospective audit was conducted in Mayo University Hospital maternity ward. Using the newborn DDH screening request book, patient details were selected randomly. Hence, 100 newborn neonatal ultrasound requests and reports were reviewed from January 2023 to July 2023. It was noted if "clicky" hips was an indication for the ultrasound requests and the outcomes also noted.

Results: 100 patients were included, of which 42% were male and 58% female. There was documented family history as a risk factor in 32% of patients, 34% were breech and 32% were referred for screening due to a "clicky hip". Overall, 7% of patients had abnormal findings on ultrasound, of the 7% only 4% had a "clicky hip" and required repeat hip screening, which were all normal. Hence 3% of patients had DDH requiring treatment, and the major risk factor was first degree family history.

Conclusion: Therefore, "Clicky hips" with a normal clinical examination and no other major risk factor is not a significant indication for sonographic screening for DDH alone. Furthermore, this demonstrated that up to 32% of newborns received unnecessary hip ultrasound screening for DDH.

1. Kotlarsky, P., Haber, R., Bialik, V. and Eidelman, M., 2015. Developmental dysplasia of the hip: What has changed in the last 20 years?. World journal of orthopedics, 6(11), p.886.
2. Nie, K., Rymaruk, S. and Paton, R.W., 2017. Clicky hip alone is not a true risk factor for developmental dysplasia of the hip. The Bone & Joint Journal, 99(11), pp.1533-1536
3. Paton, R.W., 2017. Screening in developmental dysplasia of the hip (DDH). the surgeon, 15(5), pp.290-296
4. Perry, D.C. and Paton, R.W., 2019. Knowing your click from your clunk: is the current screening for developmental dysplasia of the hip fit for purpose?. The Bone & Joint Journal, 101(3), pp.236-237.
5. Sewell, M.D. and Eastwood, D.M., 2011. Screening and treatment in developmental dysplasia of the hip—where do we go from here?. International orthopaedics, 35, pp.1359-1367

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Poster No. 64
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PREVALENCE OF AUTISM AND INTELLECTUAL DISABILITY AMONG INPATIENTS ACROSS CHILDREN'S HEALTH IRELAND

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Aims

We aimed to measure the prevalence of autism spectrum disorder (ASD) and Intellectual disability (ID) among inpatients across CHI, and broadly examine healthcare use through delineating admissions as scheduled care, unscheduled care with clear medical cause, unscheduled care presenting as acute distress requiring medical investigation, unscheduled care with behavioural or psychiatric presentations that is unable to be managed in the community. Coding data doesn't adequately provide this information.

Methods

The point prevalence of inpatient bed use by children with ASD, ASD with ID, and ID was collected on 8 days between April to September 2023 in CHI at Crumlin, Tallaght and Temple Street. The data collectors liaised with the nurse in charge of each ward of the hospital to collect anonymised data.

Results

There were 2325 inpatients included in this study across CHI over 8 days. Of these, 299 (12.9%) were identified as having either ASD (no.=72, 3.1%), ASD with ID (no.=37, 1.6%), or ID (no.=190, 8.2%). Most admissions were unscheduled (no.=246, 82.3%): 214 of 299 (71.6%) were admitted for medical reasons, 30 of 299 (10%) were admitted for behavioral or psychiatric reasons, and 2 of 299 (0.6%) were admitted for acute distress

Conclusions

Our study across CHI revealed a significant prevalence of ASD and ID among inpatients (12.9%). This compares to a prevalence of 1.5% for ASD (1) and 0.54 % for ID (2). ASD and ID are associated with greater physical and mental health needs and higher all-cause mortality (3,4). Most admissions were unscheduled, primarily due to medical reasons, highlighting the complex healthcare needs of these individuals. This information could help inform healthcare provision and appropriate medical support for children with ASD and/or ID as we move towards the opening of the new Children's Hospital, highlighting the importance of providing an Autism and intellectual disability friendly hospital from the outset.

1. Boilson AM, Staines A, Ramirez A, Posada M, Sweeney MR. Operationalisation of the European Protocol for Autism Prevalence (EPAP) for Autism Spectrum Disorder Prevalence Measurement in Ireland. J Autism Dev Disord. 2016;46(9):3054-3067. doi:10.1007/s10803-016-2837-y 2. Roy McConkey, Caraoisa Kelly, Sarah Craig & Michael Shevli (2015): A decade of change in mainstream education for children with intellectual disabilities in the Republic of Ireland, European Journal of Special Needs Education, DOI:10.1080/08856257.2015.1087151 3. Catalá-López F, Hutton B, Page

MJ, et al. Mortality in Persons With Autism Spectrum Disorder or Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-analysis. JAMA Pediatr. 2022;176(4):e216401. doi:10.1001/jamapediatrics.2021.6401 4. Heslop P, Blair PS, Fleming P, Hoghton M, Marriott A, Russ L. The Confidential Inquiry into premature deaths of people with intellectual disabilities in the UK: a population-based study. Lancet. 2014;383(9920):889-895. doi:10.1016/S0140-6736(13)62026-7

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Poster No. 65
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ACUTE PAEDIATRIC TRANSFERS FROM A REGIONAL CENTRE TO A TERITIARY CENTRE: A REVIEW OF PRACTICE

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Aims: To establish the volume and nature of transfers from Cork University Hospital to tertiary centres over a 24month period, including transport team (local team or transport service), respiratory support requirements and disposition (ward or PICU) to highlight need for resources to stakeholders, and establish seasonal changes.

Methods: All paediatric transfers were recorded at the time of transfer in a transport document from July 2021 – July 2023 including age, date of transfer, reason for transfer, accepting hospital/ward/specialty, transport team, and ventilation status. Recorded data was anonymised and analysed using excel.

Results: From July 2021- April* 2023 there were 214 transfers from CUH to tertiary paediatric centres including PICU (88) and NICU (2). No critical incidents were recorded in transit. Paediatric registrars accompanied 42% of transfers over this time-period. An anaesthetics registrar accompanied the paediatric registrar on 14% of transfers. Nursing staff alone accounted for 22% and parents alone for 8%. Regarding PICU transfers, IPATS: 34%, local paediatrics plus anaesthetics: 33%, NNTP: 16%. Paediatric registrars alone accounted for 10% of PICU transfers over this time. 29/31 of transfers by the local anaesthetics team were ventilated for transport, compared to 16/30 IPATs and 4/14 NNTP. Documentation during transfers was highlighted as a key area for improvement.

Conclusion: 50% of transfers to from CUH to PICU were performed by specialist paediatric transfer teams. This number is improving with increasing capacity of IPATS e.g., to include weekends. Early referral and discussion with IPATS and provision of clinical advice is an essential component of regional transfers. The local anaesthetic team plays a vital role in the stabilisation and transfer of critically ill children. Implementation of a “transfer pack”, including a transport record, and use of a STOPP tool, will improve processes and aid decision making.

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AN AUDIT ON THE MANAGEMENT OF PLEURAL EFFUSIONS REQUIRING CHEST DRAIN INSERTION AT CHI AT TEMPLE STREET

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AIMS: Audit the management of children with pleural effusions requiring chest drain insertion at Children's Health Ireland at Temple Street.

METHODS: Retrospective chart review of all patients requiring chest drain insertion for pleural effusion between October 2022 and May 2023. Management was assessed against the national guideline for management of pleural effusions with chest drains in children. Data collected included epidemiological, duration of stay, imaging performed, use of fibrinolytics, bloods, microbiology, teams consulted and patient follow up.

RESULTS: Data was collected on 13 patients, aged 13 months to 12 years. The median age was 4. 11/13 (85%) had evidence of pleural effusion on admission x-ray. All patients had an US prior to drain insertion. Patients had an average of 9.9 chest x-rays in total. 9/13 (69%) had a CT during admission. 1 patient had 2 CTs. 7/9 (77%) had evidence of necrosis on CT. Pleural fluid analysis was done for all patients. 2/13 (15%) had positive blood cultures. Pleural fluid was positive for GAS in 7/13 (54%) and Pneumococcal in 5/13 (38%). 10/13 (77%) had a virus detected on swabs. Fibrinolysis was administered to 12/13. 2 patients required ICU admission. 7/13 cases were discussed at the respiratory radiology meeting. Cardiothoracics were consulted in 3/13 cases. 11/13 had follow up with either genpaeds, ID, CTS or Resp. The average length of stay was 15.7 days. 1 patient was transferred to another hospital.

CONCLUSION: Most patients were managed in line with national guidelines. Patients requiring chest drain insertion for pleural effusions were unwell with prolonged hospital admissions and significant radiation exposure. Cardiothoracics and Respiratory could be consulted in complex cases to minimise radiation and length of stay. Comparison to other centres is needed to determine standard of care.

National Guideline for Management of Pleural Effusions with Chest Drains by Cardiothoracics OLCHC

Poster No. 67
General Paediatrics

CLINICAL EXAMINATION SUBTLETIES IN DIAGNOSING AN UNWITNESSED FOREIGN BODY INGESTION

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Aim: This case report aims to outline the clinical subtleties in diagnosing an ingestion of a foreign body is often a common phenomenon seen in paediatrics. In these cases, the majority of foreign bodies pass spontaneously. However, between 10 to 20% require endoscopic retrieval, and 1% require surgical extraction (1). Early diagnosis can significantly reduce morbidity and mortality in this population (2).

Methods: A retrospective chart review outlining this case report.

Results: A 2-year-old male presents to the emergency department with a three-day history of persistent colicky abdominal pain, vomiting and dehydration. Intermittent episodes of non-bilious vomiting <30 minutes after each feed. Adequate oral intake. Absent bowel motions for the past three days with no flatus. The abdomen was soft and non-tender with tinkling bowel sounds throughout with other clinical exam findings. In the context of his abnormal bowel sounds, he underwent a plain film X-Ray of the abdomen demonstrating a foreign body ingestion. He subsequently had a CT Abdomen confirming a bowel obstruction secondary to a metallic spiral-shaped object. The patient underwent an emergency exploratory laparotomy with the extraction of 5 magnetic metallic balls by enterotomy at the mid jejunum with a 4cm resection of the small bowel.

Conclusions: Radiological imaging plays a vital role in diagnosing an unwitnessed foreign body bowel obstruction. Timely diagnosis of a bowel obstruction is key to reducing morbidity in this cohort of patients.

References:

1. Thomson, M. *et al.* (2017) 'Paediatric gastrointestinal endoscopy: European Society for Paediatric Gastroenterology Hepatology and Nutrition and European Society of Gastrointestinal Endoscopy Guidelines', *Journal of Pediatric Gastroenterology & Nutrition*, 64(1), pp. 133–153. doi:10.1097/mpg.0000000000001408.
2. Uysal, E. (2017) 'The foreign body ingestion which is an important cause of mortality and morbidity', *Eurasian Journal of Medicine and Oncology* [Preprint]. doi:10.14744/ejmo.2017.25733.

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Poster No. 68
General Paediatrics

NEONATAL STROKE DUE TO SERPINC1 MUTATION CAUSING ANTITHROMBIN DEFICIENCY

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Aim: Antithrombin plays a critical role in the coagulation system, deficiency results in hypercoagulability. Hereditary antithrombin deficiency is a rare autosomal dominant thrombotic disease caused by SERPINC1 mutations. It manifests as venous thrombosis and pulmonary embolism. We report a case of neonatal stroke due to a founder variant in the SERPINC1 gene in a baby of the Romani community.

Methods: Retrospective chart review of this

Results: Our case was born at term after a pregnancy complicated by gestational diabetes. Birth weight was 2.46kg. He was admitted at 7 hours of life with tachypnoea and hypoglycaemia. Chest ray was consistent with Transient Tachypnea of the Newborn. He had a cranial ultrasound on day of life 10 due to persistent poor feeding which showed evidence of focal area of parenchymal hyperechogenicity consistent with either a right frontal infarct or haemorrhage. Clinical examination was unremarkable apart from hyperreflexia.
Family history of thrombosis was negative.

Normal Echo, ECG & EEG on DOL10. He subsequently had an MRI brain, angiogram and venogram day of life 11 which showed haemorrhagic venous infarction in the frontal lobe. There was no evidence of aneurysm and sinus and deep intracerebral veins were patent.

Further investigations included normal FBC, Coagulation and low anti thrombin 3 of 45 (normal range 73-121).

Genetics for cerebral small vessel disease confirmed a heterozygous pathogenic variant c.391C<T; p.Leu131Phe in gene SERPINC1 also identified in his asymptomatic father (incomplete penetrance has been described)and causative for thrombophilia 7 due to antithrombin III deficiency.

Conclusion: This is the first case in the literature of neonatal presentation of SERPINC1 mutation. This case highlights the importance of genetic testing to inform further management.

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YOUNG PEOPLES' EXPERIENCES OF TRANSITION IN THE PAEDIATRIC NF1 CLINIC

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Aims: Neurofibromatosis type 1 (NF1) is a rare, genetic, multisystem disorder which primarily affects the skin and nervous system. Lifelong medical surveillance is required to minimise the risk of serious complications such as malignancies (1). Healthcare transition (HCT) is the planned, purposeful movement of young people with medical conditions from child-centred to adult-oriented health systems (2). This can be a challenging time for young people with complex conditions. This study assessed the transition experiences of young people with NF1 against recommended practices.

Methods: An anonymous, online, quantitative survey was completed by young people aged 14-21 years who were attending or previously attended the multidisciplinary NF1 clinic. Data on demographic characteristics, disease-specific factors and experiences of transition practices was collected using a combination of closed questions and Likert scales. Data was analysed using descriptive statistics.

Results: 6 young people completed the questionnaire (2 post-transition, 4 pre-transition). Their mean age was 16.5 years (range 14-20 years). The percentage of participants who reported experiencing the recommended transition practices were as follows: early transition planning (50%), transition readiness assessment (83%), key worker (50%), written transition plan (17%), encourage self-management (33%), information about disease course (33%), information about reasons for medical surveillance (17%), information about genetic aspects of NF1 (67%), overlap of services (0%), GP discharge summary (0%), emotional/psychological support (33%), educational/vocational support (17%) and information about advocacy groups (0%).

Conclusion: Young people with NF1 did not experience the majority of recommended transition practices assessed. These findings suggest the young people with NF1 are experiencing poor transitions and are at risk of adverse outcomes during the transition period and into adulthood. To our knowledge, this is the first study to examine the transition experiences of young people with NF1. This study highlights the need for a structured HCT programme to address gaps in care.

1. Miller DT, Freedenberg D, Schorry E, et al. Health Supervision for Children With Neurofibromatosis Type 1. Pediatrics. 2019;143(5). doi:10.1542/peds.2019-0660 2. Blum RW. Introduction. Improving transition for adolescents with special health care needs from pediatric to adult-centered health care. Pediatrics. 2002;110(6 Pt 2):1301-1303.

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Poster No. 70
General Paediatrics

EVALUATING THE COMPLIANCE WITH NEW URINLYSIS GUIDELINE IN CHILDREN PRESENTING TO TALLAGHT ED.

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Background: We introduced a new urinalysis guideline to Tallaght ED in November 2022 to improve patient flow by carefully selecting those who required urinalysis, while also requesting them as early as possible, i.e., at triage, on those who do need them.

Aim: To audit compliance with the urinalysis guideline

Methods: A retrospective audit was performed of patients aged between 0 to 2 years seen in Tallaght ED since the introduction of the guideline. The patients were randomly selected.

Result: 100 patients less than 2 years old were included.

At triage 6 patients had urine requested appropriately as per the guideline, while the urine was requested inappropriately in 4 patients. Furthermore, the urine was missed in 2 patients who were qualified as per same guideline.

After clinical assessment, urine was requested appropriately in 4 patients, while missed in 1 patient. The urine was requested inappropriately in 14 patients as per the urine guideline.

Conclusion: The new guideline has helped to reduce the number of urine requests and, hence, improve patient flow. The compliance can still be improved and we plan and doing further education sessions to increase staff awareness and a re-audit.

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Poster No. 71
General Paediatrics

EVALUATING THE MANAGEMENT OF FEBRILE INFANTS (LESS THAN 90 DAYS) PRESENTING TO TALLAGHT ED- COMPLETED AUDIT CYCLE

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Aim: *Fever may present as the sole sign of a serious underlying infection in young infants. Febrile Infants aged less than 90 days are at an elevated susceptibility to invasive bacterial infections, presenting a challenge in ensuring the appropriate management of these cases. This study aims to ensure strict adherence to NICE guidelines for the management of fever in infants between 0 and 90 days presenting to Tallaght Hospital ED. A comprehensive audit, followed by a re-audit, was conducted to enhance the quality of care delivered to these patients. In accordance with NICE guidelines, all febrile infants should undergo blood tests. Additionally, LP should be performed in all neonates under 28 days, infants displaying signs of illness, and those with WCC below 5 or above 15.*

Method: *A retrospective case review, encompassing all patients aged between 0 to 90 days who presented with fever at Tallaght ED. Data retrieval was conducted from electronic records on two separate occasions, six months apart. The evaluation encompassed the assessment of body temperature as well as both partial and full septic workups.*

Results: *Over the study period, 150 infants presented to the ED with fever in the initial audit, and 120 in the re-audit. In the first study, 81 patients warranted a full septic workup as per NICE, but only 48 received it. Conversely, 40 patients met criteria for a partial septic workup, with 12 undergoing blood tests. In the second study, 73 patients qualified for a full septic workup, of which 52 were completed. Additionally, 27 patients were indicated for a partial workup, with 20 undergoing blood tests.*

Conclusion: *Managing febrile infants under three months of age presenting to Tallaght ED remains a persistent challenge, underscoring the need for continuous educational initiatives to guarantee that these patients receive the requisite assessments and treatments.*

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Poster No. 72
General Paediatrics

AN AUDIT OF THE ASSESSMENT AND MANAGEMENT OF CERVICAL LYMPHADENOPATHY IN THE EMERGENCY DEPARTMENT AT CHI AT TEMPLE STREET OVER A 12-MONTH PERIOD

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Introduction/Aim: Cervical lymphadenopathy (CL) is the commonest cause of neck lumps in children and frequently occurs as part of a viral infection. Most do not require any investigation or treatment. We aimed to perform an audit of presentations of CL over a 12-month period to determine demographic details, duration of symptoms, investigations, management, diagnosis and disposition compared to the CHI Guideline developed for best practice.[1]

Method: Data was collected from the Symphony program. A filter was used to capture the diagnosis of 'Enlarged Lymph Nodes' as coded on ICD-10 on discharge to select the audit group for presentations from 02/05/2022 to 02/05/2023. eCharts were accessed to gather relevant information.

Results: 62 cases were included in the audit. Ages ranged from 2 weeks to 15 years (mean 5.4 years). There were 5 re-presentations with the same complaint. The CHI Guideline for suggested investigation and management was adhered to in 18 cases (29%). 16 cases (25%) had blood tests performed. 16 cases (25%) had an ultrasound performed on day of presentation, with 4 of these having a follow up ultrasound as an outpatient. 10 cases (16%) had a chest x-ray. The majority (51 (82%)) were diagnosed with reactive lymphadenopathy / CL. The majority (39 (62.9%)) were discharged with red flag advice. 9 were discharged on oral antibiotics. 3 cases had findings of significance which required hospital admission. These were a lymph node abscess, mycobacterial adenitis and a necrotic lymph node.

Conclusion: This audit shows that the suggested guideline had poor adherence and the management and investigation of CL was largely clinician dependent There appeared to be a trend for increased investigations toward the end of the study period. We suggest a teaching session be conducted, highlighting the CHI Guideline to clinicians followed by a re-audit to assess for improved guideline adherence.

1. https://media.childrenshealthireland.ie/documents/Cervical-Lymphadenopathy.pdf

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Poster No. 73
General Paediatrics

AUDIT OF DISCHARGE LETTERS TO GENERAL PRACTITIONERS IN THE PAEDIATRICS DEPARTMENT OF UNIVERSITY HOSPITAL KERRY

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Aim: To complete audit cycle to evaluate the quality of pediatric ward discharge letter from March to April 2023 in University Hospital Kerry.

Introduction: An important aspect of providing quality care to patients admitted to the hospital is to share patient management information accurately in a safe, reliable, and timely manner with primary care physicians (1) . Inability to do this timely or accurately leads to communication gaps that often result in delays in treatment, repetitive blood testing or inappropriate referrals (1) . Following the standards of Health Information and Quality Authority (HIQA), timely and effective documentation of General practitioner letters is expected from every health care professional in acute hospitals.

Methods: A 60 random charts were selected retrospectively. The discharge letters were assessed for patient's information, diagnosis, investigations, treatment, and follow up appointment. In addition, the name, signature, designation of the doctor, time taken to write the discharge letter from the actual time of the patient discharge were collated. The data were put in the Excel document and analyzed using descriptive statistics, mean, median, mode, proportion, percentages and graphical presentation.

Results: The average duration of writing discharge letter improved from 14 days to 4 days following educational intervention compared to baseline, 100% of the discharge letters had the full patient's data, 98.86%- the patient's diagnosis, 92.59%- the patient's investigations, 93.16%- the patient's treatment, 97.15%- the patient's follow up appointment, 99.43%- doctor's name, 99.43%- doctor's signature and 98.86%- doctor's designation.

Conclusion: Discharge summaries time improved but remains not fully compliant with the standard post educational quality improvement initiative. We recommend immediate initiation of discharge letters on admission and to implement a policy that patients should not be discharged without the discharge letter. To implement E-discharge letter and continuous educational training of rotating NCHDs.

1-Health Information and Quality Authority, National Standard for Patient Discharge Summery Information, 2013, Access at: https://www.hiqa.ie/reports-and-publications/health-information/national-standard-patient-discharge-summary-information.

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Poster No. 74
General Paediatrics

CRISIS IN THE ED: A MISLEADING PRESENTATION TO THE EMERGENCY DEPARTMENT

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Aim: To discuss a case of Oculogyric Crisis and the importance of a detailed history in the Emergency Department.

Method: We describe the presentation, examination findings, investigations, treatment and follow-up for our patient.

Results: A pre-alert was made to the Paediatric Emergency Department about a patient on her way to the ED with symptoms of meningitis i.e. neck stiffness, on a background of a 10-day history of coryzal symptoms with vomiting. A 15-year old girl arrived in severe distress, lying on a trolley, accompanied by her parents. Her symptoms were initially consistent with that of meningism due to neck stiffness, a positive Kernig test and confusion. Repeat examinations revealed a negative Kernig test and resolved confusion but the girl was still in distress with a persistent upward gaze. Bloods, including blood cultures, were sent, and an ECG was performed. Inflammatory markers were normal but the ECG showed a prolonged QTc of 483msec.

The symptoms were now more consistent with that of an Oculogyric Crisis and upon delving further into the history, it was revealed that the patient has been taking Stemetil (prochlorperazine) for the past 3 days, as prescribed by her GP. The patient was then moved to the resuscitation room due to a desaturation and bradycardic episode. Toxbase were contacted and as a result of the prolonged QTc, Procyclidine IV was administered. This had an almost instantaneous impact and the patient's symptoms dissipated. She remained in hospital overnight and was discharged the following evening.

Conclusion: It is important to consider the non-meningitis causes of neck stiffness and keep an open mind with regard to possible diagnoses. Even though it is a very distressing time for patient, parents, and hospital staff alike, it is imperative to ensure that a full and detailed history is taken in each case.

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Poster No. 75
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DOCUMENTATION OF SOCIAL HISTORY IN THE PAEDIATRIC EMERGENCY DEPARTMENT PATIENT RECORD, A 2-CYCLE AUDIT

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Aims: Emergency Departments (ED) are busy, crowded environments. Limited outpatient services and an increasing population of international protection applicants contribute to an ever-increasing volume of patient attendances with complex care needs.

The social history is a key element of the paediatric history. Research has shown that psychosocial issues can have a significant impact on the health, development, and safety of young people (1). Without a thorough social history, it is impossible to identify and address potential barriers to health.

Our study aims to evaluate the completeness of social history documentation in the patient record in our Paediatric Emergency Department (PED).

Methods: We conducted a review of PED notes for 100 consecutive patients presenting to our department in July 2023 to examine social history documentation. Patient records were accessed via the "Therefore" electronic record. A teaching intervention was performed for PED medical staff, highlighting the importance of social history documentation, and focusing on key elements. We subsequently reviewed 100 presentations in September 2023 to assess for improvement in documentation.

Results: A review of 100 presentations in July 2023 showed that 9% of notes included some reference to social history with only 2% including the title "Social History". The most frequently referenced factors were household constituents (4%) and attendance at school/creche (2%).

Following our teaching intervention, we reviewed a further 100 presentations in September 2023. Of these, 28% included some reference to social history with 19% including the title "Social History". The most frequently referenced factors remained household constituents (14%) and school/creche attendance (5%). Other factors documented included nationality (4%), accommodation (4%) and pets (4%).

Conclusion: This study highlighted a poor standard of social history documentation in our PED. Teaching intervention yielded a limited improvement. Further investigation is required to identify and address barriers to social history documentation in the PED patient record.

Pickett, K.E. et al. (2022) 'The social determinants of child health and inequalities in child health', Paediatrics and Child Health, 32(3), pp. 88–94. doi:10.1016/j.paed.2021.12.003.

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Poster No. 76
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A TODDLER WITH A PUFF OF SMOKE ON BRAIN IMAGING

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Aim: We would like to present the clinical, biochemical, genetic and radiological findings of a 3.5yo boy who presented to our hospital with paediatric stroke.

Methods: We retrospectively looked at the patient chart and investigations on our laboratory.

Results: 3.5yo previously well vaccinated boy, presented to ED with right hemiparesis, hemineglect, facial droop and aphasia upon waking. There was no history of fever, trauma, or systemic symptoms. He was an uncomplicated pregnancy, normal term delivery born in Zimbabwe. His development normal to date. There is no family history of Sickle Cell Disease. On presentation, GCS was 15/15 and child was aphasic. He had right facial nerve palsy, unilateral reduced tone and power on right with down-going plantars bilaterally. CT Brain showed low attenuation left frontal, temporal and parietal lobes with mass effect; suggesting ischemic insult with small hemorrhagic foci. Baseline Bloods including coagulation profile were normal. He was transferred to CHI Temple Street for further management. MRI and MRA were suggestive of Moyamoya disease. He was treated with IV Fluids and high dose aspirin; multidisciplinary rehabilitation is ongoing. Catheter angiogram is planned for surgical work up. Discussion: The diagnosis of MMD was suggested by narrowing of proximal intracranial arteries and proliferation of collaterals on MRA. Often previous established infarcts are seen with or without corresponding history of transient ischemic attacks. The etiology of MMD is unknown, but genetic associations have been identified. The RNF213 gene on chromosome 17q25.3 is an important susceptibility factor for MMD. Work up includes metabolic screen, haemoglobinopathy screen, negative in our patient, and genetic testing. Whole Exome Sequencing is pending. Early diagnosis and surgical revascularization are crucial for effective management.

Conclusion: Being rare in paediatrics, it is important to diagnose early so that optimal management can be done to reduce morbidity and mortality.

References

1. Bersano, A., Guey, S., Bedini, G., et al. (2020). Research progresses in understanding the pathophysiology of moyamoya disease. Cerebrovascular Diseases, 49(2), 139-150.
2. Kuroda, S., Houkin, K. (2008). Moyamoya disease: current concepts and future perspectives. The Lancet Neurology, 7(11), 1056-1066. 3. Ihara, M., Yamamoto, Y., Hattori, Y., et al. (2022). Moyamoya disease: diagnosis and interventions. The Lancet Neurology, 21, 747.

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Poster No. 77
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COMPLEX VISCERAL HYPERALGESIA IN PITT-HOPKINS SYNDROME

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Aims

This is a case discussion of the management of severe visceral hyperalgesia in Pitt-Hopkins syndrome. Pitt-Hopkins syndrome is a rare neurodevelopmental genetic disorder characterised by distinctive facial features, global developmental delay and intellectual disability (1-3). It is also known to be associated with gastrointestinal complaints, including aerophagia (4). There is little in the currently available literature pertaining to the gastrointestinal complications of Pitt-Hopkins syndrome, and, to our knowledge, no documented cases of visceral hyperalgesia in the setting of Pitt-Hopkins syndrome.

Methods

We describe the experience of an adolescent boy with Pitt-Hopkins Syndrome who presented with abdominal pain and distension. Examination revealed abdominal distention, and CT abdomen showed dilated bowel loops, and a transition point in the transverse colon. Surgeons performed a transverse colectomy with a primary anastomosis. The patient had ongoing issues with gastroparesis and feed intolerance. A gastrostomy, and subsequently a jejunostomy, were sited. Despite surgical treatment, and with no clear cause for pain, he continued to have severe episodic abdominal pain that was refractory to simple and opioid analgesia, requiring multiple ICU admissions for pain management, including clonidine infusions. During these periods, his gastric motility and absorption were seemingly impaired, affecting his ability to absorb enteral analgesia.

Results

The addition of clonidine patches was a transformative step in this patient's care and avoided further ICU admissions. After a six month admission, the patient was transferred to their local centre and subsequently discharged home on regular clonidine patches and with an individualised pain plan for use in pain crises.

Conclusion

Patients with Pitt-Hopkins syndrome can experience significant gastrointestinal complications including severe visceral hyperalgesia. Management of these cases can be challenging, and should involve a multi-disciplinary approach. Topical treatments such as the use of clonidine patches can be helpful when enteral absorption is an issue.

1. Zollino M, Zweier C, Van Balkom ID, Sweetser DA, Alaimo J, Bijlsma EK, et al. Diagnosis and management in Pitt-Hopkins syndrome: First international consensus statement. Clin Genet. 2019;95(4):462-78. 2. Dean L. Pitt-Hopkins Syndrome. In: Pratt VM, Scott SA, Pirmohamed M, Esquivel B, Kattman BL, Malheiro AJ, editors. Medical Genetics Summaries. Bethesda (MD): National Center for Biotechnology Information (US); 2012. 3. Sweetser DA, Elsharkawi I, Yonker L, Steeves M, Parkin K, Thibert R. Pitt-Hopkins Syndrome. In: Adam MP, Mirzaa GM, Pagon RA, Wallace SE, Bean LJH, Gripp KW, et al., editors. GeneReviews(®). Seattle (WA): University of Washington, Seattle

Copyright © 1993-2023, University of Washington, Seattle.1993. 4. Koppen IJN, Menke LA, Westra WM, Struik F, Mesman S, van Wijk MP, et al. Fatal gastrointestinal complications in Pitt-Hopkins syndrome. Am J Med Genet A. 2023;191(3):855-8.

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Poster No. 78
General Paediatrics

ADHERENCE TO LOCAL BRONCHIOLITIS GUIDELINES: AN AUDIT

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Aims: Bronchiolitis is a viral lower respiratory infection, most commonly caused by respiratory syncytial virus (RSV) (1). There was a 35% increase in RSV infections in Ireland from 2021-2022 (2), which put significant strain on paediatric hospital capacity. We assessed adherence to local bronchiolitis management guidelines in a tertiary hospital in Ireland(3).

Methods: A retrospective chart analysis was carried out on all patients with a diagnosis of bronchiolitis admitted to one ward from in a tertiary hospital from 18/10/22 to 7/12/22. Variables collected included length of stay, administration of nasogastric (NG) feeding or intravenous fluids (IV), mode of oxygen therapy, time to wean high flow oxygen, requirement for respiratory support (non-invasive ventilation or intubation and ventilation) and admission to the paediatric intensive care unit (PICU).

Results: 64 infants were recruited, with a mean age of 13.8 weeks. Mean length of stay was 5.3 days. 86% (56/64) required NG feeding and 33% (19/56) of these required continuous NG feeding. IV fluids were administered to 27% (17/64). 65% (42/64) of patients received oxygen via nasal cannula, 43% (28/64) required Humidified High-flow nasal cannulae (HHFNC) and 5% (3/64) received blow-by oxygen. The maximum HHFNC flow was 2L/kg; it was weaned below this rate in only 3 patients. Mean length of time on HHFNC was 71.5 hours. Mean length of time between weaning to FiO2 21% on HHFNC and discontinuing HHFNC was 13.9 hours (guideline recommendation is 4 hours). 20% (13/64) were admitted to PICU. 54% (34/64) patients received a chest radiograph.

Conclusion: Local bronchiolitis guidelines were well adhered to, however there is room for improvement. Guidelines state it is unnecessary to wean HHFNC below a rate of 2L/kg; this occurred in 10% of patients. 78.5% (22/28) were more than 4 hours on 21% Fio2 prior to discontinuing HHFNC. Over half received a chest radiograph, despite bronchiolitis being a clinical diagnosis and 5% received blow-by oxygen, for which there is no scientific basis.

1. Oppenlander KE, Chung AA, Clabaugh D. Respiratory Syncytial Virus Bronchiolitis: Rapid Evidence Review. Am Fam Physician. 2023;108(1):52-7. 2. ECDC. 2022. Intensified circulation of RSV and associated hospital burden in the EU/EEA – 12 December 2022. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/RRA-20221128-473.pdf 3. Walsh A, Cox D and Healy F. Humidified High Flow Nasal Cannula (HHFNC) Oxygen Therapy: A guide for Ward and Emergency Department Based use in Children. CHI guideline, last updated February 2021.

Poster No. 79
General Paediatrics

VITAMIN D DEFICIENCY AND SUPPLEMENTATION IN 22Q11.2 DELETION SYNDROME

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Aims: Patients with chromosome 22q11.2 deletion syndrome (22q11DS) have a greater risk of vitamin D deficiency and hence supplementation is recommended (1, 2). This condition also confers greater risk of schizophrenia, 30 times that of the general population (3). Preliminary studies have shown a higher rate of schizophrenia in 22q11DS patients with vitamin D deficiency (3). We examined the rate of vitamin D deficiency and supplementation in patients with 22q11DS.

Methods: A retrospective chart analysis was carried out on all patients attending a dedicated 22q11DS service in a large tertiary Irish paediatric hospital. Our laboratory reference range for 25-OH Vitamin D3 was 30-125 ng/mL. Variables extracted included age at first test, first vitamin D level, subsequent level and evidence of prescription of vitamin D supplementation.

Results: A total of 172 patients with 22q11DS were included. The median level of Vitamin D3 level on the first assessment was 65.15 ng/mL (Range: 24.5-168 ng/mL). Overall, 5% (8/172) of patients had low levels (<30 ng/mL) of Vitamin D3. All of this cohort were treated with vitamin D3 supplementation and the majority (6/8) of these patients had normal vitamin D levels on repeat testing. The mean age of children on first measurement of vitamin D3 levels was 6 years (Range 1 month-17 years). Overall, 91% (157/172) of patients were prescribed vitamin D3 supplementation.

Conclusion: A small percentage of our patients with 22q11DS had vitamin D3 deficiency on first assessment. This highlights the importance of vitamin D supplementation and monitoring of levels in these patients. Our service had excellent adherence to international guidance recommending vitamin D supplementation in 22q11DS. The average age of first assessment for vitamin D deficiency was 6 years. There may be scope for improvement with earlier testing, however, 22q11DS is often diagnosed later in life. We will follow this cohort longitudinally to assess rates of neuropsychiatric diagnoses.

References

1. Legitimo A, Bertini V, Costagliola G, Baroncelli GI, Morganti R, Valetto A, et al. Vitamin D status and the immune assessment in 22q11.2 deletion syndrome. Clin Exp Immunol. 2020;200(3):272-86.
2. Bassett AS, McDonald-McGinn DM, Devriendt K, Digilio MC, Goldenberg P, Habel A, et al. Practical guidelines for managing patients with 22q11.2 deletion syndrome. J Pediatr. 2011;159(2):332-9.e1.
3. Kelley L, Sanders AF, Beaton EA. Vitamin D deficiency, behavioral atypicality, anxiety and depression in children with chromosome 22q11.2 deletion syndrome. J Dev Orig Health Dis. 2016;7(6):616-25.

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Poster No. 80
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HEREDITARY PARAGANGLIOMA-PHAEOCHROMOCYTOMA SYNDROME IN A PATIENT WITH 22q11 DELETION SYNDROME

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Aims: We aim to present the first known case of 22q11 deletion syndrome and hereditary paraganglioma-phaeochromocytoma syndrome.

Methods: A 13-year-old girl presented with pallor, diaphoresis, palpitations, and weight loss (6kg) over several months. She has a background of maternally inherited 22q11 deletion syndrome, repaired truncus arteriosus and autism. Known family history of maternal aunt with Lynch syndrome (PMS2 gene mutation).

She was admitted and initially treated as suspected infective endocarditis. She was tachycardic and hypertensive, (SBP up to 170mmHg) and was commenced on bisoprolol.

Results: Bloods, including TFTs, were unremarkable. Echocardiogram showed no change from baseline. Ophthalmological exam, CXR, CT-brain and ultrasound abdomen were unremarkable. However, her urine catecholamines and metanephrines were raised.

CT-TAP revealed a 4.4 x 3.5 x 4.6cm rounded intensely enhancing lesion with a hypodense centre arising from the left adrenal gland. Phenoxybenzamine was commenced. She subsequently underwent a left nephrectomy and adrenalectomy and was discharged 6 days post-operatively.

Histology confirmed a phaeochromocytoma, metastatic to a regional lymph node. Immunohistochemical staining confirmed loss of SDHB expression, and further germline genetic testing was advised. The patient and her mother were found to have a pathogenic variant in the SDHB gene, consistent with a diagnosis of hereditary paraganglioma-phaeochromocytoma syndrome. Her mother was also found to have a pathogenic variant of the PMS2 gene, consistent with Lynch Syndrome, which our patient also has a 50/50 risk of inheriting.

Conclusion: This case supports the law of Hickam's dictum which states 'a patient can have as many diseases as they please'[1]. This case highlights the importance of holistic care for children with medical complexity, which is best provided by a general paediatrician. Furthermore, this case outlines the importance of cascade genetic testing. Our patient will require genetic consultation in adulthood for predictive PMS2 testing, and to discuss recurrence risks and prenatal options for all three conditions.

References:

1. Mani N, Slevin N, Hudson A. What Three wise men have to say about diagnosis. BMJ. 2011;343(dec19 2):d7769–d7769. doi:10.1136/bmj.d7769

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Poster No. 81
Neonatal

AUDIT OF THE USE OF NEONATAL PLATELET TRANSFUSIONS IN A TERTIARY NICU

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Aims: To audit the use of neonatal platelet transfusions in a tertiary NICU compared to the NMH clinical guideline "Neonatal Thrombocytopenia and Platelet Transfusion - September 2021".

Methods: This was a retrospective audit over a 1 year period (01/05/2022 – 01/05/2023).

Results: During the audit period, 25 platelet transfusions were administered to 10 neonates. 5 infants were born <32 weeks' gestation, and the remainder were full-term. The median number of transfusions per infant was 1 (range 1-12).

As per the guideline, transfusions may be indicated if platelets are <25 $x10^9$/L or there is major bleeding. 22 (88%) transfusions were prescribed in accordance with this guideline. Of the remaining three transfusions, two were administered prior to an invasive procedure and one at a platelet count of 26 $x10^9$/L.

The guideline recommends a transfusion volume of 15mls/kg and a duration of 30-60 minutes. 17 (68%) transfusions were within a range of 14-16mls/kg and 22 (88%) were administered within this time frame.
Monitoring the platelet count 1 hour post transfusion is recommended in the guideline. Platelets were checked post-transfusion in 20 cases (80%), however, only one (4%) was checked after 1 hour.

A majority of platelet transfusions (22 (88%)) were administered for late-onset thrombocytopaenia (>72 hours of age). 4 (16%) transfusions were administered in the setting of active bleeding, while the remainder were prophylactic. No infant had a diagnosis of neonatal alloimmune thrombocytopaenia (NAIT).

Conclusion: Overall, there was good adherence to the neonatal platelet transfusion guideline based on the most up to date evidence[1]. We will consider removing the specified time frame for repeating a platelet count except in specific circumstances (NAIT and pre-procedure) and consider adding BCSH guidelines pre-procedure platelet counts to our guideline[2]. We will continue to update this guideline in accordance with the emerging neonatal platelet transfusion literature.

1. Curley A, Stanworth SJ, Willoughby K, Fustolo-Gunnink SF, Venkatesh V, Hudson C, et al. Randomized Trial of Platelet-Transfusion Thresholds in Neonates. N Engl J Med. 2019;380(3):242-51. 2. Estcourt LJ, Birchall J, Allard S, Bassey SJ, Hersey P, Kerr JP, et al. Guidelines for the use of platelet transfusions. Br J Haematol. 2017;176(3):365-94.

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Poster No. 82
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PAEDIATRIC ABDOMINAL X-RAYS AT GALWAY UNIVERSITY HOSPITAL: A RE-AUDIT OF INDICATIONS

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Background and Aims: Abdominal x rays (AXRs) are a frequently utilised radiological investigation. Despite this, AXRs result in significantly increased radiation exposure when compared to conventional chest x-rays (1). Appropriate use of AXRs is paramount to reduce unnecessary radiation exposure to children. Acute indications for AXRs according to gold standard Royal Children's Hospital Melbourne (RCHM) guidelines which are considered gold standard, include suspected bowel obstruction/ perforation, intussusception, foreign bodies, abdominal mass and abdominal trauma. A previous audit at Galway University Hospital (GUH) in 2018 demonstrated that 50.6% of AXRs requests were ordered inappropriately (2). Our aim is to re-audit the paediatric AXR requests and compare the indications to RCHM guidelines.

Methods: Data were collected using the "Enterprise" radiology system from September 2022 to August 2023, inclusive of patients aged <16 years old. Studies were excluded if ordered by the patient's GP. Patient date of birth, age, location of request, requesting speciality and requesting indication were gathered. Requests were compared to RCHM guidelines. Analysis was performed on Microsoft Excel.

Results: A total of 149 studies were identified. 148 studies were included in the final analysis. A total of 66.2% of orders were considered appropriately indicated. Of these, the most common appropriate indications were bowel obstruction (35.8%) and foreign body (30.4%). Conversely, query underlying cause (16.9%) and constipation (6.8%) were among the most common inappropriate requests. Analysing by department, ED ordered 74 AXRs, 82.8% (n=61) that were considered appropriate. Paediatrics ordered 65 AXRs, 47.7% (n=31) that were considered appropriate. Surgery ordered 9 AXRs, 66.7% (n=6) that were considered appropriate.

Conclusion: Compared to the previous audit, there is an overall improvement of appropriate requests (66% vs 49.4%). However, only 47.7% of studies were deemed appropriate ordered by the paediatric department. Continued education on the indications of AXRs to reduce unwarranted investigations and radiation exposure to patients.

1. Willis, Charles & Slovis, Thomas. (2005). The ALARA Concept in Pediatric CR and DR: Dose Reduction in Pediatric Radiographic Exams — A White Paper Conference. AJR. American journal of roentgenology. 184. 373-4. 10.2214/ajr.184.2.01840373. 2. Ryan, Ciara & Tormey, Peter & Moylett, Edina. (2019). GP102 Paediatric abdominal x-rays: appropriate or unnecessary requests?. Archives of Disease in Childhood. 104. A71.2-A71. 10.1136/archdischild-2019-epa.167.

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Poster No. 83
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FAT IS THICKER THAN WATER: A CASE OF FAMILIAL CHYLOMICRONAEMIA IN A 6-MONTH-OLD INFANT

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Aims: Familial chylomicronaemia is a rare, autosomal recessive disease characterised by impaired lipoproteinlipase (LPL) function, due to mutation of the LPL gene. It has an estimated prevalence of 1 in 1,000,000.1 To raise awareness among clinicians of this rare but important diagnosis, we describe a case of de novo chylomicronaemia in an infant presenting with vomiting, dehydration due to pancreatitis, with repeated, unexplained lipaemic blood samples.

Methods: We performed a basic literature review. We analysed the clinical records of this patient. We obtained parental consent.

Results: A six-month-old boy presented to the emergency department with fever, vomiting and dehydration. He had presented two weeks previously with the same symptoms. He required admission for IV fluids. His initial bloods were rejected as 'lipaemic'. This had also occurred on his first presentation. A lipid profile showed elevated triglycerides of 22.6 mmol/L and reduced HDL of 0.46 mmol/L. Amylase and lipase levels were elevated, at 11 units/L and 181 units/L respectively. In discussion with the consultant chemical pathologist, the diagnosis of familial chylomicronaemia was suggested. This confirmed on genetic testing. The child's acute illness resolved and he was referred to the Temple Street metabolic team for follow-up.

Discussion: Familial chylomicronaemia is a rare, inherited disorder of lipid metabolism, requiring life-long follow-up. Adoption of a very low-fat diet and slightly reduced caloric intake have been shown to be of benefit.(2)

It is rare for blood samples in children to be reported as 'lipaemic'. Our patient presented with non-specific symptoms and dehydration, and was found to have elevated pancreatic enzyme levels. In patients with such features, pancreatitis due to an inherited disorder of lipid metabolism, such as familial chylomicronaemia, should be considered as a possible diagnosis.

1 – Ariza MJ, Valdivielso P. Familial chylomicronemia syndrome in children: a diagnosis challenge. Transl Pediatr. 2022 Nov;11(11):1743-1747. doi: 10.21037/tp-22-515. PMID: 36506766; PMCID: PMC9732601. 2 – Thajer A, Skacel G, de Gier C, Greber-Platzer S. The Effect of a Fat-Restricted Diet in Four Patients with Familial Chylomicronemia Syndrome: A Long-Term Follow-Up Study. Children. 2021; 8(11):1078. https://doi.org/10.3390/children8111078

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Poster No. 84
General Paediatrics

AN UNCOMMON PRESENTATION: RESISTANT NAPPY RASH DIAGNOSED WITH AUTOIMMUNE POLYENDOCRINOPATHY WITH CANDIDIASIS AND ECTODERMAL DYSPLASIA (APECED)

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Aims

To clarify the symptomatology, diagnosis and appropriate treatment interventions in an uncommon presentation of Autoimmune Polyendocrinopathy with Candidiasis and Ectodermal Dysplasia

Methods

Healthcare records were reviewed along with imaging and blood results including haematology and biochemistry.

Results

This case report describes a child with chronic mucocutaneous candidiasis and resistant nappy rash, which raised concerns about an immune disorder. Poor response to pneumococcal vaccination prompted genetic testing, revealing a homozygous pathogenic mutation in the AIRE gene, associated with autoimmune Polyendocrinopathy with candidiasis and ectodermal dysplasia (APECED).

A one-year-old boy with chronic mucocutaneous candidiasis and resistant nappy rash, along with a history of recurrent infections, was admitted. Despite normal routine vaccinations, poor response to pneumococcal vaccines indicated a potential immune disorder. Genetic testing confirmed a homozygous pathogenic mutation in the AIRE gene, indicative of APECED. The patient received a Prevenar booster and antifungal prophylaxis. Genetic testing for APECED was planned for the family members.

Discussion

Autoimmune Polyendocrinopathy with candidiasis and ectodermal dysplasia (APECED), or polyglandular autoimmune syndrome type 1, is a rare autosomal recessive disorder characterized by various endocrine and autoimmune manifestations. It is caused by mutations in the AIRE gene, leading to impaired immune regulation and the development of autoimmune conditions, including chronic mucocutaneous candidiasis. While the classic triad includes candidiasis, hyperparathyroidism, and adrenal failure, APECED can present with a range of other endocrine and autoimmune issues. Diagnosis is primarily based on clinical features, with confirmation through genetic testing. In this case, a homozygous AIRE gene mutation was identified, confirming APECED. Managing APECED requires a multidisciplinary approach, involving antifungal therapy for candidiasis and treatment for associated endocrine and autoimmune abnormalities. Regular follow-up and monitoring are crucial to address potential complications. It's also advisable to conduct genetic testing for family members to determine their APECED status and offer appropriate counselling.

Conclusion

This case highlights the importance of considering APECED in children with chronic mucocutaneous candidiasis and resistant nappy rash. Early diagnosis and appropriate management can help improve outcomes and prevent complications associated with this rare autoimmune disorder.

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General Paediatrics

MORGAGNI DIAPHRAGMATIC HERNIA DIAGNOSIS IN A 20-MONTH-OLD BOY WITH TRISOMY 21 AND PREVIOUS AVSD REPAIR

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Aims: To elucidate symptomatology, diagnosis and treatment interventions for Morgagni Diaphragmatic Hernia through an unusual case report

Methods: Healthcare records were evaluated along with imaging and biochemistry findings. Operative notes were accessed for completeness.

Results: Congenital anterior diaphragmatic hernias (ADH) account for 2–6% of diaphragmatic defects, whereas acquired ADH are rare. Acquired ADH are most often the result of blunt or penetrating trauma. Acquired Morgagni-type anterior diaphragmatic hernia after cardiac surgery is an exceedingly rare complication. We will present a patient with an acquired Morgagni-type hernia presumably after previous AVSD repair, successfully treated surgically.

The patient, a 20-month-old boy with Trisomy 21 and a history of AVSD repair, presented to the emergency department with a two-week history of worsening cough. He had received two courses of antibiotics with minimal improvement. Chest X-ray revealed multifocal, well-encapsulated gas foci within the right mid/lower zone contiguous with sub diaphragmatic bowel. A subsequent CT scan confirmed a large anterior right diaphragmatic hernia.

Discussion: The Morgagni hernia (MH) is a rare form of congenital diaphragmatic hernia, accounting for only 2-3% of cases. It is characterized by herniation through the sternocostal hiatus, located poster lateral to the sternum at the seventh rib level. While most cases present in childhood with respiratory symptoms, incidental detection in adults is not uncommon. The exact aetiology remains unclear, but it is postulated that increased intra-abdominal pressure may enlarge the small foramen of Morgagni, allowing abdominal organs to herniate into the thoracic cavity. Respiratory disease as a predisposing factor is infrequent. Acquired Morgagni-type anterior diaphragmatic hernia after cardiac surgery is an exceedingly rare complication as in our case.

Conclusion: This case report underscores the rarity of Morgagni hernia and the diagnostic challenges it presents. It emphasizes the importance of maintaining a high index of suspicion when evaluating patients with respiratory distress and previous cardiac surgery. Timely diagnosis is crucial to prevent potentially life-threatening complications, necessitating early surgical intervention.

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Poster No. 86
General Paediatrics

REVIEW OF PRECOCIOUS PUBERTY REFERRALS TO PAEDIATRIC ENDOCRINOLOGY SERVICES IN THE WEST OF IRELAND: A RETROSPECTIVE STUDY

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Aims

Over the last decade, there has been a trend towards an earlier onset of puberty which prompted an increase in referrals to Paediatric Endocrinology services due to concerns around precocious puberty.[1] Precocious puberty is defined as the onset of secondary sexual characteristics before the age of 8 for girls and before 9 years of age for boys.[2] Features of central precocious puberty need to be differentiated from benign variants such as premature thelarche and premature adrenarche in order to triage patients appropriately.[3]

Given the increase in precocious puberty referrals, we looked to assess the content of the referral letters to highlight areas of knowledge deficit and provide a focus area for improvement with the aim of better allocating our resources in the management of true precocious puberty.

Methods

We conducted a retrospective study at University Hospital Galway. Files of patients who attended the Paediatric Endocrinology clinic in 2022 were reviewed. Precocious puberty referrals were identified using our secure patient information portal, EVOLVE.

Referral letters were reviewed, and data were collated anonymously and analysed using SPSS. Descriptive statistics were used to summarise data.

Results

Thirty-eight referrals; 68% (n=26/38) were general practitioner referrals; 86.8% of patients (n=33/38) were females. The mean (SD) age at the time of referral was 7 years (1.62).

The majority of referrals, 86.6% (33/38), mentioned pubic hair development, but only 57.7% (19/33) commented on breast development. Additionally, only 15.1 % (5/33) and 23.7% (9/38) of referrals included the breast/pubic hair tanner stage, and centiles/growth spurts were not included in 65.7% (25/38). Of the 36 patients who attended the clinic, 52% were diagnosed with premature adrenarche and 30.6% with central precocious puberty.

Conclusion

The results of our study highlight the need for the provision of education for practitioners referring patients with suspected precocious puberty and the need for a standardized referral proforma.

1.Bräuner EV, Busch AS, Eckert-Lind C, Koch T, Hickey M, Juul A. Trends in the incidence of central precocious puberty and normal variant puberty among children in Denmark, 1998 to 2017. JAMA network Open. 2020 Oct 1;3(10):e2015665-. 2.Kaplowitz P, Bloch C, Sills IN, Bloch CA, Casella SJ, Gonzalez JL, Lynch JL, Wintergerst KA. Evaluation and referral of children with signs of early puberty.

Pediatrics. 2016 Jan 1;137(1). 3.Prosperi S, Chiarelli F. Early and precocious puberty during the COVID-19 pandemic. Frontiers in Endocrinology. 2023 Jan 9;13:1107911.

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Poster No. 87
Sub-Specialty

SALT WASTING IN INFANCY: PSEUDOHYPOALDOSTERONISM TYPE 1 SECONDARY TO A NOVEL GENETIC MUTATION

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Aims

Salt wasting crisis is a life-threatening emergency that requires urgent intervention.[1] In the neonatal period, the triad of electrolyte derangement (hyperkalemia and hyponatremia), metabolic acidosis, and hypovolemic shock occur secondary to several pathologies, including congenital adrenal hyperplasia (CAH), hypoadrenalism, isolated aldosterone deficiency, nephrotoxic medication, and pseudohypoaldosteronism (PHA).[1] Differentiating between these conditions is prudent due to the implications on management. However, the process remains cumbersome due to the significant overlap in the presentation and the lengthy laboratory turnaround time.[2]

PHA type 1 is a rare heterogeneous syndrome with an incidence of 1:47000.[2] Pathogenesis is characterized by resistance to aldosterone.[2] Two subtypes exist: transient and genetic.[1]

Methods

Here, we report the case of an 18-day-old neonate who presented with vomiting, lethargy, and reduced feeding. Physical examination revealed a hemodynamically unstable neonate who was lethargic, pale, and mottled-looking with a prolonged capillary refill time. Of note, he had normal male genitalia.

Results

Laboratory investigations revealed hyperkalemia, hyponatremia, and elevated aldosterone and cortisol in the context of a urinary tract infection. The initial impression was that of transient pseudohypoaldosteronism. Despite the resolution of his urinary tract infection, his aldosterone level remained elevated. Therefore, genetic testing was sought, which revealed a novel mutation in his mineralocorticoid receptor gene, confirming the diagnosis of renal PHA type 1.

Conclusion

PHA is uncommon and can masquerade as several different pathologies. Increasing awareness about this condition is prudent as it can present as a life-threatening emergency. The novel mutation described will contribute to the available genetic database.

1.Babar GS, Tariq M. Challenges of Diagnosing Pseudohypoaldosteronism (PHA) in an Infant. Case Reports in Endocrinology. 2022 Jul 11;2022. 2.Amin N, Alvi NS, Barth JH, Field HP, Finlay E, Tyerman K, Frazer S, Savill G, Wright NP, Makaya T, Mushtaq T. Pseudohypoaldosteronism type 1: clinical features and management in infancy. Endocrinology, Diabetes & Metabolism Case Reports. 2013;2013.

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Poster No. 88
Sub-Specialty

SEVERE COSTOCHONDRITIS AND VERTIGO- A POST-INFECTIVE PHENOMENON OR A RARE RHEUMATOLOGICAL CONDITION: RELAPSING POLYCHONDRITIS

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Aims

Costochondritis is a benign cause of chest pain; management is with nonsteroidal anti-inflammatories (NSAIDs).[1] Severe costochondritis is characterized by severe recurrent chest pain unresponsive to NSAIDs.[1] We note a case in a paediatric patient post covid- 19 who responded to colchicine.[1] Other rare causes of severe costochondritis include relapsing Polychondritis (RP),an immune-mediated multisystem condition characterized by recurrent inflammation of cartilaginous structures; diagnosis is made as per McAdam's criteria.[2,3]

Methods

Here, we report the case of a 13-year-old boy who presented with a 2-month history of severe chest pain preceded by a covid-19 infection a few months prior. He was afebrile and hemodynamically stable but looked pale, clammy, and unwell with focal parasternal tenderness on a background of previous presentations for which he was treated as pneumonia. During the admission, he developed new-onset vertigo and left-eye keratitis.

Results

Initial laboratory work revealed elevated inflammatory markers. Blood cultures were negative. He was treated with regular analgesia and intravenous antibiotics. His chest x-ray was unremarkable, prompting further imaging. Computerized tomography of his chest revealed severe advanced costochondritis. Magnetic Resonance Imaging of the brain revealed bilateral mastoid effusions.

Given his persistent symptoms and raised inflammatory markers, he was discussed with and transferred under the care of the Rheumatology team in a tertiary paediatric centre. Histological samples were considered but, deferred given his clinical condition. Upon consideration and exclusion of multiple differential diagnoses, he was ultimately diagnosed with probable RP given the severe costochondritis, vestibular dysfunction, and ocular involvement. He was managed with steroids and colchicine. His symptoms and inflammatory markers resolved promptly thereafter, except for his vestibular symptoms, which were slower to subside.

Conclusion

Severe costochondritis is rare and has been described recently with post-COVID-19 infection and RP, both of which respond to corticosteroids.[1] Long-term patient follow-up is required to assess for long-term complications and disease progression.

1.Collins RA, Ray N, Ratheal K, Colon A. Severe post-COVID-19 costochondritis in children. InBaylor University Medical Center Proceedings 2022 Jan 2 (Vol. 35, No. 1, pp. 56-57). Taylor & Francis.

2..Herrera I, Mannoni A, Altman RD. Relapsing polychondritis: commentary. Reumatismo. 2002;54(4):301-6. 3.Belot A, Duquesne A, Job-Deslandre C, Costedoat-Chalumeau N, Boudjemaa S, Wechsler B, Cochat P, Piette JC, Cimaz R. Pediatric-onset relapsing polychondritis: case series and systematic review. The Journal of pediatrics. 2010 Mar 1;156(3):484-9.

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Poster No. 89
General Paediatrics

CLINICAL PROFILE OF PAEDIATRIC PATIENTS WITH 22Q11.2 DELETION SYNDROME ATTENDING CHILDREN'S HEALTH IRELAND AT CRUMLIN: A RETROSPECTIVE STUDY

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Aims

22q11.2 deletion syndrome (22q11.2DS) is the most common microdeletion syndrome with a prevalence of 1 in 2000 to 1 in 4000 live births. The presentation of this multisystemic condition is exceptionally diverse leading to patients navigating through a myriad of clinical specialties for their care. This study aims to map the clinical profile of children with 22q11.2DS attending a national dedicated 22q11.2DS clinic in a paediatric hospital in Ireland.

Methods

Clinical data was extracted retrospectively from the Integrated Patient Management System and files of patients who attended the clinic between October 2017 and June 2023. Data was collated on Microsoft Excel and statistical analysis was performed using IBM SPSS v.27.

Results

196 patient records were reviewed. The cohort consisted of 52.0% (n=102) male and had a mean age of 11.4 years. 94.9% (n=186) had 22q11.2 typical deletion, 4.1% (n=8) had duplication, 0.5% (n=1) had distal deletion and 0.5% (n=1) had complex genetics rearrangement. 14.2% (n=28) of the cases were familial. Patients attended an average of six specialties since birth, with cardiology having the highest number of patients for active follow-up (36.7%, n=72). In addition, 46.9% (n=92) were referred to child psychiatry. The most common diagnoses were palatal abnormalities (56.6%, n=111) and cardiac defects (56.1%, n=110). Allied health professionals were involved in the care of 49.4% (n=97) patients. Sleep disturbances were also noted (23.0%, n=45), with 10.2% (n=20) taking melatonin medication. 30.6% (n=60) had established social communication difficulties and 18.9% (n=37) had available IQ assessment reports confirming intellectual disability.

Conclusion

The clinical profile of children with 22q11.2DS is complex and their holistic care is challenging. Patients are linked with a number of different specialties and healthcare services depending on their presentation. The integrated clinic ensures follow-up by relevant services for both screening and symptomatic management.

References 1. Cancrini C, Puliafito P, Digilio MC, et al. Clinical Features and Follow-Up in Patients with 22q11.2 Deletion Syndrome. The Journal of pediatrics. 2014; 164(2):1475-1480. 2. Nissan E, Katz U, Levy-Shraga Y, et al. Clinical Features in a Large Cohort of Patients With 22q11.2 Deletion Syndrome. The Journal of pediatrics. 2021; 238(5):215-220.

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Poster No. 90
General Paediatrics

A HAIRY SITUATION: CASE OF INTESTINAL OBSTRUCTION AND PERFORATION SECONDARY TO A TRICHOBEZOAR

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Aim

This case report describes the clinical presentation, diagnosis and treatment of a 12-year-old girl with Autism Spectrum Disorder who presented with signs of intestinal obstruction secondary to a trichobezoar, which resulted in intestinal perforation.

Methods

This is a retrospective case review. The patients' healthcare records were reviewed, along with radiological imaging and operative records.

Results

In this case report, we describe a case of a 12-year-old patient with Autism Spectrum Disorder who had acute onset of persistent vomiting and severe abdominal pain. Examination revealed diffuse tenderness with rebound, guarding and peritonism across the abdomen. She underwent computed tomography scanning of the abdomen. Intestinal perforation secondary to a trichobezoar was noted. Trichobezoar is a rare condition in paediatric patients that occurs due to repeated ingestion of hair and can lead to intestinal perforation. To treat the intestinal perforation and remove the trichobezoar, the patient underwent emergency laparotomy. Following surgery, she received counselling and psychological support to address the underlying behavioural causes of her trichophagia. During the follow-up, the patient's physical and mental health gradually improved.

Conclusion

In paediatric patients with neurodevelopmental disorders like Autism Spectrum Disorder, it's critical to consider atypical aetiologies for gastrointestinal symptoms, as this case emphasises. When persistent vomiting and abdominal pain are present, in the context of Autism Spectrum Disorder, Trichobezoar should be considered in the differential diagnosis. To successfully manage such cases, prompt surgical intervention and psychological support are necessary. Further study may offer insights into the connection between uncommon gastrointestinal pathologies and neurodevelopmental disorders, leading to better patient care and outcomes.

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General Paediatrics

INVASIVE GROUP A STREP, AN ACCOMPLICE OF CHICKENPOX INFECTION

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Aim

Chickenpox commonly affects children with a relatively self-limiting course. Severe complications such as bacterial infection and central nervous manifestations are rare but can occur even in immunocompetent children. Averagely, 226 children are admitted each year for chickenpox with an incidence of 4.87/100,000. Interestingly, majority of chickenpox-related admissions occur in patients with no predisposing medical conditions. Varicella vaccine is available but is not part of the immunisation schedule in Ireland.

Method/Result

A healthy 17-month-old girl presented with a 5-day history of generalised vesicular rash typical of chickenpox which was complicated with invasive *Group A streptococcus pyogenes* toxic shock syndrome. Her inflammatory markers were markedly raised and was commenced on empirical antibiotics following local guidelines. However, she deteriorated clinically with features of septic shock, which fortunately responded to crystalloid boluses and intravenous immunoglobulins. Furthermore, she developed significant abdominal tenderness and was transferred to a tertiary centre for investigation of a possible evolving abdominal pathology. Serial abdominal scans were unremarkable. She improved following completion of a 10 day course of antibiotics and was discharged home.

Conclusion

In general, severe complications affect more healthy children, although immunocompromised individuals are at increased risk. Mandatory vaccination would reduce the incidence and burden of severe infections.

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Poster No. 92
Neonatal

NICU EXPERIENCE OF A PREMATURE INFANT'S DISTRESS IMPROVED BY ENVIRONMENTAL NOISE REDUCTION

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Aim: The immature autonomic and self-regulatory abilities of prematurity can lead to adrenaline-driven pathological effects in presence of excessive noise levels. These effects include alteration of cardiovascular stability, oxygen requirements and psychomotor irritability.

Methods: The patient's medical records were reviewed for clinical details and investigations. A literature review regarding environmental stressors in neonatal intensive care units (NICU) was conducted.

Results: A at 31 weeks gestation premature male had been critically unwell since his birth at 24 weeks of gestation. He was admitted to NICU for extreme prematurity. His complicated sequelae included poor oxygenation with maximal ventilatory support (FiO2 1.0) requiring high frequency oscillation. Despite appropriate sedation, he was agitated and deeply unsettled. Our team observed that his oxygen requirements and tachycardia worsened concomitantly with clinical handling; particularly a susceptibility to high-pitched sounds. A decision was made to induce incubator darkness and attenuate noise by adding a thick incubator cover and applying soft "mini-earmuffs" in his care plan. Following these implementations, there was a 15.5% average reduction of his heart rate (HR), (mean heart rate HR in 24 hours pre-implementation= 170 bpm, post implementation= 143 bpm) and an improvement of mean diastolic blood pressure (dBP) from of 36 to 48 in 24h. Within few hours, we also witnessed a sustained reduction in his FiO2 to 0.35 (from previous maximal FiO2). This facilitated his successful extubation to non-invasion respiratory support (BiPAP).

Conclusion: This case supports that improving the neonatal environmental stressors (noise) in NICU potentially positively facilitates the clinical progress of vulnerable premature neonates.

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Poster No. 93
General Paediatrics

RECURRENT PAINFUL OPHTHALMOPLEGIC NEUROPATHY: CASE SERIES AND REVIEW OF LITERATURE

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Aims

Recurrent Painful Ophthalmoplegic Neuropathy (RPON), previously known as Ophthalmoplegic Migraine, is a rarely reported headache disorder characterised by recurrent headaches with associated ipsilateral ophthalmoplegia[1]. We describe four children with RPON to contribute to our understanding of the clinical features of this poorly understood condition. A review of the literature is included to discuss the pathophysiology, diagnosis, and management.

Methods

Retrospective case series of 4 cases.

Results

All 4 children presented with a migraine-type headache followed by an ipsilateral oculomotor (IIIrd nerve) palsy with associated diplopia. Three of the cases described further episodes of ophthalmoplegia after the index episode. In three of the cases a diagnosis of RPON was made after investigations excluded other mimicking disorders. Three cases demonstrated focal thickening and gadolinium contrast enhancement of the oculomotor nerve on MRI which for two of cases on interval imaging showed resolution. A diagnosis of schwannoma was subsequently made for the case with persistent MRI changes. Three cases required corticosteroid therapy to achieve symptom resolution. Review of the literature reveals paediatric onset-disorder, a shift in the disease association in the ICHD-3 from a migraine to neuropathy, and limitation in labelling diagnosis based on a single presentation.

Conclusions

The current ICHD-3 diagnostic criteria do not allow for diagnosis after a single presentation has occurred which is a limitation[1]. Schwannoma can often masquerade as RPON however the diagnosis of Schwannoma is debated as histological confirmation is not pursued in part to the risks of biopsy. Although, the evidence base is limited, treatment with corticosteroids in refractory cases has shown benefit[2]. This case series further expands the literature of this poorly understood condition. Awareness is important, to allow for accurate diagnosis and appropriate neuroradiological (MRI acquisitions) investigations to inform management.

1. Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition. Cephalalgia 2018; 38(1): 1-211. 2. Furia A, Liguori R, Donadio V. Recurrent Painful Ophthalmoplegic Neuropathy: A case report with atypical features and a review of the literature. Cephalalgia 2023; 43(1): 03331024221133386.

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Poster No. 94
General Paediatrics

AUDIT ON RENAL FUNCTION SURVEILLANCE IN PATIENTS WITH SPINAL DYSRAPHISM

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Aims: Our aim was to conduct a standards-based retrospective clinical audit, examining the adherence in local practice to *CHI Temple Street Spina Bifida Services Guidelines* and the *Urologic guidelines for the care and management of people with spina bifida* (2020).

Methods: Patients attending the Spina Bifida outpatient clinic at Cork University Hospital, between February 2022 and September 2023 were included in the study. Patient demographics, diagnosis, laboratory results, imaging, medications and specialist input (e.g. Urology, Renal) were extracted.

Results: 75 patients were included in this study. 39 male and 36 female patients, aged between 3months and 19 years. Of these patients, 68 had open spinal dysraphism, while 5 had closed spinal dysraphism. Sixty-eight children (90%) had a neurogenic bladder with 92% of them using self-catheterisation techniques. Seventy-one children (95%) had regular follow up with Urology or Renal Medicine services. Ninety-six percent of children have had renal ultrasounds, 57% have had annual ultrasounds, and 21% have had annual renal profile blood tests.

Conclusion: Renal disease is a significant cause of morbidity and mortality in patients who have Spinal dysraphism. Renal surveillance locally demonstrated some inconsistencies. We will deliver a departmental teaching session and reaudit the service.

David B. Joseph, M. A. (2020). Urologic guidelines for the care and management of people with spina bifida. Journal of Paediatric Rehabilitation Medicine: An Interdisciplinary Approach(13), 479-489.

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Poster No. 95
General Paediatrics

DIABETIC NEPHROPATHY IN THE PEDIATRIC POPULATION AT A PERIPHERAL HOSPITAL

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Aim: Diabetic nephropathy (DN) is one of the most common microvascular complications and affects up to 40% of type 1 Diabetes Mellitus (T1DM) patients worldwide.[1]

DN is characterised by the development of albuminuria, hypertension, and reduction in renal function. DN results from the pathological changes in the renal glomeruli. Microalbuminuria signals the early DN and urinary albumin to creatinine ratio is considered as the gold standard test to detect it.

This audit aimed at reviewing diabetic glucose control in form of HbA1c whilst focusing specifically on the incidence of nephropathy and adherence to guidelines.

Method: Sixty-nine patients were included in the audit for the time period of 1st January 2022 to 31 December 2022. Their demographics, HbA1C levels, albumin-creatinine ratios, Body mass index (BMI), blood pressure readings, and number of health checks were recorded.

The data was assessed according to the National DN guidelines and the National Health Service Executive (NICE) guidelines.[2,3]

Results: Total 69 children were included in the study. The mean HbA1C was 66.4 mmol/mol (8.2%). 23% (25/69) of the study group had good glycaemic control HbA1c <58 mmol/mol (<7.5%). 21% (15/69) of children were older than 12 years of age. All the children had all twelve health checks done during 2022. 82% (56/69) of patients had their yearly bloods and urine albumin to creatinine ratio done as per guidelines. 6% (4/69) of patients had microalbuminuria on initial testing which resolved on the repeat sample.

Conclusion: In most children 87% (60/69) the glycaemic control was not up to the recommended value which is associated with microvascular complications.[2]

Only 6% (4/69) of children had elevated albumin-creatinine ratios which was resolved on the repeat sample. More specific markers like renal tubular markers will be available in the future for an early detection of DN.[4]

1- Mamilly L, et al. Evidence of Early Diabetic Nephropathy in Pediatric Type 1 Diabetes Endocrinol., 28 April 2021 Sec. Pediatric Endocrinology. Volume 12 - 2021 | https://doi.org/10.3389/fendo.2021.669954 2- Diabetes (type 1 and type 2) in children and young people: diagnosis and management NICE Guidelines, NICE, 2023 MAY 11, NG18. 3- National clinical guideline Annual review and co-morbidity screening in Paediatric Type 1 Diabetes Clinical Design and Innovation Health Service Executive Version 1 Developed by: National Clinical Programme for Paediatric Diabetes. (2023). 4- Muntean C, Starcea IM, Banescu C. Diabetic kidney disease in pediatric patients: A current review. World J Diabetes. 2022 Aug 15;13(8):587-599. doi:10.4239/wjd.v13.i8.587. PMID: 36159227; PMCID: PMC9412860.

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Poster No. 96
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CRANIAL ULTRASOUND IN A REGIONAL PAEDIATRIC DEPARTMENT

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Aims

Prior to 2022, all cranial ultrasound requests at Wexford General Hospital were external referrals to a tertiary centre due to the unavailability of consultant radiologists experienced in their interpretation. This is no longer the case. The aim of this study was to determine the indications, findings and outcomes of cranial ultrasound scans at a regional hospital's paediatric department.

Methods

The NIMIS-PACS system was utilised to find all cranial ultrasound scans performed over a 12-month period from 1st April 2022 to 30th March 2023. Data was anonymised and sorted by clinical indication, scan findings and outcome.

Results

A total of 50 cranial ultrasound scans were performed. The indications for these scans included abnormal findings on previous imaging, increasing head circumference, abnormal physical examination, seizures, small for gestational age/intrauterine growth restriction, routine screening of preterm infants, microcephaly, and 'other'. Abnormal findings were found on 38% (n=19) of these scans with the most common abnormality being benign enlarged subarachnoid space (n=4), followed by ventriculomegaly (n=3) and the presence of a choroid cyst (n=2). Outcomes varied and included further radiological investigation, referral for specialist review and general paediatric follow-up.

Conclusion

The introduction of cranial ultrasound at Wexford General Hospital has positively impacted the paediatric department by reducing external referral requests and ensuring the hospital runs in line with the HSE Paediatric Model of Care. This study will allow for a guideline to be implemented within this hospital's paediatric department to guide physicians on the use of cranial ultrasound as an imaging modality in infants.

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Poster No. 97
Sub-Specialty

VTE RISK ASSESSMENT IN PAEDIATRIC MALIGNANCY

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Aims: Children with malignant haematological and oncological (haem-onc) diagnoses are at an increased risk of venous thromboembolism (VTE) both because of their disease and some of the treatments they receive. The British Society of Haematology (BSH) have recommended that all patients, particularly adolescents, should have a documented VTE risk assessment at diagnosis and at appropriate intervals throughout their illness (e.g., re-admission to hospital) (1).

The aim of this audit was to determine the compliance of the haem-onc inpatient ward at a tertiary centre with the above guideline. A previous audit conducted found that 0% of this patient cohort had a documented VTE risk assessment in their clinical notes, however no intervention was made to improve compliance following this initial finding. This study therefore represents the 2nd audit cycle.

Methods: The clinical notes of patients aged ≥12 years admitted to the haem-onc inpatient ward at a tertiary centre between 1st January 2023-30th June 2023 were examined to determine if a VTE risk assessment had been completed at any point during their treatment.

Results: A total of 31 patients' charts were examined with 0% of these patients having a documented VTE risk assessment in their clinical notes. 3% (n=1) suffered a venous thrombo-embolic event during the study period and was started on anticoagulation.

Conclusion: We recommend all children aged 12 years and older with an oncological or malignant haematological diagnosis should have a risk assessment completed for VTE at diagnosis and on every admission to an inpatient ward. A proforma for completing a VTE risk assessment has been created in line with the BSH's recommendations. Currently there is no guideline for use of this proforma in clinical practice, however this audit represents the first step in working towards a local guideline.

1. Sibson KR, Biss TT, Furness CL, Grainger JD, Hough RE, Macartney C, et al. BSH Guideline: management of thrombotic and haemostatic issues in paediatric malignancy. British Journal of Haematology. 2018;180(4):511-25.

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Poster No. 98
General Paediatrics

THROWING LYTE ON THE SUBJECT: A CASE STUDY OF NEONATAL SEIZURES SECONDARY TO ELECTROLYTE IMBALANCE

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Aims: To describe the case of a 5-day old infant presenting with a history of generalised and focal seizures in whom an underlying electrolyte deficiency was detected and treated.

Methods: Description of presentation, work-up, management and literature review.

Results: A 5-day old infant male presented to the Emergency Department of Mayo University Hospital following four witnessed seizure-like episodes at home. He had been delivered via uncomplicated natural delivery at term and discharged from the postnatal ward two days previously. His parents were Caucasian Irish with a strong paternal family history of epilepsy. The infant's mother reported a background of hypothyroidism and vitamin B12 deficiency requiring supplementation throughout the pregnancy. Examination at time of presentation was unremarkable. An initial laboratory work-up revealed a hyponatraemic and hypocalcaemic state. A septic screen was performed and cefotaxime, amoxicillin and gentamicin were commenced as a prophylactic measure. A further generalised seizure lasting three minutes occurred whilst on the paediatric ward, prompting a loading dose of phenobarbitone to be administered. Electrolyte imbalances were corrected with infusions of sodium chloride and calcium gluconate. An cranial ultrasound was obtained, revealing a hypoechoic focus at the lateral aspect of the right ventricle. A subsequent MRI Brain scan was reported as normal. A genetic epilepsy panel was taken and a referral made for EEG monitoring. The infant was reviewed by the dietetic service whilst an inpatient who guided further laboratory investigations. Neonatal seizures secondary to deranged electrolytes, in particular calcium, have previously been described in the literature [1, 2]. Of note, such presentations often have a background of maternal vitamin or mineral deficincy[1].

Conclusions: Recognition of the potential for electrolyte imbalance to result in seizures in a neonate is essential for appropriate and timely intervention. In addition, a thorough maternal and pregnancy history is crucial to fully investigate the presentation.

1.Shulman, R., O'Gorman, C.S. and Sochett, E.B. (2008) 'Case 1: Neonate with seizures and hypocalcemia', Paediatrics and Child Health, 13(3), pp. 197–200. doi:10.1093/pch/13.3.197. 2.Borkenhagen, J.F., Connor, E.L. and Stafstrom, C.E. (2013) 'Neonatal hypocalcemic seizures due to excessive maternal calcium ingestion', Pediatric Neurology, 48(6), pp. 469–471. doi:10.1016/j.pediatrneurol.2013.02.010.

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Poster No. 99
General Paediatrics

HEALTHCARE WORKERS' KNOWLEDGE ON MANAGING ACUTE BEHAVIOURAL DISTURBANCE IN PAEDIATRIC PATIENTS

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Introduction: The management of agitation and aggression in the paediatric setting is both unfamiliar and challenging for most healthcare workers. The latest national guideline was published 8 years ago by Crumlin Children's Hospital (CHI).[1]

Aims: To assess healthcare workers' knowledge on managing acute behavioural disturbance in paediatric patients to facilitate the development of a local guideline in Cork University Hospital (CUH).

Methods: An online survey of multidisciplinary CUH staff working in Paediatrics from July to September 2023.

Results: There were 47 respondents which consists mainly of non- consultant hospital doctors (38.3%), followed by consultants (19.1%), nursing staff (17%) and other members of the multidisciplinary team (MDT), such as physiotherapist, pharmacists, occupational therapists, speech and language therapists and a play specialist. 57.45% were not confident at managing acute behavioural disturbance and the majority (70.21%) were unaware of any guidelines to support them. Guidelines by CHI (24%) and the Royal Children's Hospital (24%) were the most commonly referenced guidelines. 82.9% of respondents were able to describe signs of increased agitation. 38 out of 47 respondents ranked the order of managing an agitated patient in keeping with guideline recommendations. Lorazepam (74.19%) and Haloperidol (64.51%) were commonly prescribed to manage agitation in paediatric and adult medicine. Most respondents were able to name side effects of anti-psychotics (87.2%), benzodiazepines (78.4%) and anti- histamines (82%). 90.4% and 36.1% identified the reversal agents for benzodiazepine-induced respiratory depression and acute dystonia respectively. 28.26% received training in managing these patients, of which 31.5% were trained in Paediatrics and 26.3% in Psychiatry. Suggestions for developing a guideline were also collected.

Conclusion: Healthcare workers would benefit from training in the management of acute behavioural disturbance. A multidisciplinary working group has since been established to develop a local guideline.

1) Kenna R., Adamson N., McNicholas F. et. al. (2015, 3rd December) SOP for de-escalation and rapid tranquillisation for children and adolescents in OLCHC.

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Poster No. 100
Medical/Education Management

HEALTH-E COMPETITION: A QUALITY IMPROVEMENT INITIATIVE TO INCREASE DEPARTMENTAL E-DISCHARGE SUMMARY COMPLETION

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Aim

Discharge summaries are the primary form of communication between hospital teams and a patient's general practitioner following an inpatient stay. However, despite the introduction of an electronic discharge (eDischarge) summary portal, many discharge communications in our paediatric department are significantly delayed or never completed. The aim of this quality improvement (QI) initiative was to achieve an overall 50% improvement in weekly eDischarge completion rates, to enhance patient safety and continuity of care.

Methods

The QI team identified the number of outstanding eDischarge summaries for each consultant team for the year to date, using this figure as a baseline. The total number of pending eDischarges for each team was monitored weekly for five weeks, adjusting for number of admissions and discharges, to calculate weekly rates of relative change.

The QI team engaged with stakeholders including NCHDs, consultants and administrative staff to identify barriers to completing eDischarges, along with practical solutions, such as commencing eDischarges at the time of admission. We incentivised the completion of eDischarges by launching a department-wide competition, and announcing each team's progress once a week at handover.

Results

Overall, 278 discharge summaries were completed in the five weeks, representing a 212% improvement from baseline in the final week and an overall 170% improvement. Prizes were awarded to the NCHDs and administrators from the team with the most significant percentage improvement in eDischarge completion and the team with the highest absolute number of discharges completed.

Conclusion

Basic interventions including stakeholder engagement, commencing eDischarges at time of admission, creating a competitive environment for each team's progress, and awarding prizes to the winners resulted in a significant improvement in eDischarge completion within five weeks. This project is ongoing, with the latest intervention involving the introduction of handheld wireless devices to support the completion or updating of eDischarges during ward rounds.

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Poster No. 101
Neonatal

INCIDENCE OF DEVELOPMENTAL DYSPLASIA OF THE HIP IN PREMATURE INFANTS

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Aim: Is being born premature protective against developmental dysplasia of the hip (DDH)?

Methods: Premature babies born in the Rotunda Hospital and who underwent US hips to screen for DDH between January-July 2022 were included in this study. We divided those babies into four groups based on gestational age: 24-28, 29-32, 33-35, and 36+.

We included the gender of the baby and at which corrected gestational age they had the scan. In addition we looked at the indication for the screening. We included all ultrasound scan results and identified the number of babies who needed follow-up and referrals to other specialties.

Results: One hundred twenty-nine preterm babies had US hip screening between January-July 2022. Sixty-six were females, sixty-three were males. The commonest indication (64%) for an US scan was for being breech. 66.6% of babies were screened at six weeks corrected gestational age. The age at which the remaining infants were scanned was influenced by their inpatient stay. Out of the 129 babies who were scanned, only four babies had an abnormal scan (3.1%); all four babies were females, and all required a follow-up repeat scan at 12 weeks corrected gestational age. However, all four babies were discharged from the screening programme after this second scan. None required referral to orthopaedic services.

Conclusion: This study suggests that being a premature baby can protect from developmental dysplasia of the hip. The extrauterine environment and wearing nappies favours hip abduction. Hip abduction is well recognised as the preferred position for healthy acetabular development. The study also shows that the commonest indication for DDH screening in premature babies is being born breech. The findings of this study and an extended review could result in changes to the national screening recommendations as they apply to preterm infants.

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Poster No. 102
Medical/Education Management

THE POTENTIAL ROLE FOR CLINICAL ETHICS SUPPORT SERVICES IN PAEDIATRIC TERTIARY CARE CENTRES - AN UPDATED REVIEW

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Aims: The field of clinical ethics has expanded considerably to include a variety of settings, including paediatric tertiary care centres. Clinical ethics support services (CESSs) have been established in paediatric centres to provide guidance and support to healthcare professionals, patients, and families when faced with complex ethical issues. Notwithstanding the growing recognition of the role of clinical ethics in paediatric medicine, the role and effectiveness of CESSs in paediatric tertiary care centres have not been fully explored in the literature to date. The aim of this study is to provide an updated review of the literature on the potential role of CESSs in paediatric tertiary care centres.

Methods: In attempting to examine different forms of CESSs to discern whether any specific approach would be suitable for a tertiary paediatric centre in Ireland, this author has completed a detailed scoping literature review of the topic. In order to find relevant articles and studies, a literature search was completed from electronic databases that included MEDLINE, CINAHL, Embase, the Cochrane Library, PubMed and Google Scholar.

Results: There is no clear academic agreement on what a clinical ethics consultation involves, about its role within a hospital setting and about appropriate process, outcomes and participation. Internationally, there are few explicit standards to which CESS must observe. However, helpful resources to support CESSs are developing, such as the UK Clinical Ethics Network Core Competencies for Clinical Ethics Committees, and the National Health and Medical Research Council's Clinical Ethics Capacity Building Manual. These organisations provide advice to hospitals developing CESS's.

Conclusions: On reflection of the findings of this study, it is this author's conclusion that a paediatric specific CESS will be required for the 'New Children's Hospital' as part of the evolution of paediatric care in Ireland. Given the collaborative and multidisciplinary nature of paediatric care and the need to avoid intimidation of a vulnerable child and his or her family, the small group consultation may be the most appropriate model in a paediatric hospital setting.

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Poster No. 103
Sub-Specialty

THE USE OF EMERGENCY CARE PLANS FOR CHILDREN WITH LIFE LIMITING CONDITIONS IN A REGIONAL PAEDIATRIC UNIT

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Aims: The use of Advanced Healthcare Directives (AHDs) has become more central to the care of patients with life-limiting conditions in Ireland in recent years. In Paediatrics, the use of Emergency Care Plans (ECPs) and Ambulance Care Directives (ACDs) have also become part of the care for children and young people with life-limiting conditions. This poster examines and audits the use of ECPs and ACDs in a regional paediatric unit in Ireland under the care of a Clinical Nurse Coordinator (CNC) for children with life limiting conditions.

Methods: A retrospective chart review of all patients under the remit of the CNC in University Hospital Limerick (UHL) was performed.

Results: At time of writing there were 24 children under the care of the CNC in UHL. 5 children had ECPs and ACDs, 2 children had an ECP only, 3 children had ECPs at birth which had since been cancelled/overturned, 6 families had had discussions in relation to ECPs/ACDs and 8 families have had no discussion to date.

Conclusion: This study reflects on the multitude of factors (logistical, medical, psychosocial, cultural, etc.) that contribute to the use and implementation of AHDs in the form of ECPs and ACDs in paediatrics.

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Poster No. 104
Medical/Education Management

PAPER WAIT - RHEUM TO IMPROVE: PROCESS IMPROVEMENT PROJECT TARGETING RHEUMATOLOGY OUTPATIENT CLINIC LETTERS

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Aim: This Lean Process Improvement Project was performed as a team in the UCD Masters Programme in Leadership, Management and Healthcare Innovation.

The management of children with rheumatic conditions requires multidisciplinary team input, involving the members of the MDT within the rheumatology service in addition to the other healthcare professionals involved in the patients care. Timely communication between these professionals is of utmost importance. Currently there are significant delays relating to the time it takes for patients' letter to be completed and posted out the other clinicians involved in the patients' care. this leads to patient safety risks. For example, delayed ophthalmology referrals for JIA may lead to delays in diagnosis of uveitis and a risk of blindness.

Methods: The goal of this project is to reduce the time taken for clinic letters to be sent to other clinicians involved in patients' care, following their rheumatology outpatient department appointments. We used a SIPOC to define the pathway of clinic letters. We gathered data from 621 letters to quantify the median wait for transcription, NCHD review, consultant sign-off and finalisation and posting. We performed a Literature Review, Stakeholder Analysis and Communication Plan. We identified the Voice of the Customer, measuring staff satisfaction and qualitative feedback via a survey.

We then used a TIMWOODS tool to identify areas of waste and inefficiency. We performed a Root Cause Analysis to understand the reasons for this waste. As a project team, we brainstormed solutions and prioritised these ideas based on ease of use and added value, using a PICK Chart.

Results: We piloted an implementation plan, which included template letters for ophthalmology review and bypass of consultant sign-off for straightforward referrals. This decreased wait times for referrals and improved our outpatient service.

Conclusion: Lean Six Sigma methodology can be used to measurably improve rheumatology outpatient outcomes.

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Poster No. 105
Sub-Specialty

EXPANSION OF THE MULLEGAMA-KLEIN-MARTINEZ SYNDROME PHENOTYPE: *DE NOVO* LOSS-OF-FUNCTION VARIANT IN *STAG2* IS ASSOCIATED WITH ECTOPIC PITUITARY GLAND

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Aims: Here, we report a novel case of a female patient with a heterozygous loss-of-function variant in *STAG2*.

STAG2 gene encodes "Stromal Antigen 2" (STAG2), is a fundamental subunit of the cohesin complex.[1] The cohesin complex regulates the separation of sister chromatids during cell division.[2-3] Pathogenic *STAG2* gene variants are associated with Mullegama-Klein-Martinez Syndrome (MKMS), a rare X-linked cohesinopathy.[4-5]

Methods: The female patient shares distinct clinical features with previously reported male patients carrying the STAG2 variant p.Tyr159Cis, indicating that the variant position determines the disease phenotype.6 Furthermore, this patient exhibits symptoms not previously associated with MKMS, expanding the known clinically phenotype of this rare disease.[7-9]

Results: The patient has intellectual disability, microcephaly, short stature and precocious puberty. She has an ectopic posterior pituitary gland, resulting in central diabetes insipidus. This was associated with adipsia, causing profound hypernatraemia. This severe electrolyte abnormality culminated in acute renal failure requiring peritoneal dialysis.

Conclusion: The variant c.1196+4_1196+7del; p.? in gene *STAG2* was identified in a heterogenous state in this patient. This variant is absent from the gnomAD global population and has not been described in the scientific literatures, nor within the ClinVar dataset. The detected variant is located in a splice site and could probably have a deleterious effect on splicing, which is supported by the *in silico* splice prediction. Aberrant splicing would lead to loss of functional protein, consistent with the pathomechanism for *STAG2* in females.

1. Mannini, L, C. Lamaze, F, Cucco F, et al. Mutant cohesin affects RNA polymerase II regulation in Cornelia de Lange syndrome. Sci Rep 5, 16803 (2015). https://doi.org/10.1038/srep16803 2. Di Benedetto D, Di Vita G, Romano C, et al. 6p22.3 deletion: report of a patient with autism, severe intellectual disability and electroencephalographic anomalies. Mol Cytogenet. 2013 Jan 17;6(1):4. doi: 10.1186/1755-8166-6-4. PMID: 23324214; 3. Schmidt J, Dreha-Kulaczewski S, Zafeiriou M, et al. Somatic mosaicism in STAG2-associated cohesinopathies: Expansion of the genotypic and phenotypic spectrum, Frontiers in Cell and Developmental Biology, 2002, Vol. 10, doi; 10.3389/fcell.2022.1025332 4. Deardorff MA, Bando M, Nakato R, et al. HDAC8 mutations in Cornelia de Lange syndrome affect the cohesin acetylation cycle. Nature. 2012 Sep 13;489(7415):313-7. doi: 10.1038/nature11316. 5. Baquero-Montoya C, Gil-Rodríguez MC, Braunholz D, et al. Somatic mosaicism in a Cornelia de Lange syndrome patient with NIPBL mutation identified by different next generation sequencing approaches. Clin Genet. 2014 Dec;86(6):595-7. doi: 10.1111/cge.12333. 6. Yu L, Sawle A, Wynn J, et al. Increased burden of de novo predicted deleterious variants in complex congenital diaphragmatic hernia, Human Molecular Genetics, Volume 24, Issue 16, 15 August 2015, Pages 4764–4773, https://doi.org/10.1093/hmg/ddv196 7. Yingjun X, Weng T, Yujian L, et al. Microduplication of chromosome Xq25 encompassing STAG2 gene in a boy with intellectual disability, European Journal of Medical Genetics, Volume 58, Issue 2, 2015,

https://doi.org/10.1016/j.ejmg.2014.10.002. 8. Mullegama SV, Klein SD, Signer RH, et al. Mutations in STAG2 cause an X-linked cohesinopathy associated with undergrowth, developmental delay, and dysmorphia: Expanding the phenotype in males. Mol Genet Genomic Med. 2019 Feb;7(2):e00501. doi: 10.1002/mgg3.501. Epub 2018 Nov 16. PMID: 30447054; PMCID: PMC6393687. 9. Freyberger, F., Kokotović, T., Krnjak, G. et al. Expanding the known phenotype of Mullegama–Klein–Martinez syndrome in male patients. Hum Genome Var 8, 37 (2021). https://doi.org/10.1038/s41439-021-00169-3

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Poster No. 106
Medical/Education Management

INCREASING CLINICIANS CONFIDENCE IN BREASTFEEDING COUNSELLING USING SCIENCE BASED TUTORIALS

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Aims

Ireland and Northern Ireland have the lowest rates of breastfeeding in the world (5-12% at 6 months, EU average 25%, world average 40%). Current breastfeeding education is sporadic and not standardised for medical students and doctors. We aimed to investigate the impact of short education sessions on clinicians' confidence and knowledge.

Methods

Healthcare professionals working in paediatrics and general practice completed a short questionnaire about their subjective knowledge on the physiological benefits of breastfeeding and confidence in counselling parents on the benefits, they also completed a knowledge assessment.

A 35-minute tutorial on the science of breastmilk targeted at healthcare professionals was devised. Participants completed a second questionnaire and knowledge assessment after the presentation

Results

57% of participants had no previous formal breastfeeding education prior to this study, including at an undergraduate level and 100% of respondents felt further training in breastfeeding would be beneficial to their practice and enhance their ability to counsel and encourage current and future parents to breastfeed.
There was a degree of cognitive bias, 70% of respondents agreed or strongly agreed that they could explain the mechanisms behind the benefits of breastfeeding, however average pre-tutorial knowledge scores were only 24% indicating the physiology was poorly understood. After the 35-minute intervention tutorial, average knowledge scores increased over 45% to 70%,

Conclusions

A short science-based targeted presentation, greatly increased knowledge and confidence scores in doctors and nurses across all levels. Healthcare professionals acknowledge the importance of increasing breastfeeding rates to ameliorate healthcare inequalities, however they lack the knowledge-base to adequately counsel and explain the benefits to potential parents. Short, targeted educations sessions should be formally introduced to trainees on post-graduate training programmes in GP, obstetrics and paediatrics.

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Poster No. 107
Medical/Education Management

PAEDIATRIC TRAINEES' EXPERIENCE AND EXPOSURE WITH DEVELOPMENTAL PAEDIATRICS IN THEIR TRAINING

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Aims: Developmental and behavioural paediatrics is a core competency in International paediatric curriculums. Research indicates poor consultant confidence in reviewing children with developmental delays. No recent studies examine trainees' perceptions of developmental paediatrics.

Methods: A pragmatic stance with a mixed-methods approach was chosen. A questionnaire modelled from a previously published study, and validated by consultants in the speciality, was distributed to paediatric trainees. The survey addressed three questions: 1) What are Irish paediatric trainees' views on their formal training, workplace training and confidence levels in developmental paediatrics? 2) What could help improve confidence levels in trainees reviewing children with developmental conditions? 3) What are areas of perceived improvement that trainees feel could improve paediatric developmental training in the future? Quantitative data was analysed using SPSS. Qualitative data was analysed using Braun and Clarke thematic analysis.

Results: The questionnaire was answered by 110 trainees (45% response rate). Female gender (72%) and Irish medical school education (94%) predominated. Eighty-four per cent reported good experience with developmental paediatrics. Seniority represented improved confidence in history taking across most child developmental categories. Trainees reported highest confidence with gross motor skill history taking (95%) and lowest confidence with 'significant neurological impairment with additional needs' (82%). Thirty-two per cent of trainees weren't observed and twenty (18%) hadn't received feedback on histories, both statistically significant areas demonstrating improved confidence, independent of training level ($p=<0.05$). Trainees welcomed earlier exposure to developmental training. Competing priorities, including trainees being reassigned to acute care roles, hindered workplace learning.

Conclusion: Paediatric trainees demonstrated good experience and high self-reported confidence in developmental paediatrics. They recommended earlier exposure and formal protected structures for improved training. Direct observation and feedback, which many trainees did not report, improved trainees' confidence with history taking, adding to international literature as one avenue to improve confidence in developmental paediatrics.

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COSY HUDDLES: COMMUNICATION FOR THE SAFETY OF YOUNG PEOPLE WITH COMPLEX NEEDS

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Background: Children with neurodisability and complex care needs can get lost in a busy inpatient paediatric ward. We were seeking a way of ensuring that their needs were met through improved observations and communication. Our aim was to test whether a safety huddle could improve communication between staff and family, and between different staff members to improve care for children.

Methods: We convened a multi-disciplinary team interested in improving care for children with complex care needs and neurodisability. Following training, we developed an initial script that focused on whether the child had been identified as having complex needs and the relevant staff informed, their current PEWS and what these mean in the context of their neurodisability, staff concerns, education and training needs, parent and staff wellbeing, and active discharge planning. This initial script was refined by practice and discussion to include simple questions that cover these key points.

Results: Huddles that have been convened have been successful. They have been well-attended, all staff have had a voice in the huddle, and there appears to be increased awareness of the child's needs following a huddle. Huddles have successfully anticipated future care needs and put in place training where needed for staff.

The key issue to address is that huddles do not happen all the time, but only when there is a child with complex needs on the ward. This has required adaptations including having a few champions of the huddle, flexibility about attendance with further discussion about what kinds of professionals need to be in attendance, and expansion to another ward and to include a wider range of people.

Conclusions: Huddles are helpful ways to meet the needs and focus on the safety of children with medical complexity by improving communication and anticipatory care.

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Poster No. 109
Sub-Specialty

THE PSYCHO-SOCIAL IMPACT OF HAVING A CHILD WITH SEVERE NEUROLOGICAL IMPAIRMENT IN THE FAMILY: A SYSTEMATIC REVIEW

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Introduction and Aim

Children with severe neurological impairment (SNI) have CNS disorders with impairments in motor and cognitive functioning, and medical complexity. In the context of providing holistic support to families with children with SNI there is a need to understand what the impact is on families of having a child with SNI. As children with SNI have a range of diagnoses a literature review is suitable for exploring commonalities and differences in parental experience across different diagnoses but similar impairments.

Methods

This study synthesised the existing literature on this topic. Searches were performed on PubMed, PsychInfo, and Cinahl. Inclusion criteria included primary research studies of children (under 18 years) with SNI that measured some aspect of psycho-social outcomes for family members. Papers are being reviewed for inclusion by two independent raters, and thematic synthesis will be performed on the Results from included papers.

Results

After removal of duplicates 797 papers were reviewed, with 239 being taken to full text review. Approximately 30 papers are likely to meet inclusion criteria. Preliminary Results indicate that the psycho-social impact is wide ranging, including negative impacts on quality of life, stress, sleep, finances, housing, and family life. Unique outcomes for parents of children with SNI reflect the medical complexity of their children and can also reflect the challenge to get their children's personhood recognised.

Conclusion

There are unique stressors for these families in relation to their child's medical needs that can be helped by co-ordinated, family-centred services.

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Poster No. 110
Sub-Specialty

THE IMPACT ON PARENTS OF HAVING A CHILD WITH RETT SYNDROME: A SYSTEMATIC REVIEW

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Aims

Rett Syndrome is a neurodevelopmental disorder in which developmental regression occurs after the first few months of life. Parents of children with Rett Syndrome are both parents and carers. This systematic review aimed to synthesise the existing literature on the impact on parents of having a child with Rett syndrome.

Methods

As part of a wider systematic review, searches were performed on PubMed, PsychInfo, and Cinahl. Primary research studies that focused on the psycho-social impact of having a child (under 18 years) with Rett Syndrome were extracted and synthesised. From 1047 abstracts (794 after duplicates excluded), 229 papers were reviewed for inclusion, and 18 included. Abstracts and papers were reviewed for inclusion by two independent raters.

Results

Most studies focused on mothers and demonstrated that these mothers experienced high levels of stress, depression and anxiety. Stress was related to their child's eating, sleeping, behaviour and mood and was therefore easily increased by additional health complications such as epilepsy or fractures. Families also demonstrated resilience and helpful coping strategies.

Conclusions and Implications

Family stress can be managed best through good support for everyday living activities such as eating and sleeping. Some families will require little additional psychological support, developing their own strategies and resilience, whereas others may require additional psycho-social support.

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Poster No. 111
Sub-Specialty

PREVALENCE OF SEVERE NEUROLOGICAL IMPAIRMENT IN IRELAND –A STUDY OF NATIONAL IN-PATIENT POINT PREVALENCE DATA

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Aims

Children with Severe Neurological Impairment (SNI) are understood anecdotally to have frequent contacts with paediatric hospitals, and inpatient stays appear frequent and prolonged. The current number of children fulfilling the definition of SNI in Ireland is unknown. Extrapolation of international data on similar cohorts suggests there are 500-1000 children with SNI (0.05-1%). This study aims to examine in-patient point prevalence (up to 18 years of age, on paediatric wards) of SNI across all 20 acute in-patient paediatric units in Ireland, across seasons, with data collection days spread over 1 year.

Methods

An invitation to participate in national point prevalence data collection was distributed to each of the 20 paediatric centres. Ethical approval was obtained from CHI research ethics committee. Data was collected on 2 days per month over 6 months with data collection points spread between Spring/Summer and Autumn/Winter 2022. In-patient numbers with SNI were collected along with numbers relating to the admitting discipline, scheduled vs unscheduled care and if the admission was likely to be prolonged (>5 days).

Results

Each of the 20 centres provided anonymous data. Overall inpatient point prevalence was 9%, (CHI 11%, range 7-15% and other units 5%, range 3-7%). Up to 50 patients at a time with SNI were admitted across Ireland (range 35-50). Length of stay was > 5 days in 88% overall. 83% of admissions for children with SNI nationally were unscheduled. Numbers of children admitted with SNI were relatively constant throughout the seasons, though percentages varied as overall patient admissions increased in Winter.

Conclusions

Despite comprising a very small percentage of the Irish paediatric population, children with SNI are disproportionately represented in acute paediatric beds. Healthcare resources may need to be directed at preventing unscheduled admissions, supporting care closer to home and supporting active discharge.

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Poster No. 112
Medical/Education Management

TELEHEALTH INTERVENTIONS FOR TRANSITION TO SELF-MANAGEMENT EDUCATION IN ADOLESCENTS WITH ALLERGIC CONDITIONS: A SYSTEMATIC REVIEW

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Aims: Lack of time and resources have been identified as barriers to implementation of transitional care in adolescents with allergic conditions in Europe.[1] Telehealth is an emerging approach to supporting patients remotely which may circumvent these barriers. This review aims to describe telehealth interventions that aid the transition to self-management of adolescents with allergic conditions and to determine their impact on self-management, health, economic and implementation outcomes.

Methods: Four databases were searched systematically. References were independently screened by two reviewers. Data extraction included population, intervention development and characteristics and outcomes. Methodological quality was assessed using the Mixed Methods Appraisal Tool. Descriptive summary tables were produced, and a narrative synthesis of the data was undertaken, as per the guidance from the ESRC Methods Programme.

Results: From the eighteen papers included, fifteen were quantitative, two were qualitative and one was mixed-methods. They reported on fifteen telehealth interventions. Studies were primarily from the USA (n=10). Mobile applications were the most common telehealth modality used, followed by video-conferencing, web-based, virtual reality and artificial intelligence. Most interventions targeted asthma (n=13), with just two targeting food or venom allergies. Five intervention content categories were identified; educational, monitoring, behavioural, psychosocial and healthcare navigational. The studies showed positive effects of the interventions or no difference from active controls, in self-management outcomes such as knowledge, skill technique and decision-making and in health outcomes such as quality-of-life, disease control and healthcare utilisation. Implementation outcomes showed acceptability was high but fidelity varied. Peer and/or healthcare professional interaction, gamification and tailoring appear to increase engagement.

Conclusion: Healthcare-professionals should consider implementing these telehealth interventions in practice, as a way to implement the EAACI 2020 Transition guidelines.[2] Careful development with evidence, theory and stakeholder input can lead to high-quality interventions. Larger scale studies are needed in Europe and in allergic conditions other than asthma.

1. Khaleva E, Vazquez-Ortiz M, Comberiati P, et al. Current transition management of adolescents and young adults with allergy and asthma: A European survey. Clin Transl Allergy. 2020;10(1). 2. Roberts G, Vazquez-Ortiz M, Knibb R, et al. EAACI Guidelines on the effective transition of adolescents and young adults with allergy and asthma. Allergy: European Journal of Allergy and Clinical Immunology. 2020;75(11):2734-2752.

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Poster No. 113
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A TIME TO BREATHE: THE IMPACT OF A WELLBEING INTERVENTION ON OCCUPATIONAL STRESS IN PAEDIATRIC TRAINEES DURING THE COVID-19 PANDEMIC

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Aims: Physician burnout is on the rise, as documented in national and international studies[1,2]. Junior doctors report that their workloads are too heavy[3] and they struggle to achieve a healthy work life balance[4]. The COVID-19 pandemic had further impacts on the wellbeing of healthcare workers[5]. The consequences of poor staff wellbeing are negative effects on patient care, professionalism, and physicians own care and safety[6]. As doctors are less likely to seek medical help[7], health systems must aim to support physician wellbeing. The literature indicates that both individual and organisational strategies can result in clinically meaningful reductions in burnout among physicians[6]. The objective was to assess the impact of a unique intervention on its effectiveness in reducing burnout and improving wellbeing among non-consultant hospital doctors.

Methods: A quantitative, positivist approach to the research was engaged and participants were invited to complete a validated questionnaire before and after partaking in a wellbeing intervention. Fifteen doctors participated in face-to-face workshops, which included art therapy, music therapy, yoga, and resilience training with mindfulness.

Results: All participants enjoyed the initiative with 85% reporting that taking part had improved their stress levels. 93% of participants reported that COVID-19 had impacted on their wellbeing. The average wellbeing score for the group increased by 10% which is considered a significant improvement[8]. Using the definition for burnout of Emotional exhaustion[9], there was at least a 13% improvement in burnout rates post intervention. The mean score for emotional exhaustion reduced from 27 to 24.5. There was no significant change in depersonalisation or personal accomplishment.

Conclusion: Burnout levels among doctors are high. Simple wellbeing initiatives such as the one in this study can have positive impacts on the wellbeing of physicians. Having protected time for doctors to partake in wellbeing activities is an effective tool to support doctors' wellbeing and should be made universally available to doctors.

1. Hayes, B.; Prihodova, L.; Walsh, G.; Doyle, F.; Doherty, S. (2019) Doctors don't Do-little: A national cross-sectional study of workplace well-being of hospital doctors in Ireland. BMJ Open. 2. Shanafelt T.D., Bradley K.A., Wipf J.E., Back A.L. (2002) Burnout and self-reported patient care in an internal medicine residency program. Ann Intern Med. 2002;136(5):358-367. 3. McGowan, Y., Humphries, N., Burke, H., Conry, M., & Morgan, K. (2013). Through doctors' eyes: a qualitative study of hospital doctor perspectives on their working conditions. British Journal of Health Psychology, 18(4), 874-891. 4. Humphries, N.; McDermott, A.M.; Creese, J.; Matthews, A.; Conway, E.; Byrne, J.-P. (2020) Hospital doctors in Ireland and the struggle for work-life balance. Eur. J. Public Health 5. Creese, J., Byrne, J. P., Conway, E., Barrett, E., Prihodova, L., & Humphries, N. (2021). "We all really need to just take a breath": composite narratives of hospital doctors' well-being during the COVID-19 pandemic. International Journal of Environmental Research and Public Health, 18(4), 2051. 6. West, C.P., Dyrbye, L.N., Erwin, P.J., Shanafelt, T.D., (2016) Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. Lancet, Vol 388, Issue 10057, P. 2272-2281 7. Wallace J.E., Lemaire J. (2009) Physician wellbeing and quality of patient care: An exploratory study of the missing link. Psychol Health Med. 2009;14(5):545–52. 8. Ware, J.E. & Davies, A.R., (1995). Monitoring health outcomes from the patient's point of view: a primer. Kenilwork, New Jersey, Integrated

Therapeutic Group 9. Brenninkmeijer V., VanYperen N., (2003) How to conduct research on burnout: advantages and disadvantages of a unidimensional approach in burnout research. Occup Environ Med 2003;60 Suppl 1(Suppl 1):16i–20

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QI PROJECT TO REDUCE PAEDIATRIC-ED WAITING-TIME AND LOS AT UHK FROM ARRIVAL TO WARD-ADMISSION, DISCHARGE OR TRANSFER TO TERTIARY HOSPITAL.

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Aim: QI project to improve the >5hours average ED waiting times and LOS to <4hours in paediatric ED of UHK.

Background: Gaps identified in the UHK paediatric clinical incidents report of October 2021-2022 will benefit from practice improvement strategies to reduce the ED waiting-time and LOS.

Methods: The Plan-Do-Study-Act (PDSA) method of QI were used to test if interventions resulted in an improvement. Data were collated from EHR (IPIMS) and incident report. QI tools of Process Mapping, Fishbone Diagram, Driver Diagram, Gantt chart, Stakeholder analysis, Informal Networking of Paediatric, ED staff and Focus Group carried out.

Interventions: Queuing theory model was used to identify issues in the Emergency Department to understand the demand for care, different streams of demand, variation in times of arrival and severity of need. Matching this with the correct supply of adequate standardised services and personnel. Secondly we Implemented MDT morning-clinical-handover and Evening-Huddle initiatives with PDSAs 1-7 to drive and measure change.

Results: The average total LOS and waiting time prior to QI project-4:60hr, post QI initiatives-3.53hr. The run chart showed a shift away from the median in line with our identified gap. Trend below the median time of 4.23 from baseline. No astronomical values. Secondly, result showed a 37% reduction in total incidents. Thirdly the Queuing theory showed average arrival per hour-1.8, arrival rate-1.5, SD-1.2. Average triage per hour-0.47, number of servers per serving rate-2.11, SD-0.3, CoV patient arrival-0.6434 and 71% utilization of triage nurse (Table-7). Triage KPI in minutes, median of 28minutes, lowest of 1minute, highest of >90minutes. The queuing theory calculations highlighted peaks of ED attendance as generally from 13.00hour to 20.00hour. A positive unexpected benefit was the recruitment and commencement of one Paediatric-ED Candidate-Advanced-Nurse-Practitioner (cANP), first of its kind to be employed in the hospital.

Conclusions: Structured QI tool and queuing theory application resulted in ED waiting time and incident reports reduction. Application of the theories and methods of improvement science with run chart can show when intervention results in a change. We recommend continuous QI projects with patient-public-involvement to address at every time, what matters to patients.

1. Al-Onazi M, Al Hajri A, Caswell A, et al. Reducing patient waiting time and length of stay in an Acute Care Pediatric Emergency Department. BMJ Quality Improvement Reports 2017; 6:u212356.w7916. doi: 10.1136/bmjquality. u212356.w7916 2. Desmedt M and others, Clinical handover and handoff in healthcare: a systematic review of systematic reviews, International

Journal for Quality in Health Care, Volume 33, Issue 1, 2021, mzaa170, https://doi.org/10.1093/intqhc/mzaa170

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Poster No. 115
Medical/Education Management

NCHD AS EDUCATOR: LEARNING ABOUT HOW WE TEACH

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Aims

Clinical placement is an important learning opportunity for medical students, and Non-consultant hospital doctors (NCHDs) form an important part of the experience as part of the clinical team to which students are allocated. This study aims to gauge NCHD opinions on their role as educator in the clinical setting in paediatrics.

Methods

A questionnaire was circulated to NCHDs working in paediatrics in tertiary and general hospitals. Participants were asked about their previous teaching experience and any training they had in education.

Questions pertained to general attitudes towards teaching, and opinions on potential barriers to teaching in the paediatric setting. Participants answered on a linear scale from “strongly disagree” through to “strongly agree.”

Participants were also offered the opportunity to share their thoughts in a free text section on the role of NCHD as educator, and on the barriers they perceive to teaching in the clinical space.

Results

Responses were received from registrars and SHOs with backgrounds in general paediatrics, neonatology, general practice, PICU, and emergency medicine (n=20.)

60% of respondents reported enjoying teaching students on clinical placement, with 70% agreeing that clinical placement was a useful learning opportunity for students with a view to preparing them for their future career. 80% of participants agreed or somewhat agreed that teaching is a part of their role as NCHD.

Despite this, 95% have not been offered training in education by their current employer, and 85% had never been offered training in education by any previous employer. Further, 90% of respondents have not been aware of or given access to a student syllabus.

Conclusions

This small study showed varying attitudes to teaching amongst paediatric NCHDs. The vast majority of respondents reported a lack of training in education and lack of access to curriculum.

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Neonatal

SYSTEMIC BIOMARKERS OF BRONCHOPULMONARY DYSPLASIA: A SYSTEMATIC REVIEW

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Background: Bronchopulmonary Dysplasia (BPD) is defined as the ongoing need for supplemental oxygen at 28 days of life or 36 weeks postmenstrual age (PMA). Current definitions of BPD rely largely on these requirements for oxygen therapy to determine diagnosis. However, a statistically robust, reliable, and clinically practical biomarker would allow earlier prediction of BPD occurrence and patient tailored management plans.

Methods: A systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) format of primary research studies investigating serum biomarkers of BPD from the EMBASE, Scopus, Web of Science, Science Direct, and PubMed databases was conducted. 409 publications were assessed, and 17 studies were included. Data on population characteristics, biomarker assessment methods and sampling timeframes, along with predictive values (AUC, Sensitivity, Specificity, Cut-off points) were extracted from these studies and are presented. Quality assessment of included studies was conducted using the Newcastle-Ottawa Scale (NOS).

Results: Fifteen blood or serum biomarkers of BPD were described with significant heterogeneity in function, from classical markers of cardiac dysfunction such as N terminal pro-Brain Natriuretic Peptide (NT-proBNP) to markers of inflammation (e.g. CRP, anti-inflammatory Clara-cell secretory protein). There was also a large variation in the timing of sample acquisition from immediately after birth to day 28 of life and reported AUC values ranged from 0.52 to 0.974. Plasma KL-6 along with Plasma KL6+CC16 showed the highest predictive value of BPD at day 14 of life (AUC = 0.952 and 0.974 respectively). The long-non-coding RNA MALAT1 (Lnc-RNA-MALAT1) showed the highest predictive value of BPD at birth (AUC = 0.943). Other markers were shown to have little predictive value of BPD, such as red cell distribution width (RDW) at birth (AUC = 0.52).

Conclusion: Although blood biomarkers show great promise in the prediction of BPD, many markers need further validation in larger studies to be suitable for guidance of clinical intervention in BPD.

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Neonatal

CASE REPORT: THE NEONATAL ASP

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Aims

To understand the literature behind Acute Suppurative Parotitis (ASP), the acute presentation and its management.

Methods

A literature review showed that infections of the salivary glands are uncommon in neonates, but when they occur it usually involves the parotid gland. ASP accounts for roughly 13.8 per 10,000 neonatal hospital admissions[1]. 72 cases of ASP were identified over the last 52 years[2]. It is more commonly seen in male premature infants, usually unilateral and the main causative organism is *Staphylococcus aureus*[3]. ASP is a rare but easy to diagnose with microbiological swabbing and careful examination the buccal mucosa at Stensen's duct. Treatment requires 7-14 days of intravenous antibiotics with no mortality associated[4].

Results

A 6-day old baby girl presented with a swollen tender left cheek. She was born via vacuum at term, weighing 3.43kg. She was unwell for two days prior, particularly irritable for last 24 hours, with reduced breast feeding and a low-grade pyrexia. Inspection of the buccal cavity showed a small collection of pus in the parotid gland opening (Stensen's duct). A full septic screen was performed, and swabs taken from the buccal cavity. She was commenced on intravenous antibiotics including metronidazole, amoxicillin, cefotaxime, and gentamicin. The parotid swab grew *Staphylococcus aureus* sensitive to flucloxacillin and erythromycin. The parotid gland ultrasound showed generalized swelling without abscess formation. She was diagnosed with ASP, completed 5 days of intravenous antibiotics, discharged on a further 5 days of oral antibiotics, and fully recovered.

Conclusion

Neonatal ASP is an acute condition that needs early recognition and treatment. It requires a prolonged course of antibiotics. The infective organism was *Staphylococcus aureus* in keeping with the literature. However, the patient was female, full term, compared to usual cohort that is male and premature. This case shows that not all cases follow the literature.

References:

1. Spiegel R, Miron D, Sakran W, Horovitz Y. Acute neonatal suppurative parotitis: Case reports and Review. The Pediatric Infectious Disease Journal. 2004;23(1):76–8. doi:10.1097/01.inf.0000105181.74169.16
2. Mori T, Shimomura R, Ito T, Iizuka H, Hoshino E, Hirakawa S, et al. Neonatal suppurative parotitis: Case reports and literature review. Pediatrics International. 2022;64(1). doi:10.1111/ped.14762
3. Ismail EA, Seoudi TM, Al-Amir M, Al-Esnawy AA. Neonatal suppurative parotitis over the last 4 decades: Report of three new cases and Review. Pediatrics International. 2013;55(1):60–4. doi:10.1111/j.1442-200x.2012.03738.x
   Ichinose M, Matsushima T, Hataya H. Purulent discharge from Stensen duct in neonatal suppurative parotitis. The Journal of Pediatrics. 2022;243:230–1. doi:10.1016/j.jpeds.2021.12.029

Poster No. 118
Neonatal

RETROSPECTIVE AUDIT OF THE POSTNATAL MANAGEMENT OF INFANTS FOLLOWING POSITIVE DIRECT ANTIGLOBULIN TEST

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Aims: Haemolytic Disease of the Foetus and Newborn (HDFN) is caused by maternal alloimmunisation against red blood cell antigens (1), and the direct antiglobulin test (DAT) used for identification (2). We wished to audit our postnatal management of infants following positive DAT.

Methods: We identified positive DATs from laboratories in our tertiary maternity hospital over 1-year. We conducted a retrospective chart review of electronic medical records, and audited management against our protocol. Serum bilirubins were interpreted using the NICE Guideline for Jaundice in Neonates (3).

Results: From July 2021 – July 2022, 394 positive DATs were collected; 6 (2%) patients had DAT4+, 7 (2%) patients DAT3+, 85 (21%) patients DAT2+, and 296 (75%) patients DAT1+. Among the DAT4+ group, anti-D and anti-C antibodies were the most common maternal antibodies, and all titres were in the 'high-risk' group for HDFN antenatally. All were admitted to the neonatal unit within 1-hour, commenced prophylactic phototherapy and had early serum bilirubins; 4/6 (66%) received intravenous immunoglobulin, and none an exchange transfusion. Mean (SD) duration of stay was 9.8 (2) days. Among DAT 3+ group, anti-E and anti-c antibodies were most prevalent; titres were below the 'high-risk' threshold, and phototherapy was given to 1 patient (17%). Among those with DAT2+ and DAT1+, phototherapy was given to 13 (15%) and 18 (6%) patients respectively.

Conclusion: We found that newborns at greatest risk of HDFN were recognised antenatally and appropriately admitted to the neonatal unit. Low numbers of patients with DAT3+, DAT2+ and DAT1+ received phototherapy.

(1) de Haas, M. et al. (2015) "Haemolytic disease of the fetus and newborn," Vox Sanguinis, 109(2), pp. 99–113. Available at: https://doi.org/10.1111/vox.12265. (2) van Rossum, H.H. et al. (2015) "Comparison of the direct antiglobulin test and the eluate technique for diagnosing haemolytic disease of the newborn," Practical Laboratory Medicine, 3, pp. 17–22. Available at: https://doi.org/10.1016/j.plabm.2015.10.001. (3) Overview: Jaundice in newborn babies under 28 days: Guidance NICE. Available at: https://www.nice.org.uk/guidance/cg98/.

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Poster No. 119
Neonatal

TROPONIN AS A PREDICTOR OF NEURODEVELOPMENTAL OUTCOMES IN TERM AND PRETERM NEONATES: A SYSTEMATIC REVIEW

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Background: Troponin is widely used as a sensitive and specific biomarker of cardiac injury in adult populations. However, recent studies have explored the potential of troponin as a prognostic biomarker for neurological damage. Specifically, troponin levels have been investigated as a predictor of neurodevelopmental outcomes in neonates, suggesting a potential correlation between elevated troponin levels and neurodevelopmental delay (NDD). This review aims to critically evaluate the literature and provide a comprehensive synthesis of the evidence to inform future research and clinical practice.

Methods: A systematic review was conducted following PRISMA guidelines. Eligible articles were identified from EMBASE, Web of Science, and the first ten pages of Google Scholar. Data extraction occurred for included studies in which analysed the relationship between troponin and neurodevelopmental outcomes.

Results: An initial search yielded 509 results and six studies met the threshold for inclusion. This included prospective (n=3) and retrospective (n=3) studies. All studies measured troponin concentration in the neonatal period and performed a follow-up neurodevelopmental assessment between 12-26 months using Bayley Scales of Infant and Toddler Development (II/III). One study was carried out in preterm neonates and the remaining five studied term neonates with neonatal encephalopathy. Three studies, including the study on preterm neonates, found a statically significant correlation between troponin levels and adverse neurodevelopmental outcomes. However, the studies were heterogeneous in population characteristics, timing of troponin measurement and neurodevelopmental outcome cut-offs. The remaining three studies did not report a statistically significant correlation but were limited by the use of troponin in composite scores and focused on only one aspect of neurodevelopment.

Conclusion: This review demonstrated conflicting evidence for the use of troponin levels as a predictive factor for neurodevelopmental outcomes. As three studies supported a correlation, troponin remains a promising biomarker for the future, to aid in early diagnosis and therapeutic intervention.

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ANALYSIS OF THE UNSCHEDULED PRESENTATIONS TO THE NEONATAL OUTPATIENT CLINIC IN THE ROTUNDA HOSPITAL

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Rotunda Hospital is the oldest continuously operating maternity hospital in the world, it cared for 9,757 pregnant mothers and delivered 8,292 babies in 2022. Follow up care is provided in the neonatal outpatient department (OPD) with 1500 clinics annually catering for 11,000 visits.

AIMS

To evaluate how many presentations are unscheduled, the indication for their presentation and outcome of the presentation.

METHODS

All clinic presentations from May to June 2023 were reviewed, identifying how many unscheduled presentations occurred, indications for their presentation, and outcomes.

RESULTS

There were 73 unscheduled presentations in the two-month period. Hyperbilirubinemia was the most common indication (28.6%), followed by concerns with weight (8.6%), the umbilical cord(8.6%), constipation (8.6%), poor feeding (5.7%), cyanosis (4.3%), murmurs (4.3%), respiratory distress(2.9%), abnormal occipital frontal circumference measurements (2.9%), non-specific lumps (2.9%), possible eye infections (2.9%), stool appearance (1.4%) and genitalia (1.4%).

7% of unscheduled presentations were due to cyanosis or respiratory distress requiring immediate care and 12% required admission and medical attention. 10.3% of unscheduled presentations were referred directly to Temple Street Children's Hospital for further management and 1.7% were admitted to the Neonatal Unit in Rotunda Hospital. 29.3% of patients were followed up in the OPD and 51.7% were discharged from OPD following their unscheduled presentation.

CONCLUSION

Pre discharge parents need to be counselled on the importance of attending their nearest Paediatric Emergency Department in cases of cyanosis/respiratory distress to ensure there is no delay in treatment. Upcoming development of satellite OPD services require a robust triage system for potentially unwell infant presentations

Providing parents with the OPD phone number and encouraging them to call prior to presentation could reduce the number of unscheduled presentations as staff can advise them where to present to, provide a timely appointment minimising waiting times and improving patient safety.

Poster No. 121
Neonatal

PHARMACOLOGICAL INTERVENTIONS FOR PROCEDURAL PAIN RELIEF IN THE NEONATAL INTENSIVE CARE UNIT: A SYSTEMATIC REVIEW

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Aims: Routine painful procedures are commonplace in the NICU setting. Neonates have a lower threshold for pain which is further lowered with repeated painful stimuli. This systematic review examines the literature of pharmacological pain-relieving interventions in the NICU setting and evaluate the efficacy of these interventions across a range of procedures.

Methods: A systematic review was conducted using CINAHL, EMBASE, MEDLINE and Web of Science databases. The studies were reviewed in Covidence, following the PRISMA guidelines for identifying and screening studies. The resulting dataset related exclusively to randomised controlled studies of pharmacological pain relief methods in preterm and term neonates published in the year 2000 or thereafter.

Results: The original search yielded 1,276 papers. Following the removal of duplicated, 797 papers underwent screening using the PICOS framework for inclusion and exclusion criteria, resulting in 57 studies.

The most effective method to reducing pain in venepuncture was sucrose, however, more research must be completed to determine the most effective dose. The combination of sucrose and non-nutritive sucking were the most effective at reducing pain during the heel prick. Current methods for pain relief during procedures for retinopathy of prematurity are inadequate and predominantly resulted in high Premature Infant Pain Profile (PIPP) scores. Opioid usage during ventilation and intubation in the NICU setting was also supported by the included studies. 93% of the papers used one of the three most prominently used pain scales; the Neonatal Facial Coding Score, the Neonatal Infant pain Scale and the PIPP.

Conclusions: There are numerous evidence-based pharmacological methods for pain management of neonates in the NICU setting. Current neonatal pain assessment methods are dependent on physiological and behavioural responses to pain. There may be scope for further research into whether these parameters are predictive of sufficient analgesia to prevent the long-term adverse effects of repetitive painful stimuli in early life.

1. Carbajal R, Rousset A, Danan C, et al. Epidemiology and treatment of painful procedures in neonates in intensive care units. JAMA 2008;300(1):60-70. DOI: 10.1001/jama.300.1.60. 2. Kassab M, Alhassan AA, Alzoubi KH, Khader YS. Number and Frequency of Routinely Applied Painful Procedures in University Neonatal Intensive Care Unit. Clin Nurs Res 2019;28(4):488-501. DOI: 10.1177/1054773817744324. 3. Cruz MD, Fernandes AM, Oliveira CR. Epidemiology of painful procedures performed in neonates: A systematic review of observational studies. Eur J Pain 2016;20(4):489-98. DOI: 10.1002/ejp.757. 4. Vitaliti SM, Costantino G, Li Puma L, Re MP, Vergara B,

Pinello G. Painful procedures in the NICU. J Matern Fetal Neonatal Med 2012;25 Suppl 4:146-7. DOI: 10.3109/14767058.2012.714986. 5. Grunau RE. Neonatal pain in very preterm infants: long-term effects on brain, neurodevelopment and pain reactivity. Rambam Maimonides Med J 2013;4(4):e0025. DOI: 10.5041/RMMJ.10132. 6. Walker SM. Long-term effects of neonatal pain. Semin Fetal Neonatal Med 2019;24(4):101005. DOI: 10.1016/j.siny.2019.04.005. 7. Chrousos GP. Stress and disorders of the stress system. Nat Rev Endocrinol 2009;5(7):374-81. DOI: 10.1038/nrendo.2009.106. 8. Sullivan MC, Msall ME, Miller RJ. 17-year outcome of preterm infants with diverse neonatal morbidities: Part 1--Impact on physical, neurological, and psychological health status. J Spec Pediatr Nurs 2012;17(3):226-41. DOI: 10.1111/j.1744-6155.2012.00337.x. 9. Hermann C, Hohmeister J, Demirakca S, Zohsel K, Flor H. Long-term alteration of pain sensitivity in school-aged children with early pain experiences. Pain 2006;125(3):278-285. DOI: 10.1016/j.pain.2006.08.026. 10. Vinall J, Miller SP, Chau V, Brummelte S, Synnes AR, Grunau RE. Neonatal pain in relation to postnatal growth in infants born very preterm. Pain 2012;153(7):1374-1381. DOI: 10.1016/j.pain.2012.02.007. 11. Grunau RE, Whitfield MF, Petrie-Thomas J, et al. Neonatal pain, parenting stress and interaction, in relation to cognitive and motor development at 8 and 18 months in preterm infants. Pain 2009;143(1-2):138-46. DOI: 10.1016/j.pain.2009.02.014. 12. Bucsea O, Pillai Riddell R. Non-pharmacological pain management in the neonatal intensive care unit: Managing neonatal pain without drugs. Semin Fetal Neonatal Med 2019;24(4):101017. DOI: 10.1016/j.siny.2019.05.009. 13. Pillai Riddell RR, Racine NM, Turcotte K, et al. Cochrane Review: Non-pharmacological management of infant and young child procedural pain. Evidence-Based Child Health: A Cochrane Review Journal 2012;7(6):1905-2121. 14. Shah PS, Herbozo C, Aliwalas LL, Shah VS. Breastfeeding or breast milk for procedural pain in neonates. Cochrane Database Syst Rev 2012;12:CD004950. DOI: 10.1002/14651858.CD004950.pub3. 15. Holsti L, MacLean K, Oberlander T, Synnes A, Brant R. Calmer: a robot for managing acute pain effectively in preterm infants in the neonatal intensive care unit. Pain Rep 2019;4(2):e727. DOI: 10.1097/PR9.0000000000000727. 16. Abbasoglu A, Cabioglu MT, Tugcu AU, et al. Acupressure at BL60 and K3 Points Before Heel Lancing in Preterm Infants. Explore (NY) 2015;11(5):363-6. DOI: 10.1016/j.explore.2015.07.005. 17. Ghodsi Y, Mahmoodi N, Abbasi A, Payandeh A, Ghaljaei F. Investigating the effect of vibration on the reduction of blood sampling pain from heel (lance) in preterm neonates: a clinical trial study. Pediatric Anesthesia & Critical Care Journal (PACCJ) 2020;8(2) 18. Cignacco E, Hamers JP, Stoffel L, et al. The efficacy of non-pharmacological interventions in the management of procedural pain in preterm and term neonates. A systematic literature review. Eur J Pain 2007;11(2):139-52. DOI: 10.1016/j.ejpain.2006.02.010. 19. Shen Q, Huang Z, Leng H, Luo X, Zheng X. Efficacy and safety of non-pharmacological interventions for neonatal pain: an overview of systematic reviews. BMJ Open 2022;12(9):e062296. DOI: 10.1136/bmjopen-2022-062296. 20. Carter BS, Brunkhorst J. Neonatal pain management. Semin Perinatol 2017;41(2):111-116. DOI: 10.1053/j.semperi.2016.11.001. 21. Lim Y, Godambe S. Prevention and management of procedural pain in the neonate: an update, American Academy of Pediatrics, 2016. Arch Dis Child Educ Pract Ed 2017;102(5):254-256. DOI: 10.1136/archdischild-2016-311066. 22. Acharya AB, Annamali S, Taub NA, Field D. Oral sucrose analgesia for preterm infant venepuncture. Arch Dis Child Fetal Neonatal Ed 2004;89(1):F17-8. DOI: 10.1136/fn.89.1.f17. 23. Barandouzi ZA, Keshavarz M, Montazeri A, Ashayeri H, Rajaei Z. Comparison of the analgesic effect of oral sucrose and/or music in preterm neonates: A double-blind randomized clinical trial. Complement Ther Med 2020;48:102271. DOI: 10.1016/j.ctim.2019.102271. 24. Elserafy FA, Alsaedi SA, Louwrens J, Bin Sadiq B, Mersal AY. Oral sucrose and a pacifier for pain relief during simple procedures in preterm infants: a randomized controlled trial. Ann Saudi Med 2009;29(3):184-8. DOI: 10.4103/0256-4947.52821. 25. Gaspardo CM, Miyase CI, Chimello JT, Martinez FE, Linhares MBM. Is pain relief equally efficacious and free of side effects with repeated doses of oral sucrose in preterm neonates? Pain 2008;137(1):16-25. DOI: 10.1016/j.pain.2007.07.032. 26. Kristoffersen L, Malahleha M, Duze Z, et al. Randomised controlled trial showed that neonates received better pain relief from a higher dose of sucrose during venepuncture. Acta Paediatr 2018;107(12):2071-2078. DOI: 10.1111/apa.14567. 27. Us MC, Saran MG, Cebeci B, Akkus E, Seker E, Aybar SSS. A Randomized Comparative Effectiveness Study of Reflexology, Sucrose, and Other

Treatments for Needle Procedures in Newborns. Pediatr Neurol 2023;140:78-85. DOI: 10.1016/j.pediatrneurol.2022.11.019. 28. Tanyeri-Bayraktar B, Bayraktar S, Hepokur M, Guzel Kiran G. Comparison of two different doses of sucrose in pain relief. Pediatr Int 2019;61(8):797-801. DOI: 10.1111/ped.13914. 29. Cavicchiolo ME, Daverio M, Battajon N, Frigo AC, Lago P. A Single Dose of Oral Sucrose Is Enough to Control Pain During Venipuncture: A Randomized Controlled Trial. Front Pain Res (Lausanne) 2022;3:888076. DOI: 10.3389/fpain.2022.888076. 30. Dehghani K, Ahmadabadi AB, Fallahzade H, Salimi T. Comparison of the effect of Yakson touch and oral glucose on the severity of phlebotomy pain in preterm infants. Iranian journal of neonatology 2019;10:25-32. DOI: 10.22038/IJN.2019.38769.1614. 31. Mahmud S, Shah SA, Khattak SZ. Neonatal Pain And Preventive Strategies: An Experience In A Tertiary Care Unit. J Ayub Med Coll Abbottabad 2017;29(1):42-44. 32. Gao H, Li M, Gao H, et al. Effect of non-nutritive sucking and sucrose alone and in combination for repeated procedural pain in preterm infants: A randomized controlled trial. Int J Nurs Stud 2018;83:25-33. DOI: 10.1016/j.ijnurstu.2018.04.006. 33. Gibbins S, Stevens B, Hodnett E, Pinelli J, Ohlsson A, Darlington G. Efficacy and safety of sucrose for procedural pain relief in preterm and term neonates. Nurs Res 2002;51(6):375-82. DOI: 10.1097/00006199-200211000-00005. 34. Thakkar P, Arora K, Goyal K, et al. To evaluate and compare the efficacy of combined sucrose and non-nutritive sucking for analgesia in newborns undergoing minor painful procedure: a randomized controlled trial. J Perinatol 2016;36(1):67-70. DOI: 10.1038/jp.2015.122. 35. Shukla V, Chapla A, Uperiya J, Nimbalkar A, Phatak A, Nimbalkar S. Sucrose vs. skin to skin care for preterm neonatal pain control-a randomized control trial. J Perinatol 2018;38(10):1365-1369. DOI: 10.1038/s41372-018-0193-9. 36. Simonse E, Mulder PG, van Beek RH. Analgesic effect of breast milk versus sucrose for analgesia during heel lance in late preterm infants. Pediatrics 2012;129(4):657-63. DOI: 10.1542/peds.2011-2173. 37. Sen E, Manav G. Effect of Kangaroo Care and Oral Sucrose on Pain in Premature Infants: A Randomized Controlled Trial. Pain Manag Nurs 2020;21(6):556-564. DOI: 10.1016/j.pmn.2020.05.003. 38. Stevens B, Yamada J, Campbell-Yeo M, et al. The minimally effective dose of sucrose for procedural pain relief in neonates: a randomized controlled trial. BMC Pediatr 2018;18(1):85. DOI: 10.1186/s12887-018-1026-x. 39. Lago P, Cavicchiolo ME, Mion T, et al. Repeating a dose of sucrose for heel prick procedure in preterms is not effective in reducing pain: a randomised controlled trial. Eur J Pediatr 2020;179(2):293-301. DOI: 10.1007/s00431-019-03509-2. 40. Bellieni CV, Buonocore G, Nenci A, Franci N, Cordelli DM, Bagnoli F. Sensorial saturation: an effective analgesic tool for heel-prick in preterm infants: a prospective randomized trial. Biol Neonate 2001;80(1):15-8. DOI: 10.1159/000047113. 41. Bergomi P, Chieppi M, Maini A, et al. Nonpharmacological techniques to reduce pain in preterm infants who receive heel-lance procedure: a randomized controlled trial. Res Theory Nurs Pract 2014;28(4):335-48. DOI: 10.1891/1541-6577.28.4.335. 42. Rawal S, Ghai A, Jindal T. Twenty-Five Percent Dextrose and EBM in Pain Relief During Heel Lance in Late Preterm Babies Using the PIPP Score: A Randomized Controlled Trial. Journal of Neonatology 2018;32(2-3):43-49. DOI: 10.1177/0973217918795027. 43. Ranjbar A, Bernstein C, Shariat M, Ranjbar H. Comparison of facilitated tucking and oral dextrose in reducing the pain of heel stick in preterm infants: a randomized clinical trial. BMC Pediatr 2020;20(1):162. DOI: 10.1186/s12887-020-2020-7. 44. Sasidharan R, Gupta N, Yadav B, Chawla D, Singh K, Kumarendu Singh A. 25% Dextrose Versus 24% Sucrose for Heel Lancing in Preterm Infants: A Noninferiority RCT. Pediatrics 2022;149(5):1-62. DOI: 10.1542/peds.2021-054618. 45. Carbajal R, Lenclen R, Jugie M, Paupe A, Barton BA, Anand KJ. Morphine does not provide adequate analgesia for acute procedural pain among preterm neonates. Pediatrics 2005;115(6):1494-500. DOI: 10.1542/peds.2004-1425. 46. Badiee Z, Torcan N. Effects of high dose orally administered paracetamol for heel prick pain in premature infants. Saudi Med J 2009;30(11):1450-3. 47. O'Sullivan A, O'Connor M, Brosnahan D, McCreery K, Dempsey EM. Sweeten, soother and swaddle for retinopathy of prematurity screening: a randomised placebo controlled trial. Arch Dis Child Fetal Neonatal Ed 2010;95(6):F419-22. DOI: 10.1136/adc.2009.180943. 48. Mitchell A, Stevens B, Mungan N, Johnson W, Lobert S, Boss B. Analgesic effects of oral sucrose and pacifier during eye examinations for retinopathy of prematurity. Pain Manag Nurs 2004;5(4):160-8. DOI: 10.1016/j.pmn.2004.06.001. 49. Dolgun G, Bozlak S. Effect of Nonpharmacologic Pain Control During Examination for Retinopathy of Prematurity. J Obstet

Gynecol Neonatal Nurs 2017;46(5):709-715. DOI: 10.1016/j.jogn.2017.06.008. 50. Jang EK, Lee H, Jo KS, Lee SM, Seo HJ, Huh EJ. Comparison of the Pain-relieving Effects of Human Milk, Sucrose, and Distilled Water during Examinations for Retinopathy of Prematurity: A Randomized Controlled Trial. Child Health Nurs Res 2019;25(3):255-261. DOI: 10.4094/chnr.2019.25.3.255. 51. Gal P, Kissling GE, Young WO, et al. Efficacy of sucrose to reduce pain in premature infants during eye examinations for retinopathy of prematurity. Ann Pharmacother 2005;39(6):1029-33. DOI: 10.1345/aph.1E477. 52. Nayak R, Nagaraj KN, Gururaj G. Prevention of Pain During Screening for Retinopathy of Prematurity: A Randomized Control Trial Comparing Breast Milk, 10% Dextrose and Sterile Water. Indian J Pediatr 2020;87(5):353-358. DOI: 10.1007/s12098-020-03182-6. 53. Nesargi SV, Nithyanandam S, Rao S, Nimbalkar S, Bhat S. Topical anesthesia or oral dextrose for the relief of pain in screening for retinopathy of prematurity: a randomized controlled double-blinded trial. J Trop Pediatr 2015;61(1):20-4. DOI: 10.1093/tropej/fmu058. 54. Marsh VA, Young WO, Dunaway KK, et al. Efficacy of topical anesthetics to reduce pain in premature infants during eye examinations for retinopathy of prematurity. Ann Pharmacother 2005;39(5):829-33. DOI: 10.1345/aph.1E476. 55. Turan O, Akkoyun I, Ince DA, Doganay B, Tugcu AU, Ecevit A. Effect of breast milk and sucrose on pain and perfusion index during examination for retinopathy of prematurity. J Matern Fetal Neonatal Med 2021;34(7):1138-1142. DOI: 10.1080/14767058.2019.1628209. 56. Behura SS, Dhanawat A, Nayak B, Panda SK. Comparison between oral melatonin and 24% sucrose for pain management during retinopathy of prematurity screening: a randomized controlled trial. Turk J Pediatr 2022;64(6):1013-1020. DOI: 10.24953/turkjped.2022.115. 57. Gitto E, Aversa S, Salpietro CD, et al. Pain in neonatal intensive care: role of melatonin as an analgesic antioxidant. J Pineal Res 2012;52(3):291-5. DOI: 10.1111/j.1600-079X.2011.00941.x. 58. Ancora G, Lago P, Garetti E, et al. Efficacy and safety of continuous infusion of fentanyl for pain control in preterm newborns on mechanical ventilation. J Pediatr 2013;163(3):645-51 e1. DOI: 10.1016/j.jpeds.2013.02.039. 59. Jiang HH, Cheng R, Kan Q, et al. [Clinical evaluation of the effects of morphine in mechanical ventilation of neonates]. Zhonghua Er Ke Za Zhi 2012;50(5):350-5. 60. Hosseini MB, Mirnia K, Ghojazadeh M, et al. Remifentanil versus Fentanyl for pain control during elective endotracheal intubation for surfactant administration in preterm infants. Journal of Pediatric and Neonatal Individualized Medicine (JPNIM) 2018;7(2). DOI: 10.7363/070214. 61. Cignacco E, Hamers JP, van Lingen RA, et al. Pain relief in ventilated preterms during endotracheal suctioning: a randomized controlled trial. Swiss Med Wkly 2008;138(43-44):635-45. DOI: 10.4414/smw.2008.12288. 62. Oliveira NRGd, Formiga C, Ramos BA, et al. Gentle Touch and Sucrose for Pain Relief during Suctioning in Preterm Newborns-A Randomized Clinical Trial. Children (Basel) 2023;10(1). DOI: 10.3390/children10010158. 63. Vezyroglou K, Mehler K, Kribs A, et al. Oral glucose in preterm neonates during oropharyngeal suctioning: a randomized controlled cross-over trial. Eur J Pediatr 2015;174(7):867-74. DOI: 10.1007/s00431-014-2472-6. 64. Desai S, Nanavati RN, Nathani R, Kabra N. Effect of Expressed Breast Milk versus Swaddling versus Oral Sucrose Administration on Pain Associated with Suctioning in Preterm Neonates on Assisted Ventilation: A Randomized Controlled Trial. Indian J Palliat Care 2017;23(4):372-378. DOI: 10.4103/IJPC.IJPC_84_17. 65. Nimbalkar S, Sinojia A, Dongara A. Reduction of neonatal pain following administration of 25% lingual dextrose: a randomized control trial. J Trop Pediatr 2013;59(3):223-5. DOI: 10.1093/tropej/fms072. 66. Pandey M, Datta V, Rehan HS. Role of sucrose in reducing painful response to orogastric tube insertion in preterm neonates. Indian J Pediatr 2013;80(6):476-82. DOI: 10.1007/s12098-012-0924-4. 67. Tekgunduz KS, Polat S, Gurol A, Apay SE. Oral Glucose and Listening to Lullaby to Decrease Pain in Preterm Infants Supported with NCPAP: A Randomized Controlled Trial. Pain Manag Nurs 2019;20(1):54-61. DOI: 10.1016/j.pmn.2018.04.008. 68. Taddio A, Lee C, Yip A, Parvez B, McNamara PJ, Shah V. Intravenous morphine and topical tetracaine for treatment of pain in [corrected] neonates undergoing central line placement. JAMA 2006;295(7):793-800. DOI: 10.1001/jama.295.7.793. 69. Kaur G, Gupta P, Kumar A. A randomized trial of eutectic mixture of local anesthetics during lumbar puncture in newborns. Arch Pediatr Adolesc Med 2003;157(11):1065-70. DOI: 10.1001/archpedi.157.11.1065. 70. Kucukoglu S, Celebioglu A, Caner I, Ok G, Maden R. The Effects of Instrumental Touching on Infant Pain Perception and the Effects of Eutectic Mixture of Local Anesthetics (EMLA) on the Reduction of Pain. Iran J Pediatr

2015;25(3):e532. DOI: 10.5812/ijp.25(3)2015.532. 71. Alencar AJ, Sanudo A, Sampaio VM, Gois RP, Benevides FA, Guinsburg R. Efficacy of tramadol versus fentanyl for postoperative analgesia in neonates. Arch Dis Child Fetal Neonatal Ed 2012;97(1):F24-9. DOI: 10.1136/adc.2010.203851. 72. Potana NT, Dongara AR, Nimbalkar SM, Patel DV, Nimbalkar AS, Phatak A. Oral Sucrose for Pain in Neonates During Echocardiography: A Randomized Controlled Trial. Indian Pediatr 2015;52(6):493-7. DOI: 10.1007/s13312-015-0663-5. 73. Olsson E, Ahl H, Bengtsson K, et al. The use and reporting of neonatal pain scales: a systematic review of randomized trials. Pain 2021;162(2):353-360. DOI: 10.1097/j.pain.0000000000002046. 74. Grunau RVE, Craig KD. Pain expression in neonates: facial action and cry. Pain 1987;28(3):395-410. DOI: 10.1016/0304-3959(87)90073-X. 75. Lawrence J, Alcock D, McGrath P, Kay J, MacMurray SB, Dulberg C. The development of a tool to assess neonatal pain. Neonatal Netw 1993;12(6):59-66. 76. Xie W, Wang X, Huang R, Chen Y, Guo X. Assessment of four pain scales for evaluating procedural pain in premature infants undergoing heel blood collection. Pediatr Res 2021;89(7):1724-1731. DOI: 10.1038/s41390-020-1034-z. 77. Stevens B, Johnston C, Petryshen P, Taddio A. Premature Infant Pain Profile: development and initial validation. Clin J Pain 1996;12(1):13-22. DOI: 10.1097/00002508-199603000-00004. 78. Stevens BJ, Gibbins S, Yamada J, et al. The premature infant pain profile-revised (PIPP-R): initial validation and feasibility. Clin J Pain 2014;30(3):238-43. DOI: 10.1097/AJP.0b013e3182906aed. 79. Lemyre B, Hogan DL, Gaboury I, Sherlock R, Blanchard C, Moher D. How effective is tetracaine 4% gel, before a venipuncture, in reducing procedural pain in infants: a randomized double-blind placebo controlled trial. BMC Pediatr 2007;7:7. DOI: 10.1186/1471-2431-7-7. 80. Sun X, Lemyre B, Barrowman N, O'Connor M. Pain management during eye examinations for retinopathy of prematurity in preterm infants: a systematic review. Acta Paediatr 2010;99(3):329-34. (In eng). DOI: 10.1111/j.1651-2227.2009.01612.x. 81. Jones L, Fabrizi L, Laudiano-Dray M, et al. Nociceptive Cortical Activity Is Dissociated from Nociceptive Behavior in Newborn Human Infants under Stress. Curr Biol 2017;27(24):3846-3851 e3. DOI: 10.1016/j.cub.2017.10.063. 82. Slater R, Cornelissen L, Fabrizi L, et al. Oral sucrose as an analgesic drug for procedural pain in newborn infants: a randomised controlled trial. Lancet 2010;376(9748):1225-32. DOI: 10.1016/S0140-6736(10)61303-7. 83. Fitzgerald M. What do we really know about newborn infant pain? Exp Physiol 2015;100(12):1451-7. DOI: 10.1113/EP085134.

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Poster No. 122
Neonatal

CHEST XRAY CHANGES IN THE NEONATE - ARE WE IN FOCUS?

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Aims: The incidence of congenital pneumonia is <1% among full-term infants in resource-rich settings [1]. Diagnostic chest X-rays (CXR) performed in the first few hours after birth can be difficult to interpret [2]. We must rationalise both antibiotic and radiation exposure in our patients to optimise their outcome and minimise unnecessary risk. This study aims to determine the number of babies born >/=36 weeks gestation admitted to the NICU with focal CXR changes, their antibiotic management and the number of follow up CXR performed.

Methods: This was a retrospective chart review of babies born >/= 36 weeks admitted to a single tertiary NICU between January-December 2022. Medical charts were reviewed to collect demographics and clinical details.

Results: Eight hundred and twelve babies were included. Thirty-eight (4.6%) had focal changes on CXR. Eight (21%) babies required intubation. None had positive blood cultures. Twenty-one (55%) babies were treated for congenital pneumonia based on their treating physician's interpretations of the first CXR. Three babies (8%) had a CXR report that did not match this interpretation. Twenty-five (66%) infants had a repeat CXR (range 0-4) between day of life one to thirty (average 3.7 days). Fourteen (56%) had complete resolution of changes on final CXR.

Ten babies (48%) diagnosed with congenital pneumonia received five days of cefotaxime, nine (43%) received five days benzlpenicillin and gentamicin and two (9%) received seven days of cefotaxime. Seventeen (45%) infants with focal CXR changes were deemed to have a diagnosis other than congenital pneumonia and completed 36 hours of intravenous antibiotics.

Conclusion: This study reports the differing practice in management and follow up of focal CXR changes. It highlights the difficulty of CXR interpretation in the hours after birth. It would be beneficial to have local guidelines for managing babies with focal x-ray changes including antibiotic choice, duration and follow up CXR.

1. Hibbard JU, Wilkins I, Sun L, Gregory K, Haberman S, Hoffman M, Kominiarek MA, Reddy U, Bailit J, Branch DW, Burkman R. Respiratory morbidity in late preterm births. JAMA: the journal of the American Medical Association. 2010 Jul 7;304(4):419. 2. Hooven TA, Polin RA. Pneumonia. Semin Fetal Neonatal Med. 2017 Aug;22(4):206-213. doi: 10.1016/j.siny.2017.03.002. Epub 2017 Mar 24. PMID: 28343909; PMCID: PMC7270051.

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Poster No. 123
Neonatal

IMPLEMENTING A NEUROPROTECTIVE CARE BUNDLE TO PROTECT OUR SMALLEST BABIES FROM BRAIN INJURY: QUALITY IMPROVEMENT INITIATIVE

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Introduction: The first hours, days, weeks and months are a critical period for premature infants, particularly for brain growth and development [1]. As NICU care improves so does the survival of the smallest and sickest babies. There is now a stronger focus on optimising neurodevelopmental outcome [2]. Preterm babies who are born at less than 31 weeks gestation are at high risk of IVH and increasing severity corresponds with poor outcomes, death or neuro-disability. NICU care has extended to extremely premature babies; lowering gestational age lead to increasing levels of care and risk of disability and death. Rotunda Hospital reports patient demographics and outcomes to the Vermont Oxford Network (VON) and uses this as a benchmark for local outcomes. In 2021, Rotunda Hospitals incidence of severe IVH was outside the interquartile range reported by the VON. This has led to an evaluation of practice.

Aim: To introduce an evidence based neuroprotective care (NPC) bundle to reduce the incidence of severe IVH and its associated complications.

Methods:
The NPC bundle will focus on six elements:

1. Light/Vision : cyclical lightening / cot-cards for visual stimuli
2. Sound: decrease background noise / introduce reading programme
3. Positioning: head at 30° and midline / supportive nesting
4. Touch: reduce handling/ increase caregiver touch
5. Pain: rationalise procedures/ improve pain management
6. Sleep protection: cluster handling during wakeful periods/ cot-side signage indicating feeding/wakeful periods

One element will be introduced each month over six months commenced in December 2023. Each area of focus will include the introduction of a positive interaction and reduction of a negative interaction.

Conclusions: This evidence based QI initiative is expected to reduce IVH and improve short- and long-term outcomes. These simple measures should be implemented across all NICUs to improve the outcome of the most vulnerable patients.

1. Griffiths, N., et al., Individualised developmental care for babies and parents in the NICU: Evidence-based best practice guideline recommendations. Early Hum Dev, 2019. 139: p. 104840. 2. Austin, T., The development of neonatal neurointensive care. Pediatr Res, 2019.

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Poster No. 124
Neonatal

IMPACT OF THE NEOPUFF T-PIECE RESUSCITATOR ON CODE BLUES IN THE NEONATAL UNIT, CHI AT TEMPLE STREET

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Aims: A complex cohort of neonates are cared for at CHI. For CHI at Temple Street, approximately 50% of Code Blues (2222 calls) occur in the neonatal ward or neonatal high-dependency unit. The NeoPuff T-piece resuscitator provides acute respiratory support to infants in the event of cardiac or respiratory deterioration. NeoPuff was introduced to our neonatal unit in 2021. Previously, bag-valve-mask (BVM) ventilation was the standard method of respiratory support while awaiting the support of the arrest team. Compared with BVM, NeoPuff provides positive end expiratory pressure (PEEP). Our study aim was to evaluate changes in frequency and outcomes of Code Blues pre- and post-introduction of NeoPuff.

Methods: Anonymised data for all neonatal Code Blues in 2020 and 2022 were accessed from resuscitation team digital records. A retrospective chart review was conducted to analyse and compare data points relating to 2222 calls.

Results: The number of Code Blues for neonates remained constant between 2020 and 2022, with 20 calls for 11 patients in each year. In 2020, 18 infants received BVM ventilation and two received oxygen. In 2022, 15 received Neopuff, 4 received BVM and one received mechanical insufflation-exsufflation (MIE). In both years, chest compressions were commenced on two occasions. The number of transfers to paediatric intensive care unit (PICU) was six (30%) in 2020 and two (10%) in 2022. Neither of the patients transferred to PICU in 2022 received Neopuff (one received BVM and one received MIE). Out of 11 patients each year, seven (63%) survived to discharge in 2020, while ten (91%) survived to discharge in 2022.

Conclusion: Introduction of Neopuff did not affect the number of Code Blues or incidence of chest compressions. Although survival to discharge is multifactorial, since the introduction of NeoPuff we observe fewer acute admissions to PICU following a 2222 call.

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Sub-Specialty

INTERVENTIONS TO IMPROVE THE EFFICIENCY OF SLEEP STUDY UTILIZATION BY THE RESPIRATORY DEPARTMENT, CHI AT TEMPLE STREET

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[1]Children's Health Ireland at Temple Street

Aims

The waitlist for sleep studies (overnight oximetry and oximetry/capnography) in CHI at Temple Street extends to over five years for children waiting the longest. These studies are essential for initiation and titration of long-term non-invasive ventilation (LT-NIV). The respiratory department conducted a QI project to improve sleep study utilization. Objectives were to increase volume of sleep studies performed, reduce waitlists, and initiate or titrate more children on LT-NIV.

Methods

A CHI business plan was approved. A second physiologist was recruited. From January 2023, several interventions were implemented. 1) Machines were loaned to families for home sleep studies, with accompanying guidance video. 2) Waitlists were validated, with patients switched from oximetry/capnography to oximetry according to need. 3) Admissions for sleep studies were approved by bed management for initially one, then two per week. 4) One inpatient bed was ring-fenced for sleep studies. Regular departmental meetings were held to evaluate progress. Data on waitlists and studies performed were obtained from electronic records and physiology databases.

Results

May - August 2023 was compared with January - April 2023. Total studies increased (341 to 434). Inpatient oximetry/capnography decreased (302 to 273). Home oximetry/capnography increased (8 to 36). Home oximetry increased (31 to 125). NIV prescriptions for initiation or titration increased (29 to 37).
Oximetry/capnography waitlist on 26/09/23 was compared with 16/01/23. Total patients awaiting oximetry/capnography reduced (367 to 324), and longest waitlist time reduced (300 to 278 weeks). There were 418 patients awaiting oximetry on 26/09/23, with previous waitlist data unavailable.

Conclusion

These QI interventions were effective in improving efficiency of sleep study utilization, reducing the oximetry/capnography waitlist and increasing LT-NIV initiations and titrations. Findings can be applied to further improve the service, particularly in relation to cross-site integration into the New Children's Hospital. For 2024, there are plans to outsource sleep studies to a private company to accelerate progress.

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PREVALENCE,TYPES &OUTCOME OF BABIES BORN WITH ANTENATALLY DETECTED RENAL ANOMALIES IN A GENERAL HOSPITAL OVER A PERIOD OF ONE YEAR

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Background & Aim

Renal anomalies detected before birth pose significant challenges for newborns and their families. This audit was initiated to investigate the prevalence, types and outcome of babies born with antenatally detected renal anomalies in Wexford General Hospital (WGH), over a one-year period from April2022 to March2023. Current literature reports varying prevalence. HSE literature demonstrates prevalence of 1:200[1] VS a study in UK which reports a range of 3-4%[2]. Rates of such anomalies, emphasizing the need for comprehensive local data and evaluation of existing screening and management protocols.

Methods

A retrospective study design was employed, involving the review of medical records and ultrasound reports. A total of 1,560 births were analysed, with 27 babies identified as having antenatally detected renal anomalies.

Results

1. Prevalence: Antenatally detected renal anomalies was found in 1.73%. Male: female ratio was 81%:19%.

2. Types of Renal Anomalies: The audit identified Seven types of renal anomalies, including hydronephrosis, multi-cystic dysplastic kidney (MCDK), extra renal pelvis (ERP), duplex kidney, horseshoe kidney, dilated ureters and renal atrophy.

3. Imaging: 63%(17/27) babies underwent kidney ultrasound within the first week of life. While 18.5% (5/27) required a micturating cystourethrogram for further investigation.

4. Outcome: Hydronephrosis was found to be the most common anomaly 55.5% (15/27), followed by MCDK 14.8%(4/27) and ERP 14.8%(4/27). Unilateral hydronephrosis was reported in 47%(7/15) VS bilateral hydronephrosis 53%(8/15).

All babies with MCDK and ERP showed persistence of findings while anomalies including duplex kidney, horseshoe kidney, dilated ureters and renal atrophy exhibited resolution (10/27) according to post-natal scans.

Conclusion

Hydronephrosis is the most common antenatally detected renal anomaly and approximately half of them showed resolution of hydronephrosis on post-natal scans.

This audit highlights a higher prevalence of antenatally detected renal anomalies. The variety of anomalies underscores the complexity of these cases. The need for stringent antenatal screening, early postnatal evaluation and multidisciplinary collaboration is evident.

1. HSE data: Antenatally detected renal anomalies. 2. Menasinkai S.B., Chiniwar M.A., Sarawathi G. Urinary system anomalies at birth. Int J Res Med Sci 2015;3:743-48.

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A SYSTEMATIC REVIEW ON THE USE OF BIOMARKERS TO PREDICT ACUTE KIDNEY INJURY IN TERM NEONATES WITH NEONATAL ENCEPHALOPATHY

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Aims: Acute Kidney Injury (AKI) is a common complication of Neonatal Encephalopathy (NE) and early diagnosis can be beneficial in indicating those at risk of long-term morbidity and mortality. There remains a need for the identification of a statistically robust and reliable biomarker that can assist early detection of AKI in neonates with NE. This review aims is to demonstrate the benefit of renal biomarkers in aiding the diagnosis in term neonates with NE.

Method: A systematic review and meta-analysis was performed, using PRISMA, to identify relevant renal biomarkers in the diagnosis of AKI in term neonates with NE through EMBASE, Medline OVID, CINAHL and Web of Science databases. We assessed 83 publications matching the search criteria. Data was extracted based on population characteristics, biomarker assessment methods, and sampling timeframes, along with predictive values (Sensitivity, Specificity). A quality assessment was conducted using the Newcastle-Ottawa Scale (NOS) for cohort studies, JBI score for case control and case series, AXIS tool for cross sectional studies and the GRACE checklist for observational studies.

Results: We identified fourteen studies that met the eligibility criteria, with a combined sample size of 1,111 neonates with NE. Meta-analysis was performed on day 1 urinary Neutrophil Gelatinase Associated Lipocalin, which found that it was significantly increased in neonates with NE + AKI. Differences in the following biomarkers: IL-18, Human Cystatin C, Albumin, Beta-2-Microglobulin, NGAL, EGF, Serum Creatinine, Uromodulin, Osteopontin, and Renal Fractional Tissue Oxygenation fraction were found to be statistically significantly increased between neonates with NE +AKI and their non-AKI counterparts.

Conclusion: Biomarkers have a pertinent and promising role in the early diagnosis of AKI in neonates, potentially improving long-term outcomes. Promising biomarkers include NGAL, s-Cr, and HCC; which had high sensitivity and specificity. Further information on the relevance of long-term renal function would be valuable.

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HEALTH INSURANCE AND DIFFERENCES IN INFANT MORTALITY RATES IN THE UNITED STATES

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Aims: The aim of the current study is to determine if maternal health insurance type is associated with differences in infant outcomes in the United States.

Methods: This cohort study utilized data from the Center for Disease Control and Prevention (CDC) WONDER expanded linked birth and infant death records database 2017-2020. We used negative-binomial regression adjusted for race, sex, multiple birth, any maternal pregnancy risk factors (as defined by the CDC), education level, and tobacco use to determine the difference in Infant Mortality Rate (IMR) between private and Medicaid insurance. Chi-square or Fisher's exact test was used to compare differences in categorical variables between groups. We included hospital-born infants from 20 to 42 weeks of gestational age. We excluded infants with congenital anomalies, those without a recorded method of payment, and those without either private insurance or Medicaid.

Results: Of the 13,562,625 infants included, 54.0% had private insurance and 46.0% were insured by Medicaid. Infants born to mothers with private insurance had a lower IMR compared with infants born to those with Medicaid (2.75/1000 vs. 5.30/1000; adjusted relative risk (aRR), 0.81; 95% confidence intervals (CI), 0.69-0.95; p=0.0087). Those with private insurance had a significantly lower risk of post-neonatal mortality (0.81/1000 vs. 2.41/1000, aRR, 0.57; 95% CI, 0.47-0.68; p<0.001), low birth weight birth (aRR: 0.90; 95% CI, 0.85-0.94, p<0.001), vaginal breech delivery (aRR: 0.80; 95% CI, 0.67-0.96, p=0.0166), preterm birth (aRR: 0.92; 95% CI, 0.88-0.97, p=0.0015), and a higher probability of first trimester prenatal care (aRR: 1.24; 95% CI, 1.21-1.27, p<0.001), compared to those with Medicaid.

Conclusion: In this cohort study, maternal Medicaid insurance was a population-level risk factor for infant mortality in the United States. Novel strategies are needed to improve access to care, quality of care, and outcomes among women and infants on Medicaid.

1. Travers CP, Carlo WA, McDonald SA, et al. Racial/ethnic disparities among extremely preterm infants in the United States from 2002 to 2016. JAMA Network Open. 2020;3(6). doi:10.1001/jamanetworkopen.2020.6757 2. Travers CP, Iannuzzi LA, Wingate MS, et al. Prematurity and race account for much of the interstate variation in infant mortality rates in the United States. Journal of Perinatology. 2020;40(5):767-773. doi:10.1038/s41372-020-0640-2 3. Willis E, McManus P, Magallanes N, Johnson S, Majnik A. Conquering racial disparities in perinatal outcomes. Clinics in Perinatology. 2014;41(4):847-875. doi:10.1016/j.clp.2014.08.008 4. MacDorman MF, Matthews TJ, Mohangoo AD, Zeitlin J. International comparisons of infant mortality and related factors: United States and Europe, 2010. Natl Vital Stat Rep. 2014;63(5):1-6. 5. Lau C, Ambalavanan N, Chakraborty H, Wingate MS, Carlo WA. Extremely low birth weight and infant mortality rates in the United States. Pediatrics. 2013;131(5):855-860. doi:10.1542/peds.2012-2471 6. Edstedt Bonamy AK, Zeitlin J, Piedvache A, et al. Wide variation in severe neonatal morbidity among very preterm infants in European regions. Arch Dis Child Fetal Neonatal Ed. 2019;104(1):F36-F45. doi:10.1136/archdischild-2017-313697 7. Martin JA, Hamilton BE, Osterman MJK, Driscoll AK. Births: Final Data for 2019. Natl Vital Stat Rep. 2021;70(2):1-51. 8. American College of Obstetricians and Gynecologists' Committee on Health Care for Underserved Women. Protecting and Expanding

Medicaid to Improve Women's Health: ACOG Committee Opinion, Number 826. Obstet Gynecol. 2021;137(6):e163-e168. doi:10.1097/AOG.0000000000004383 9. Feijen-de Jong EI, Jansen DE, Baarveld F, et al. Determinants of prenatal health care utilisation by low-risk women: a prospective cohort study. Women Birth. 2015;28(2):87-94. doi:10.1016/j.wombi.2015.01.005 10. Meghea CI, You Z, Raffo J, Leach RE, Roman LA. Statewide Medicaid Enhanced Prenatal Care Programs and Infant Mortality. Pediatrics. 2015;136(2):334-342. doi:10.1542/peds.2015-0479 11. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP, et al. for the STROBE Initiative. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. Lancet. 2007;370(9596):1453-1457. doi:10.1016/S0140-6736(07)61602-X. 12. Braveman P, Oliva G, Miller MG, Reiter R, Egerter S. Adverse outcomes and lack of health insurance among newborns in an eight-county area of California, 1982 to 1986. New England Journal of Medicine. 1989;321(8):508-513. doi:10.1056/nejm198908243210805 13. Morriss FH. Increased risk of death among uninsured neonates. Health Services Research. 2013;48(4):1232-1255. doi:10.1111/1475-6773.12042 14. Brandon GD, Adeniyi-Jones S, Kirkby S, Webb D, Culhane JF, Greenspan JS. Are outcomes and care processes for preterm neonates influenced by health insurance status? Pediatrics. 2009;124(1):122-127. doi:10.1542/peds.2008-1318 15. McGoldrick E, Stewart F, Parker R, Dalziel SR. Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth. Cochrane Database Syst Rev. 2020;12(12):CD004454. Published 2020 Dec 25. doi:10.1002/14651858.CD004454.pub4 16. Hofmeyr GJ, Hannah M, Lawrie TA. Planned caesarean section for term breech delivery. Cochrane Database Syst Rev. 2015;2015(7):CD000166. Published 2015 Jul 21. doi:10.1002/14651858.CD000166.pub2 17. Grabovac M, Karim JN, Isayama T, Liyanage SK, McDonald SD. What is the safest mode of birth for extremely preterm breech singleton infants who are actively resuscitated? A systematic review and meta-analyses. BJOG. 2018;125(6):652-663. doi:10.1111/1471-0528.14938 18. De Jesus LC, Pappas A, Shankaran S, et al. Risk factors for post-neonatal intensive care unit discharge mortality among extremely low birth weight infants. J Pediatr. 2012;161(1):70-4.e42. doi:10.1016/j.jpeds.2011.12.038 19. Heron M. Deaths: Leading Causes for 2017. Natl Vital Stat Rep. 2019;68(6):1-77. 20. Soni A, Wherry LR, Simon KI. How Have ACA Insurance Expansions Affected Health Outcomes? Findings From The Literature. Health Aff (Millwood). 2020;39(3):371-378. doi:10.1377/hlthaff.2019.01436 21. Swartz JJ, Hainmueller J, Lawrence D, Rodriguez MI. Expanding Prenatal Care to Unauthorized Immigrant Women and the Effects on Infant Health. Obstet Gynecol. 2017;130(5):938-945. doi:10.1097/AOG.0000000000002275 22. Taylor YJ, Liu TL, Howell EA. Insurance Differences in Preventive Care Use and Adverse Birth Outcomes Among Pregnant Women in a Medicaid Nonexpansion State: A Retrospective Cohort Study. J Womens Health (Larchmt). 2020;29(1):29-37. doi:10.1089/jwh.2019.7658 23. Rosenberg NA, Pritchard JK, Weber JL, et al. Genetic structure of human populations. Science. 2002;298(5602):2381-2385. doi:10.1126/science.1078311 24. David R, Collins J Jr. Disparities in infant mortality: what's genetics got to do with it?. Am J Public Health. 2007;97(7):1191-1197. doi:10.2105/AJPH.2005.068387 25. Parchem JG, Rice MM, Grobman WA, et al. Racial and Ethnic Disparities in Adverse Perinatal Outcomes at Term. Am J Perinatol. 2023;40(5):557-566. doi:10.1055/s-0041-1730348 26. Kim HJ, Min KB, Jung YJ, Min JY. Disparities in infant mortality by payment source for delivery in the United States. Prev Med. 2021;145:106361. doi:10.1016/j.ypmed.2020.106361 27. Brown, C.C., et al. Association of State Medicaid Expansion Status With Low Birth Weight and Preterm Birth. JAMA. 321(16),1598-1609 (2019).

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PERSISTENT PULMONARY HYPERTENSION OF THE NEWBORN: SYSTEMATIC REVIEW OF BIOMARKERS

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Background: Persistent pulmonary hypertension of the new-born (PPHN) is a leading cause of morbidity and mortality in neonates. We aimed to investigate associations of biomarkers with diagnosis and severity of PPHN as serum biomarkers may prove to be an easily accessible, non-invasive and rapid tool to diagnose and monitor PPHN.

Methods: A search was carried out of the PubMed, EMBASE and Cochrane databases according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.

Results: Sixteen studies were included examining: BNP alone (5);NTproBNP alone (4),BNP and NT-pro BNP(1), 1 BNP and troponin(1);ET-1 alone(7).Five articles measured median BNP levels in PPHN(126.8–1,610pg/mL) versus controls(34.6–443pg/mL), and 2 articles measured mean BNP levels in PPHN(625.35–6,231pg/mL) versus controls(404.25–955.18pg/mL). Six articles showed increased BNP levels in PPHN patients versus controls. Mean cut-off value for diagnosis was 248.5 pg/ml. Four articles measured median NT-proBNP levels in PPHN (1,650–10,882pg/mL) versus controls(500–8,472pg/mL), and one article measured mean NT-proBNP levels in PPHN(603–5,102pg/mL) versus controls(22–2,934pg/mL). 5 articles showed increased NT-proBNP levels in PPHN patients versus control. All articles that showed a positive correlation were statistically significant. The mean cut-off value for diagnosis was 631pg/ml. Six articles measured mean ET-1 levels in PPHN(2.04–855.36pg/mL) versus controls(1.04–44 pg/mL).7 articles showed increased ET-1 levels in PPHN patients versus controls. Six articles were significant. Mean troponin levels in PPHN were 1.95±2.36ng/mL versus 0.63±0.15ng/mL in healthy newborns, this was significant. Eight studies in total showed a positive correlation between biomarker level and disease severity.

Conclusions: BNP, NTproBNP, ET-1 and troponin levels were significantly higher in PPHN. There is a positive correlation between biomarker levels and severity of PPHN. Further structured research is needed to determine optimal cut-off values for the diagnosis of PPHN and the prognostic value of biomarkers aiding the early management and intervention of PPHN.

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THE ROLE OF SPINAL ULTRASOUND IN DETECTING NEURAL TUBE DEFECTS IN NEWBORNS

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Aims

About 4% of newborns have a sacral dimple detectable on clinical examination. Most are benign.[1]

Radiology guidelines exist on separating low-risk dimples from those with characteristics which may denote an underlying neural tube defect (NTD), through targeted spinal ultrasound.[2] We audited our ultrasound practices against in-hospital and international guidelines.

Methods

We analysed all spinal ultrasounds performed on newborns in the Rotunda Hospital between January 2018 and April 2023 (5 years, 4 months). We compared our practice against our radiology department's criteria, and the iRefer guidelines from the Royal College of Radiology in the UK.

Results

Over the study period, 117 spinal ultrasound scans were performed on 116 patients. Common indications for scanning a dimple included an associated skin finding (22%), some other atypical feature such as a paramedian location (20%), difficulty visualising the base (11%), or a tuft of hair (9%). In 12% of scans, no atypical features were mentioned in the request. Of 117 scans, 95 were fully normal, 10 yielded some incidental finding, and 12 (10.3%) yielded meaningful information, warranting further action. 'Further action' consisted of a spinal MRI (n=9), a repeat ultrasound (n=2), or once-off discussion with neurosurgery (n=1).

Compared against referral guidelines, 59% (69/117) of scans met the criteria and 41% did not (48/117). Among scans which met the criteria, 13% (9/69) yielded clinically meaningful information. Among those which did not, 6% (3/48) yielded meaningful information. This relationship was not statistically significant (Fisher's test, $p = 0.35$; X^2, $p = 0.23$).

Conclusion

Over five years, 117 ultrasounds of sacral dimples were performed, 10% of which yielded meaningful information warranting further action. The majority of scans (59%) met the criteria for referral. Scans which met referral criteria were more likely to yield meaningful information than those which did not, though this was not statistically significant.

1 – Albert GW. Spine ultrasounds should not be routinely performed for patients with simple sacral dimples. Acta Paediatr. 2016;105(8):890-894. doi:10.1111/apa.13422 2 – The Royal College of Radiologists. iRefer Paediatrics Guidelines, 2017.

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THE GORDIAN COT: A PROFILE OF NEONATOLOGY ADMISSIONS TO CHILDREN'S HEALTH IRELAND AT CRUMLIN

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Aim: To profile the complexity and resource demands of admissions under the Neonatology service at Children's Health Ireland at Crumlin.

Methods: Data was collected prospectively in in the form of an electronic database that is maintained on all neonates admitted to Children's Health Ireland at Crumlin under the Neonatology service. This data was cross-referenced against patient notes to ensure accuracy. Data was analysed from a 6-month period between January and June 2022 on length of stay, ICU admission, diagnoses and specialties consulted during the admission.

Results: 74 patients were admitted under Neonatology over the period of study with a mean length of stay of 35.98 days. 29/74 (39%) required admission to PICU, 29/74 (39%) required at least one surgical procedure during their stay and on average 2.52 other specialties consulted on each patient. General Surgery and Cardiology were the most frequently consulted specialties with involvement in 39/74 (53%) and 32/74 (43%) of cases respectively. 38/74 (51%) had at least one co-morbidity aside from their primary diagnosis.

Conclusion: The infants admitted to Children's Health Ireland at Crumlin represent a medically complex and resource-intensive patient cohort. Prolonged admissions are common and multidisciplinary management across multiple specialties is required in the majority of cases. This data may be used to inform future resource allocation, workforce planning and collaboration between teams who commonly provide shared care for these patients.

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NEONATAL PATIENTS WITH AN UNDERLYING SYNDROME: COMPARISONS WITH THE OVERALL PATIENT POPULATION

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Aims: To explore differences in complexity across a number of key variables between neonatal patients with and without an underlying clinical or genetic syndrome admitted to the Neonatology service in Children's Health Ireland at Crumlin.

Methods: The Neonatology Department at CHI Crumlin maintains an electronic database of every patient admitted to the service. Data was extracted retrospectively from this database and from clinical notes from a 6-month period (January-July 2022) to identify all patients with an underlying clinical or genetic syndrome. Length of stay, frequency of ICU admission and number of clinical specialties involved in care were compared between these patients and non-syndromic neonates over the period of study.

Results: 11/74 (15%) of patients admitted under neonatology during the period of study had a confirmed unifying diagnosis. Trisomy 21 was the most common abnormality identified, affecting 6/11 (54%) patients. Patients with an underlying clinical or genetic syndrome had a mean length of stay of 64 days, compared to 31 days for the general neonatal population. Patients with an underlying clinical or genetic syndrome required the input of a mean 4.9 specialties per patient compared to 2.1 per patient in the general neonatal population. A total of 7/11 (63.6%) of these patients required PICU admission during their stay compared to 22/63 (34.9%) in the general neonatal population.

Conclusions: Within a quaternary level neonatal service, infants with an underlying syndrome are of higher acuity and require more intensive multidisciplinary management than the general neonatal population. The average length of stay is double that of neonates without an underlying syndrome and these patients appear more likely to require intensive care management. Early identification of these patients may facilitate more effective resource allocation by predicting length of stay and likelihood of admission to intensive care.

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EVIDENCE-BASED PHARMACOLOGICAL TREATMENT IN NEONATAL PALLIATIVE CARE

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Aim: Neonatal palliative care focuses on providing comfort to infants at the end of life in the first 28 days of life with symptom management to minimise the distress experienced by the infant and their families. A number of clinical guidelines exist to aid healthcare practitioners with decision making regarding the pharmacological management of symptoms. This paper aims to collate the existing guidelines and establish whether there is an evidence base to justify their recommendations.

Methods: A number of international guidelines for symptom control in neonatal palliative care were identified. Their recommendations for the management of pain, seizures and secretions were extracted. Three search strategies were then designed to identify evidence supporting the use of medications recommended by the guidelines in a palliative care setting.

Results: International guidelines (UK(3), New Zealand (2), Australian (2), and Canada (1)based guidelines) were selected, and their recommendations for drug types, doses and routes of administration were summarised and compared between the guidelines. The subsequent evaluation of the literature found no strong evidence for the recommendations pertaining to secretion control and seizure management. While there were a number of studies on pain management in general neonatal populations, many of the medications recommended had no evidence for their use in neonatal palliative care.

Conclusion: Despite the existence of many clinical guidelines, there is a paucity evidence for the medications recommended. The recommendations are extrapolated from research in other neonatal settings. While these studies may evaluate efficacy and safety, they are not specific to palliative care. While it is understandable that this is partly due to the sensitive nature of the field, highlighting these issues will help plan future research in this field.

1. Akyempon AN, Aladangady N. Neonatal and perinatal palliative care pathway: a tertiary neonatal unit approach. BMJ Paediatr Open. 2021;5(1):e000820. 2. Cortezzo DE, Meyer M. Neonatal End-of-Life Symptom Management. Front Pediatr. 2020;8:574121. 3. Pathirana J, Muñoz FM, Abbing-Karahagopian V, Bhat N, Harris T, Kapoor A, et al. Neonatal death: Case definition & guidelines for data collection, analysis, and presentation of immunization safety data. Vaccine. 2016;34(49):6027-37. 4. Unicef. Neonatal Mortality 2023 [Available from: https://data.unicef.org/topic/child-survival/neonatal-mortality/#:~:text=Globally%2C%202.3%20million%20children%20died,exist%20across%20regions%20and%20countries. 5. Children's Health Queensland Hospital and Health Service PPCS. A Practical Guide to Palliative Care In Paediatrics 2014 [Available from: https://www.childrens.health.qld.gov.au/wp-content/uploads/PDF/brochures/palliative-care-in-paediatrics.pdf. 6. Victoria SC. Palliative (End of Life) Neonatal Care. 2018 [Available from:

https://www.safercare.vic.gov.au/clinical-guidance/neonatal/palliative-end-of-life-neonatal-care . 7. Network M, Newborn Child and Youth Strategic Clinical Network Neonatal Palliative Care Guide for Neonatal Intensive Care Units Alberta Health Services; 2020 [Available from: https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-mncy-neonatal-palliative-care-guide-nicu.pdf. 8. Starship. New Zealand Child and Youth Clinical Networks (2022). Pain - management in the palliative patient. [Available from: https://starship.org.nz/guidelines/pain-management-in-the-palliative-patient/. 9. (2022) NZCaYCN. Upper Airway Secretions - Management in the Palliative Patient. Starship 2022 [Available from: https://starship.org.nz/guidelines/upper-airway-secretions-management-in-the-palliative-patient . 10. Jassal DSS. Basic symptom control in paediatric palliative care. Together For Short Lives. 2013 [9th Edition:[Available from: https://paliativossinfronteras.org/wp-content/uploads/TfSL_Basic_Symptom_Control_In_Paediatric_Palliative_Care_-_Ninth_Edition_-_PDF.pdf. 11. Cole MA, Craig DF, Daly MC, English DS, George MS, Gill DB, et al. Palliative Care (Supportive and End of Life Care) A Framework for Clinical Practice in Perinatal Medicine 2010 [Available from: https://hubble-live-assets.s3.amazonaws.com/bapm/file_asset/file/72/Palliative_care_final_version__Aug10.pdf. 12. A Mancini S Uthaya CB, D Wood and N Modi. Practical guidance for the management of palliative care on neonatal units 2014 [Available from: https://www.chelwest.nhs.uk/services/childrens-services/neonatal-services/links/Practical-guidance-for-the-management-of-palliative-care-on-neonatal-units-Feb-2014.pdf. 13. Wee B, Hillier R. Interventions for noisy breathing in patients near to death. Cochrane Database Syst Rev. 2008;2008(1):Cd005177. 14. Chabicovsky M, Winkler S, Soeberdt M, Kilic A, Masur C, Abels C. Pharmacology, toxicology and clinical safety of glycopyrrolate. Toxicology and Applied Pharmacology. 2019;370:154-69. 15. Renner UD, Oertel R, Kirch W. Pharmacokinetics and pharmacodynamics in clinical use of scopolamine. Ther Drug Monit. 2005;27(5):655-65. 16. Thevasagayam MS, Gan K, Eksteen E. Control of salivary secretions in esophageal atresia with laryngeal cleft using Botulinum toxin Type A. Int J Pediatr Otorhinolaryngol. 2008;72(7):965-9. 17. Panayiotopoulos CP. The Epilepsies: Seizures, Syndromes and Management. Oxfordshire (UK): Bladon Medical Publishing Copyright © 2005, Bladon Medical Publishing, an imprint of Springer Science+Business Media.; 2005. 18. Xu ZE, Li WB, Qiao MY, Cui HT, Zhao LZ, Chen QX, et al. Comparative efficacy of anti-epileptic drugs for neonatal seizures: A network meta-analysis. Pediatr Neonatol. 2021;62(6):598-605. 19. Baarslag MA, Allegaert K, Van Den Anker JN, Knibbe CA, Van Dijk M, Simons SH, et al. Paracetamol and morphine for infant and neonatal pain; still a long way to go? Expert Rev Clin Pharmacol. 2017;10(1):111-26. 20. Lipp J. Possible mechanisms of morphine analgesia. Clin Neuropharmacol. 1991;14(2):131-47. 21. Bouwmeester NJ, van den Anker JN, Hop WC, Anand KJ, Tibboel D. Age- and therapy-related effects on morphine requirements and plasma concentrations of morphine and its metabolites in postoperative infants. Br J Anaesth. 2003;90(5):642-52. 22. Hartley C, Moultrie F, Hoskin A, Green G, Monk V, Bell JL, et al. Analgesic efficacy and safety of morphine in the Procedural Pain in Premature Infants (Poppi) study: randomised placebo-controlled trial. The Lancet. 2018;392(10164):2595-605. 23. van Dijk M, Bouwmeester NJ, Duivenvoorden HJ, Koot HM, Tibboel D, Passchier J, et al. Efficacy of continuous versus intermittent morphine administration after major surgery in 0-3-year-old infants; a double-blind randomized controlled trial. Pain. 2002;98(3):305-13. 24. Krekels EHJ, Tibboel D, de Wildt SN, Ceelie I, Dahan A, van Dijk M, et al. Evidence-Based Morphine Dosing for Postoperative Neonates and Infants. Clinical Pharmacokinetics. 2014;53(6):553-63. 25. Lynn AM, Nespeca MK, Bratton SL, Shen DD. Intravenous morphine in postoperative infants: intermittent bolus dosing versus targeted continuous infusions. Pain. 2000;88(1):89-95. 26. Carbajal R, Lenclen R, Jugie M, Paupe A, Barton BA, Anand KJ. Morphine does not provide adequate analgesia for acute procedural pain among preterm neonates. Pediatrics. 2005;115(6):1494-500. 27. Pacifici GM. Clinical pharmacology of fentanyl in preterm infants. A review. Pediatr Neonatol. 2015;56(3):143-8. 28. Saarenmaa E, Huttunen P, Leppäluoto J, Meretoja O, Fellman V. Advantages of fentanyl over morphine in analgesia for ventilated newborn infants after birth: A randomized trial. The Journal of Pediatrics. 1999;134(2):144-50. 29. Vaughn PR, Townsend SF, Thilo EH, McKenzie S, Moreland S, Denver KK. Comparison of continuous infusion of fentanyl to bolus dosing in neonates after surgery. J Pediatr Surg. 1996;31(12):1616-23. 30. Kara N, Arman D, Seymen Z, Gül A, Cömert S. Effects of fentanyl and sucrose on pain in retinopathy

examinations with pain scale, near-infrared spectroscopy, and ultrasonography: a randomized trial. World J Pediatr. 2023. 31. Ancora G, Lago P, Garetti E, Pirelli A, Merazzi D, Mastrocola M, et al. Efficacy and safety of continuous infusion of fentanyl for pain control in preterm newborns on mechanical ventilation. J Pediatr. 2013;163(3):645-51.e1. 32. Alencar AJ, Sanudo A, Sampaio VM, Góis RP, Benevides FA, Guinsburg R. Efficacy of tramadol versus fentanyl for postoperative analgesia in neonates. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F24-9. 33. Sindhur M, Balasubramanian H, Srinivasan L, Kabra NS, Agashe P, Doshi A. Intranasal fentanyl for pain management during screening for retinopathy of prematurity in preterm infants: a randomized controlled trial. Journal of Perinatology. 2020;40(6):881-7. 34. Harlos MS, Stenekes S, Lambert D, Hohl C, Chochinov HM. Intranasal fentanyl in the palliative care of newborns and infants. J Pain Symptom Manage. 2013;46(2):265-74. 35. Sethi A, Sankar MJ, Kulkarni S, Thukral A, Chandra P, Agarwal R. Low dose fentanyl infusion versus 24% oral sucrose for pain management during laser treatment for retinopathy of prematurity-an open label randomized clinical trial. Eur J Pediatr. 2020;179(2):285-92. 36. Barker DP, Simpson J, Pawula M, Barrett DA, Shaw PN, Rutter N. Randomised, double blind trial of two loading dose regimens of diamorphine in ventilated newborn infants. Archives of Disease in Childhood - Fetal and Neonatal Edition. 1995;73(1):F22-F6. 37. Jassal DSS, Aindow A. The Association of Paediatric Palliative Medicine Master Formulatory 2012 [Available from: https://www.palliativedrugs.com/download/APPM_Master_Formulary_2012__2nd_edition_%20(5).pdf. 38. Cihlarova H, Bencova L, Zlatohlavkova B, Allegaert K, Pokorna P. Rescue Paracetamol in Postoperative Pain Management in Extremely Low Birth Weight Neonates Following Abdominal Surgery: A Single Unit Retrospective Study. Front Pediatr. 2022;10:895040. 39. van der Marel CD, Peters JW, Bouwmeester NJ, Jacqz-Aigrain E, van den Anker JN, Tibboel D. Rectal acetaminophen does not reduce morphine consumption after major surgery in young infants. Br J Anaesth. 2007;98(3):372-9. 40. Ceelie I, de Wildt SN, van Dijk M, van den Berg MM, van den Bosch GE, Duivenvoorden HJ, et al. Effect of intravenous paracetamol on postoperative morphine requirements in neonates and infants undergoing major noncardiac surgery: a randomized controlled trial. Jama. 2013;309(2):149-54. 41. Roofthooft DWE, Simons SHP, van Lingen RA, Tibboel D, van den Anker JN, Reiss IKH, et al. Randomized Controlled Trial Comparing Different Single Doses of Intravenous Paracetamol for Placement of Peripherally Inserted Central Catheters in Preterm Infants. Neonatology. 2017;112(2):150-8. 42. Lugo RA, Satterfield KL, Kern SE. Pharmacokinetics of methadone. J Pain Palliat Care Pharmacother. 2005;19(4):13-24. 43. Lai G, Aroke EN, Zhang SJ. Rediscovery of Methadone to Improve Outcomes in Pain Management. J Perianesth Nurs. 2022;37(4):425-34. 44. van den Anker J. Is it time to replace morphine with methadone for the treatment of pain in the neonatal intensive care unit? Pediatr Res. 2021;89(7):1608-9. 45. World Health O. Integrating palliative care and symptom relief into paediatrics: a WHO guide for health-care planners, implementers and managers. Geneva: World Health Organization; 2018 2018. 46. Gale G, Brooks A. Implementing a palliative care program in a newborn intensive care unit. Adv Neonatal Care. 2006;6(1):37-53.

Poster No. 134
Neonatal

BIOMARKERS IN RETINOPATHY OF PREMATURITY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aim: Retinopathy of prematurity is a significant global cause of childhood blindness. This study aims to identify serum biomarkers that are associated with the development of ROP.

Methods: A systematic review and meta-analysis was conducted using PRISMA guidelines. Three databases were searched (Pubmed, Scopus and Web of Science) from 2003 to March 2023. Only studies investigating serum biomarker levels in preterm infants (< 37 weeks gestation) were included.

Results: Meta-analysis suggests that low serum IGF-1 levels have a strong association with the development of ROP [SDM (95% CI) of -.46 [-.63,-.30], p<.001]. Meta-analysis suggests that higher serum glucose levels were associated with the development of ROP [SDM (95% CI) of 1.25 [.94,1.55], p<.001]. Meta-analysis suggests that thrombocytopenia is associated with the development of ROP [SDM (95% CI) of -.62 [-.86,-.37], p<.001]. The full review describes these results and the findings for the other biomarkers in greater detail.

Conclusion: Low levels of serum IGF-1, high levels of serum glucose and thrombocytopenia all appear to have the strongest association with the development of ROP out of the 63 biomarkers investigated in this review. These associations highlight their potential use as diagnostic biomarkers in ROP, though further research is needed to establish the exact relationship between these biomarkers and disease pathogenesis.

Katibeh M, Pakravan M, Yaseri M, Pakbin M, Soleimanizad R. Prevalence and Causes of Visual Impairment and Blindness in Central Iran; The Yazd Eye Study. J Ophthalmic Vis Res. 2015;10(3):279–85. Wood EH, Chang EY, Beck K, Hadfield BR, Quinn AR, Harper CA. 80 Years of vision: preventing blindness from retinopathy of prematurity. J Perinatol. 2021;41(6):1216–24. Blencowe H, Lawn JE, Vazquez T, Fielder A, Gilbert C. Preterm-associated visual impairment and estimates of retinopathy of prematurity at regional and global levels for 2010. Pediatr Res. 2013 Dec;74 Suppl 1(Suppl 1):35–49. Kong L, Fry M, Al-Samarraie M, Gilbert C, Steinkuller PG. An update on progress and the changing epidemiology of causes of childhood blindness worldwide. J AAPOS Off Publ Am Assoc Pediatr Ophthalmol Strabismus. 2012 Dec;16(6):501–7. Clark D, Mandal K. Treatment of retinopathy of prematurity. Early Hum Dev. 2008 Feb;84(2):95–9. Purisch SE, Gyamfi-Bannerman C. Epidemiology of preterm birth. Semin Perinatol. 2017 Nov;41(7):387–91. Alajbegovic-Halimic J, Zvizdic D, Alimanovic-Halilovic E, Dodik I, Duvnjak S. Risk Factors for Retinopathy of Prematurity in Premature Born Children. Med Arch. 2015 Dec;69(6):409– 13. Smith LEH. Pathogenesis of retinopathy of prematurity. Growth Horm IGF Res Off J Growth Horm Res Soc Int IGF Res Soc. 2004 Jun;14 Suppl A:S140-144. Selvam S, Kumar T, Fruttiger M. Retinal vasculature development in health and disease. Prog Retin

Eye Res. 2018 Mar;63:1–19. Weinberger B, Laskin DL, Heck DE, Laskin JD. Oxygen toxicity in premature infants. Toxicol Appl Pharmacol. 2002 May 15;181(1):60–7. An international classification of retinopathy of prematurity. The Committee for the Classification of Retinopathy of Prematurity. Arch Ophthalmol Chic Ill 1960. 1984 Aug;102(8):1130–4. Javitt J, Dei Cas R, Chiang YP. Cost-effectiveness of screening and cryotherapy for threshold retinopathy of prematurity. Pediatrics. 1993 May;91(5):859–66. Wilkinson AR, Haines L, Head K, Fielder AR. UK retinopathy of prematurity guideline. Eye. 2009 Nov;23(11):2137–9. Suelves AM, Shulman JP. Current screening and treatments in retinopathy of prematurity in the US. Eye Brain. 2016;8:37–43. Early Treatment For Retinopathy Of Prematurity Cooperative Group. Revised indications for the treatment of retinopathy of prematurity: results of the early treatment for retinopathy of prematurity randomised trial. Arch Ophthalmol Chic Ill 1960. 2003 Dec;121(12):1684–94. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JPA, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. PLoS Med. 2009 Jul 21;6(7):e1000100. Ma LL, Wang YY, Yang ZH, Huang D, Weng H, Zeng XT. Methodological quality (risk of bias) assessment tools for primary and secondary medical studies: what are they and which is better? Mil Med Res. 2020 Feb 29;7(1):7. Ottawa Hospital Research Institute [Internet]. [cited 2023 Mar 12]. Available from: https://www.ohri.ca/programs/clinical_epidemiology/oxford.asp Hozo SP, Djulbegovic B, Hozo I. Estimating the mean and variance from the median, range, and the size of a sample. BMC Med Res Methodol. 2005 Apr 20;5(1):13. Aydoğan S, Dilli D, Kabataş EU, Akduman H, Şah Ipek M, Oğuz B, et al. The Serum Levels of Asymmetric Dimethylarginine, Vascular Endothelial Growth Factor, and InsulinLike Growth Factor-1 in Preterms with Retinopathy of Prematurity. Fetal Pediatr Pathol. 2022 Jul 4;41(4):634–9. Pérez-Muñuzuri A, Fernández-Lorenzo J, Couce-Pico M, Blanco-Teijeiro M, FragaBermúdez J. Serum levels of IGF1 are a useful predictor of retinopathy of prematurity. Acta Paediatr. 2010;99(4):519–25. Hellström A, Engström E, Hård AL, Albertsson-Wikland K, Carlsson B, Niklasson A, et al. Postnatal Serum Insulin-Like Growth Factor I Deficiency Is Associated With Retinopathy of Prematurity and Other Complications of Premature Birth. Pediatrics. 2003 Nov 1;112(5):1016–20. Hellgren G, Lundgren P, Pivodic A, Löfqvist C, Nilsson AK, Ley D, et al. Decreased Platelet Counts and Serum Levels of VEGF-A, PDGF-BB, and BDNF in Extremely Preterm Infants Developing Severe ROP. Neonatology. 2021;118(1):18–27. Senger DR, Galli SJ, Dvorak AM, Perruzzi CA, Harvey VS, Dvorak HF. Tumor cells secrete a vascular permeability factor that promotes accumulation of ascites fluid. Science. 1983 Feb 25;219(4587):983–5. Proliferative Retinopathy Is Associated with Impaired Increase in BDNF and RANTES Expression Levels after Preterm Birth - Abstract - Neonatology 2010, Vol. 98, No. 4 - Karger Publishers [Internet]. [cited 2023 Mar 12]. Available from: https://www.karger.com/Article/Abstract/317779 Yenice O, Çerman E, Ashour A, Firat R, Haklar G, Sirikci O, et al. Serum Erythropoietin, Insulin-like Growth Factor 1, and Vascular Endothelial Growth Factor in Etiopathogenesis of Retinopathy of Prematurity. Ophthalmic Surg Lasers Imaging Retina. 2013 Nov;44(6):549–54. Sakamoto S, Putalun W, Vimolmangkang S, Phoolcharoen W, Shoyama Y, Tanaka H, et al. Enzyme-linked immunosorbent assay for the quantitative/qualitative analysis of plant secondary metabolites. J Nat Med. 2018;72(1):32–42. Goswami B, Goyal M, Beri S, Garg R, Saili A, Jain A. Role of Serum Levels of Vascular Endothelial Growth Factor and Its Receptor in Retinopathy of Prematurity. Iran J Pediatr [Internet]. 2015 [cited 2023 Mar 12];25(4). Available from: https://brieflands.com/articles/ijp-2373.html#abstract Billett HH. Hemoglobin and Hematocrit. In: Walker HK, Hall WD, Hurst JW, editors. Clinical Methods: The History, Physical, and Laboratory Examinations [Internet]. 3rd ed. Boston: Butterworths; 1990 [cited 2023 Mar 9]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK259/ Akyüz Ünsal Aİ, Key Ö, Güler D, Kurt Omurlu İ, Anık A, Demirci B, et al. Can Complete Blood Count Parameters Predict Retinopathy of Prematurity? Turk J Ophthalmol. 2020 Apr;50(2):87–93. Jensen AK, Ying G shuang, Huang J, Quinn GE, Binenbaum G. Longitudinal study of the association between thrombocytopenia and retinopathy of prematurity. J Am Assoc Pediatr Ophthalmol Strabismus JAAPOS. 2018 Apr 1;22(2):119–23. Korkmaz L, Baştuğ O, Özdemir A, Korkut S, Karaca Ç, Akın MA, et al. Platelet mass index can be a reliable marker in predicting the prognosis of retinopathy of prematurity in very preterm infants. Pediatr Neonatol. 2018 Oct 1;59(5):455–63. Choręziak A, Szpecht D, Chmielarz-Czarnocińska A,

Pawłowska I, Gotz-Więckowska A. The association of platelet counts with development and treatment for retinopathy of prematurity – is thrombocytopenia a risk factor? Arch Med Sci. 2022 Mar 1;18(2):400–5. Cakir B, Liegl R, Hellgren G, Lundgren P, Sun Y, Klevebro S, et al. Thrombocytopenia is associated with severe retinopathy of prematurity. JCI Insight [Internet]. 2018 Oct 4 [cited 2023 Mar 8];3(19). Available from: https://insight.jci.org/articles/view/99448 Jensen AK, Ying G shuang, Huang J, Karp K, Quinn GE, Binenbaum G. Thrombocytopenia and retinopathy of prematurity. J Am Assoc Pediatr Ophthalmol Strabismus JAAPOS. 2011 Oct 1;15(5):447–50. Tsiftsoglou AS. Erythropoietin (EPO) as a Key Regulator of Erythropoiesis, Bone Remodeling and Endothelial Transdifferentiation of Multipotent Mesenchymal Stem Cells (MSCs): Implications in Regenerative Medicine. Cells. 2021 Aug 20;10(8):2140. Feng J, Liang G, Gao W, Li X, Wei L, Chang H, et al. Plasma Level of Apelin as a Promising Factor for Retinopathy of Prematurity. Ophthalmic Res. 2023;66:377–83. Mari Holm, Tora S. Morken, Raina N. Fichorova, Deborah K. VanderVeen, Elizabeth Alfred, Olaf Dammann, et al. Systemic Inflammation-Associated Proteins and Retinopathy of Prematurity in Infants Born Before the 28th Week of Gestation. Investig Opthamology Vis Sci. 2017;57(14). van der Lugt NM, Smits-Wintjens VE, van Zwieten PH, Walther FJ. Short and long term outcome of neonatal hyperglycemia in very preterm infants: a retrospective followup study. BMC Pediatr. 2010 Jul 20;10(1):52. Cakir B, Hellström W, Tomita Y, Fu Z, Liegl R, Winberg A, et al. IGF1, serum glucose, and retinopathy of prematurity in extremely preterm infants. JCI Insight. 2020 Oct 1;5(19):140363. Wang W, Lo ACY. Diabetic Retinopathy: Pathophysiology and Treatments. Int J Mol Sci. 2018 Jun;19(6):1816. Mohsen L, Abou-Alam M, El-Dib M, Labib M, Elsada M, Aly H. A prospective study on hyperglycemia and retinopathy of prematurity. J Perinatol. 2014 Jun;34(6):453–7. Kermorvant-Duchemin E, Le Meur G, Plaisant F, Marchand-Martin L, Flamant C, Porcher R, et al. Thresholds of glycemia, insulin therapy, and risk for severe retinopathy in premature infants: A cohort study. PLoS Med. 2020 Dec 11;17(12):e1003477. Ahmadpour-Kacho M, Jashni Motlagh A, Rasoulinejad SA, Jahangir T, Bijani A, Zahed Pasha Y. Correlation between hyperglycemia and retinopathy of prematurity. Pediatr Int. 2014;56(5):726–30. Kaempf JW, Kaempf AJ, Wu Y, Stawarz M, Niemeyer J, Grunkemeier G. Hyperglycemia, insulin and slower growth velocity may increase the risk of retinopathy of prematurity. J Perinatol. 2011 Apr;31(4):251–7. Nivison-Smith L, Chua J, Tan SS, Kalloniatis M. Amino acid signatures in the developing mouse retina. Int J Dev Neurosci Off J Int Soc Dev Neurosci. 2014 Apr;33:62– 80. Zhou Y, Xu Y, Zhang X, Zhao P, Gong X, He M, et al. Plasma metabolites in treatment requiring retinopathy of prematurity: Potential biomarkers identified by metabolomics. Exp Eye Res. 2020 Oct;199:108198. Zhou Y, Xu Y, Zhang X, Huang Q, Tan W, Yang Y, et al. Plasma levels of amino acids and derivatives in retinopathy of prematurity. Int J Med Sci. 2021 Aug 27;18(15):3581–7. Salceda R, Hernández-Espinosa C, Sánchez-Chávez G. L-arginine uptake in normal and diabetic rat retina and retinal pigment epithelium. Neurochem Res. 2008 Aug;33(8):1541–5. Yang Y, Yang Q, Luo S, Zhang Y, Lian C, He H et al. Comparative analysis reveals novel changes in plasma metabolites and metabolomic networks of infants with retinopathy of prematurity. Investigative ophthalmology & visual science. 2022;63(1):28. Zhang Y, Feng J, Shao S, Mu Q, Liu J, Zeng C, et al. Correlation between apelin and VEGF levels in retinopathy of prematurity: a matched case-control study. BMC Ophthalmol. 2022 Aug 1;22(1):342. Pieh C, Krüger M, Lagrèze WA, Gimpel C, Buschbeck C, Zirrgiebel U, et al. Plasma sEselectin in premature infants: a possible surrogate marker of retinopathy of prematurity. Invest Ophthalmol Vis Sci. 2010 Jul;51(7):3709–13. Limb GA, Hickman-Casey J, Hollifield RD, Chignell AH. Vascular adhesion molecules in vitreous from eyes with proliferative diabetic retinopathy. Invest Ophthalmol Vis Sci. 1999 Sep;40(10):2453–7. 54. Yang Y, Wu Z, Li S, Yang M, Xiao X, Lian C et al. Targeted blood metabolomic study on retinopathy of prematurity. Investigative ophthalmology & visual science. 2020;61(2):12.

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Poster No. 135
Neonatal

WHAT PARENTS FEEL ABOUT THEIR BABIES BLOOD TRANSFUSIONS IN THE NEONATAL INTENSIVE CARE UNIT

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Aims: Blood component transfusion is a common intervention in the Neonatal Intensive Care Unit (NICU). As infants are unable to consent for themselves, their parents do so on their behalf. There is little research on parents' understandings of and experiences of blood transfusion in the NICU. The aim of this study was to explore parents' understandings and experiences of consenting to this procedure, and the subsequent blood transfusion.

Methods: A 'low-inference' qualitative descriptive semi-structured interview approach was utilised. Grounded theory was the theoretical perspective employed. Parents described their memories of babies transfusions and their responses to the consent process. They also assessed the written information they were given. A purposive sample of 17 parents whose babies required blood transfusion in the NICU participated in the study. Participants were recruited in a large maternity teaching hospital in Ireland.

Results: Parents talked about their initial fears of transfusion, which were later replaced by confidence in the process and results of transfusion and trust in the healthcare professional team. The main themes elicited by the interviews were parents' expectations and outcomes of transfusion, parents' prior and current opinions of transfusion, parents trust in healthcare professionals and how parents would like to be able to receive information about transfusions in the NICU.

Conclusion: This is the first qualitative research specifically exploring parental understanding of blood component transfusion in the NICU. Parents in our study trust information from the healthcare professionals caring for their baby, and would like more specific information about how blood transfusion will impact their baby, in a variety of means. Parents felt that blood transfusions were beneficial for their babies. This will enable the provision of bespoke neonatal-specific transfusion information for parents of babies in NICU.

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CASE REPORT: A POSTNATAL DIAGNOSIS OF PRUNE BELLY SYNDROME

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Background: Prune belly syndrome is a rare congenital disorder defined by a characteristic clinical triad of abdominal muscle deficiency, severe urinary tract abnormalities and bilateral cryptorchidism. It is a multisystem disease that includes effects of the cardiopulmonary, renal, gastrointestinal and musculoskeletal anomalies. We aim to present a case of prune belly syndrome diagnosed postnatally at the Rotunda hospital.

Methods: We describe the clinical features, examination, hematological and radiological findings, management and outcome to date of this patient. No identifying features have been used.

Results: An ex 37+2 week baby was delivered via C-section. The pregnancy had been complicated by an antenatal diagnosis of significant renal abnormality. This included findings of left multicystic kidney, right sided hydronephrosis, bilateral megaureter and megacystis. There had also been concerns regarding anhydramnios early on in the pregnancy. Antenatal invasive testing was declined. At delivery, a quick clinical diagnosis was made due to the presence of the classical triad findings including absence of abdominal musculature, bilateral undescended testes on the background of the already known antenatal renal abnormalities. Due to poor respiratory effort and tone at birth, the baby was resuscitated and intubated. Investigations including CXR, PFA, renal US later confirmed the diagnosis. Further investigations such as cranial US, urea and electrolytes and microarray were also done. Partial septic workup was performed due to fever on admission and he was maintained on IV fluids with close monitoring of renal function daily. He was then transferred to Temple Street children's hospital for further management.

Conclusion: Due to the rare incidence of this syndrome, there is still a lot to learn in order to improve management and ultimately outcome. Outcome is dependent on degree of respiratory compromise and renal function, which can be difficult to determine antenatally and parallel planning with Palliative Medicine may also be appropriate. Our case helps to raise more awareness and add to the existing literature about the triad.

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INTRODUCTION OF A PARENT INFORMATION LEAFLET FOR RETINOPATHY OF PREMATURITY SCREENING

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Screening for Retinopathy of Prematurity is part of routine care of infants admitted to NICU who fulfill the screening criteria of: BW <1.5kg, <31 weeks gestation, on consultant request. Many parents consent to screening but have questions which only arise if/when there is an abnormality noted. This highlights a potential inconsistency in the degree of parental education which identifies the need for more a standardised approach.

Aims: Improved level of parental understanding with regards to the screening process with the aim of improving informed consent.

Methodology

Population - Infants in NICU or HDU at the time of auditing who are or will undergo retinopathy of prematurity screening

Sampling - Inpatients in NICU & HDU over a 2/52 period

Estimated Sample Size - 10 patients

Intervention - Patient information leaflet for parents. Questionnaire pre and post leaflet distribution consisting of relevant yes/no questions with appropriate likert scales.

Results

- 13 patients were identified as eligible for ROP screening during the period of the project, of this there were three sets of twins whose parental responses were only recorded once.

- Seven patients (50%) had commenced screening for retinopathy of prematurity.

- Questions regarding pre-existing knowledge of what ROP Screening was, and how it was performed both showed poor parental understanding amongst parents with 60% disagreeing or strongly disagreeing to questions.

- 70% of participants initially responded “No” to the question “Do you feel you have been adequately informed about ROP screening?”

Conclusion: Parental responses to the ROP questionnaire following the distribution of the ROP information leaflet demonstrated a positive shift towards a better understanding of ROP, with responses to all questions consisting of "Agree" / "Strongly Agree".

Recommendation and Future Action: Introducing the information sheet as part of an admission pack for babies admitted to NICU or HDU who fulfill criteria for screening. Introduce training for new NICU nurses and reaudit at 6 -12 months to assess ongoing effect of Prematurity Guideline.

Retrieved from Screening of retinopathy of prematurity (ROP) - clinical guideline: https://www.rcpch.ac.uk/sites/default/files/2022-12/FC61116_Retinopathy_Guidelines_14.12.22.pdf The Royal College of Opthalmologists. (2022, March 21). Treating Retinopathy

of Prematurity in the UK. Retrieved from The Royal College of Opthalmologists: https://www.rcophth.ac.uk/resources-listing/uk-retinopathy-of-prematurity-guideline/#

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WHY DO WE DELIVER MCMA TWINS AT SUCH SPECIFIC GESTATIONS ?- PERINATAL MANAGEMENT OF MCMA TWINS

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Aim

Monochorionic monoamniotic (MCMA) twin pregnancy occurs when a single placenta and a single amniotic cavity are shared by more than one foetus. MCMA twin pregnancies are exceptionally rare with an estimated incidence of 8 per 100,000 pregnancies (ref). In addition to their rare incidence MCMA pregnancies present a significant challenge in their antenatal and perinatal management due to the increase in complication rates. With the aforementioned in mind the preferred practice has been for delivery via caesarean section between 32 and 34 weeks (RCOG 2016, NICE 2019). Pre - term delivery at this gestation carries its own morbidity and mortality- RDS, IVH, hyperbilirubinaemia, hypoglycaemia, Taking this into account the aim of this review was to take a thorough in-depth look at where we are extrapolating the data that guides us not only in making the decision to deliver these babies at this precise gestation but prevents us from delivering them post 34 weeks gestation.

Method

In order to best synthesise and thus explore the data forming the basis of our perinatal management of these high risk deliveries and our key question it was decided to conduct a scoping review of the available literature.

Results

Numerical and thematic analyses was conducted once all pertinent data had been extracted from the papers included in the review. Several gaps in literature were identified through this process most notably the availability of recent data on this topic from a neonatal point of view.

Conclusion

There is a paucity of evidence based literature that clearly explains why these babies must be delivered at this gestation or why we cannot deliver them at later gestations thus further mitigating the inherent risks of pre term delivery. Gestational age at delivery is one of the key determinants of neonatal survival and morbidity thus coupled with the advances we have made in perinatal medicine can we still stand by delivery at this early gestation

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SEVERE PPHN SECONDARY TO MAS IN INFANT OF DIABETIC MOTHER

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Aim: Maternal GDM is a well-known complication of pregnancy and infants of mothers with GDM are often admitted to the neonatal ICU with a myriad of complications- most frequently hypoglycaemia. However this case study looks at one particularly challenging case encountered on this neonatal rotation of an infant of diabetic mother with severe PPHN and biventricular hypertrophy.

Method: Term baby born via emergency caesarean section due to meconium II- electively intubated at 10 minutes of life due to failure to meet target oxygen saturations and persistent severe increased work of breathing. Initially commenced on HFOV w. nitric oxide and failed to reach target sats or pressures despite multiple vasopressor infusions. At one point was on noradrenaline, dobutamine, milrinone &epinephrine without any notable impact.

Results: The maternal history in this case was significant for being a late booker with poorly controlled GDM. Aside from confirming severe PPHN the infants first echocardiogram showed marked biventricular hypertrophy. This had several implications for clinical management aside from eliminating ECMO as a possible treatment option. The ECHO findings resulted in the commencement of a sildenafil infusion which was a significant turning point in the infants recovery.

Conclusion: Whilst undeniably PPHN and GDM complications are frequently encountered in neonatology – this case showcases the severe spectrum of both the aforementioned. Congenital heart disease in infants of diabetic mothers is a widely known complication of the condition however it makes this particular case very interesting given that it must be asked how much of the PPHN picture was pre delivery and how much could be attributed to the perinatal stress of meconium aspiration syndrome.

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Poster No. 140
Neonatal

NEONATAL HYPOCALCAEMIC SEIZURES- IS MATERNAL VITAMIN D DEFICIENCY TO BLAME?

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Aim: To describe a case of neonatal hypocalcaemic seizures in the context of maternal vitamin D deficiency

Methods: A full term Caucasian male infant was seen on the postnatal ward on DOL 6 due to concerns regarding abnormal movements. On initial review the baby was clinically well but capillary gas showed a calcium level of 0.83 and the baby was admitted to NICU where further episodes were witnessed with associated eye rolling and tachycardia. The impression was hypocalcaemic seizure. Work up revealed an initial high phosphate (2.95), low calcium (1.55), low vitamin D (30), low magnesium (0.58) and normal ALP (181) and PTH(25). Maternal bloods requested showed normal calcium, ALP, and phosphate but deficient vitamin D of 18. Maternal PTH was not tested. Septic screen and lumbar puncture were negative, renal function was normal, and EEG and CRUSS were normal. Management included calcium, magnesium and vitamin D replacement. Calcium normalised after 3 days. No antiepileptic medications were given.

Results: Late onset neonatal hypocalcaemia occurs beyond DOL 3 and typically by the end of the first week, presenting symptomatically. This case describes neonatal seizures secondary to hycocalcaemia in the context of maternal vitamin D deficiency and infant insufficiency. The risk of inadequate vitamin D levels in early life is well understood, however the link between maternal vitamin D levels and infant vitamin D and calcium is less clear.

Conclusion: Neonatal hypocalcaemic seizures secondary to maternal vitamin D deficiency is not well documented. This case suggests analysis of vitamin D status in such infants be performed and highlights the possibility of maternal vitamin D deficiency playing a causative role. Further studies are needed to evaluate the effect of maternal vitamin D deficiency on the presentation of neonatal hypocalcaemic seizures. It provokes the question of whether appropriate maternal vitamin D supplementation could prevent such manifestations in the neonate.

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Poster No. 141
Neonatal

THYROID DYSFUNCTION IN PRETERM NEONATES: A SYSTEMATIC REVIEW OF SCREENING AND MANAGEMENT

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Background: Preterm infants are at high risk of thyroid dysfunction and its detrimental sequelae. Despite available guidelines, timing of screening and optimal treatment of premature neonates remains controversial. Thus, the aim of this paper was to review the literature of thyroid dysfunction in preterm neonates related to current screening and management.

Method: In a systematic review in accordance with the PRISMA statement the following keywords were searched: ("thyroid dysfunction" OR "hypothyroidism" OR "congenital hypothyroidism" OR "cretinism" or "thyroid disease") AND ("preterm neonates" OR " preterm infants'' OR "premature") AND ("screening" OR "investigation" OR "testing") AND ("therapy" OR "medication" OR "replacement" OR "treatment" OR "levothyroxine" OR "management") in international electronic databases Medline OVID, Embase, Cochrane and PubMed. All eligible studies were read in full and the suitability of each study was assessed. The resulting dataset related exclusively to the screening or management of thyroid dysfunction in preterm neonates.

Results: In this review, 848 studies were initially found from the 4 international electronic databases. Of the 163 studies screened for eligibility, 34 were included [20 studies related to screening; 14 studies related to management]. From the reviewed articles pertaining to screening, a minimum repeat screen at 2 weeks after birth was supported, with some studies calling for repeat screening at 2 weeks, 4 weeks, discharge and/or when neonatal weight exceeds 1500g. Thyroid Stimulating Hormone (TSH) and Thyroxine (T4) [and/or free T4] in combination are recommended to test for thyroid dysfunction to improve diagnostic specificity. Management with levothyroxine is recommended for the treatment of congenital hypothyroidism. However, inconsistencies persist across current practice in relation to dosing, timing and duration of treatment with levothyroxine.

Conclusion: There is a requirement for further research in this area with potential to develop standardised screening and management guidelines for thyroid dysfunction in preterm neonates.

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Poster No. 142
Neonatal

EVALUATING MATERNAL PYREXIA AS SOLE INDICATOR FOR SEPSIS SCREEN IN NEONATES

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AIMS

1. To evaluate the prevalence of maternal pyrexia as a risk factor for early onset sepsis (EOS) in neonates ≥ 34 weeks of gestational age
2. Adherence to EOS risk calculator in such neonates before initiating a partial septic work up and intravenous antibiotics

METHOD

We collected the retrospective data of all peripheral blood cultures samples sent on neonates born in Rotunda Hospital from 01/01/2023 till 28/02/23 (2 months) via MNCMS. Among those neonates we assessed the reasons for septic work up (symptoms and risk factors) by using a yes/no questionnaire. And also if the EOS risk calculator was applied before antibiotics.

RESULTS

115 newborns received a partial septic work-up and intravenous antibiotics during the study period (39 were excluded as were less than 34 weeks and their need for antibiotics is evaluated via different guidelines from the one used for this audit). 66 (57%) were asymptomatic, 36 (31%) mildly symptomatic (only one symptom of sepsis) and 13 (11%) infants were moderate to severely symptomatic (two or more symptoms). Among the asymptomatic infants, maternal pyrexia was observed in 19 infants (28% of the asymptomatic), maternal pyrexia along with multiple risk factors in 8 infants, risk factors other than maternal pyrexia in 9 infants and indications not mentioned in EOS guideline in 30 infants (maternal hypothermia or temperature between 37.5-37.9 or symptomatic twin).

In only 9 infants of the 66 asymptomatic infants (13%), the EOS calculator was applied before starting antibiotics.

None of infants' blood culture was positive.

CONCLUSION

1. The vast majority of the asymptomatic babies that receive intravenous antibiotics were not assessed with the EOS calculator.
2. The main reason for starting intravenous antibiotics in asymptomatic newborns was maternal pyrexia.

We speculate that if the EOS calculations were used in all the asymptomatic infants, unnecessary usage of antibiotics could be prevented.

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Neonatal

WEIGHING-IN: AN AUDIT ON ADHERENCE TO WEIGHT-BASED ADMISSION GUIDELINES TO THE NEONATAL UNIT (NICU) AT THE NATIONAL MATERNITY HOSPITAL (NMH)

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Aims: The NMH is the only tertiary centre in Ireland that has birth weight <2500g as an automatic admission criterion to the neonatal unit. UHG admits at <2250g. The Coombe, Rotunda, and Cork Maternity Hospital admit at <2000g.

- To determine the number of admissions to the neonatal unit exclusively for low-birth-weight (LBW) in 2022
- To evaluate compliance with local weight-based admission guidelines
- To compare NMH guidelines with other tertiary neonatal centres in Ireland

Methods: The electronic medical record of all infants born weighing between 2300g-2500g from 1st January - 31st December 2022 were reviewed. Data relating to admission or not to the unit based on weight alone was extracted onto an Excel sheet. Infants admitted with LBW and other comorbidities necessitating admission were excluded.

Results: 102 infants were born weighing between 2300-2500g. 38 were excluded due to other comorbidities necessitating admission such as prematurity, respiratory distress syndrome, structural anomalies. 46 were admitted exclusively for LBW. 17 were not admitted despite meeting admission criteria. The average weight of the admitted infants was 2383g with a mean gestation of 37+4/40. Those not admitted despite meeting admission criteria had an average weight of 2470g, and a mean gestation of 37+4/40. Only 2 of those 17 not admitted were subsequently admitted for jaundice requiring phototherapy and a septic screen for temperature instability in the setting of maternal group B streptococcus.

Conclusions: Compliance with local guidelines regarding LBW necessitating admission to the neonatal unit was 73% in 2022. Of those 17 infants not admitted despite meeting admission criteria, only 2 required subsequent admission. This suggests that there is scope to reduce the NMH weight-based criterion to the unit to become more in line with other maternity hospitals. This intervention may aid in establishing breastfeeding, reducing bed pressure on the unit and length of hospital stay.

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A RETROSPECTIVE AUDIT OF ARRIVAL TEMPERATURES OF LOW-BIRTH-WEIGHT INFANTS TO THE NEONATAL UNIT AND POSTNATAL WARDS AT THE NATIONAL MATERNITY HOSPITAL

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Aims: Neonates are prone to rapid heat loss and consequent hypothermia because of their large surface area-to-body mass ratio, decreased subcutaneous fat, immature skin, and high body water content. Infants <2.5Kg at birth are at higher risk. Hypothermic neonates are at greater risk of developing hypoglycaemia, RDS, jaundice, and metabolic acidosis. We audited the admission temperature of low-birth-weight (LBW) infants admitted to the neonatal unit and postnatal wards (PNW) from Delivery Unit/theatre Recovery.

Methods: A retrospective audit of the electronic medical records of all infants born weighing between 2300g-2500g in 2022. Data relating to temperature on arrival to the neonatal unit or PNW were extracted onto an Excel sheet. Infants admitted to the neonatal unit for reasons other than LBW alone were excluded from the analysis.

Results: 102 infants were born weighing between 2300-2500g. 46 were admitted exclusively for LBW, while 17 were managed on the PNW (mean gestational age in both groups was 37+4 weeks' gestation). 38 were excluded due to co-existing comorbidities, such as prematurity, necessitating admission. The average temperature of infants on arrival to the PNW was 36.7°C (range 36.1-36.9°C). compared to infants admitted to the neonatal unit: 36°C, (range 35.4 -37°C). 38/46 (83%) infants admitted to the neonatal unit were hypothermic on arrival. Of those 38 infants,14 (37%) had no further hypothermic episodes after the first hour of admission.

Conclusions: Our audit identified an unexpectedly higher proportion of LBW infants arriving to the neonatal unit hypothermic compared with those admitted to the PNW despite similar demographic characteristics. Anecdotally staff report that they prioritise time with parents over thermal control when they know that babies are going to the neonatal unit instead of the postnatal ward. There is a need for greater awareness highlighting the importance of temperature management in LBW infants, especially those with planned admission to the neonatal unit.

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ANAKINRA (IL1 Receptor Antagonist) and Immune Dysfunction in Preterm Infants

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Background

Preterm infants have an increased risk of death and multi organ dysfunction throughout life. Preterm infants have dysregulated inflammatory responses to sepsis which are linked with early multi-organ dysfunction and long-term neurodevelopmental outcomes. Inflammasomes are multiprotein complexes that generate interleukin-1 family cytokines and is implicated in bronchopulmonary dysplasia, neonatal sepsis and white matter damage in preterm infants. Diminishing these responses with immunomodulation may reduce multiorgan injury in preterm infants.

Aim

Anakinra (Interleukin-1 receptor antagonist) is a short-acting recombinant interleukin receptor antagonist that has been safely used in neonates. Our aim was to assess the impact of ex-vivo anakinra (IL1-Ra) treatment on immune function of preterm infants as a potential therapeutic agent.

Methods

We performed a prospective cohort study, recruiting preterm infants <1500g and <32 weeks undergoing blood tests in the first few weeks of life. Blood samples were treated with anakinra and compared with term neonatal controls.

Using flow cytometry, Toll-like receptor (TLR)-4 (recognition of lipopolysaccharide (LPS)) and CD11b (cell activation, migration) was analysed as a marker of innate immune function in neutrophils (CD66b+) and monocytes (CD14/16).

Results

Preterm infants and their controls (n=15) did not have significant differences in neutrophil or total monocyte CD11b or TLR4. However, classical monocytes CD11b was significantly upregulated in preterm samples with LPS treatment compared to controls (p value 0.0336), Non classical monocyte CD11b was significantly increased in preterm infants treated with LPS and anakinra compared to term neonates (p value 0.044). Anakinra treatment did not significantly affect to any of these parameters.

Conclusion

Immune function is significantly altered in term infants compared to preterm infants and these dysregulated responses may increase risk of infection. Immunomodulation has great potential in preterm infants in view of their multiple end organ issues. Ex vivo treatment with anakinra appears to not be an effective agent in altering endotoxin responses in preterm infants.

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ADEQUACY OF ANTENATAL US REPORT IN THE ASSESSMENT OF FETAL URINARY TRACT DILTATION IN WEXFORD GENERAL HOSPITAL 2021-2022.

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Aim: To assess the adequacy of antenatal US report in the assessment of urinary tract dilatation in Wexford General Hospital 2021-2022.

Method: This is first cycle of a cross-sectional quality improvement study (audit) conducted in April 2023 in Wexford General Hospital, it was conducted to evaluate the adequacy of antenatal US report in the assessment of fetal urinary tract dilatation. The total number of audited antenatal US report was 37 collected from 23 babies over a period of 24 months. Data collection sheet was designed based on the hospital guideline which was obtained from the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) practice guideline of the routine mid trimester fetal scan.

Results: Total number of patients in this study were 23 babies, while the number of the scans were 37. Regarding the gestational age 23 scan were between 21-24 weeks, 14 between 28-32 weeks , with a mean of 21 weeks, regarding the gender 13 males (56.5%), 10 females (43.5%).For the RPAPD was measured in (86.5%), the renal parenchymal thickness was mentioned only in 1 (2.7%). while the ureter dilatations was mentioned in 6 scans (16.2%).The US was repeated in the 3rd trimester if the RPD is more or equals seven mm in the 2nd trimester in 66.6% of the targeted babies.

Conclusion and Recommendation. This study has concluded that the compliance to ISUOG guideline was satisfactory in terms of RPAPD measurement documentation as well as repetition of the scan in significant urinary tract dilatation. However more focus on measuring the Calyceal dilatation, ureteral dilatation and bladder wall thickness is required.

1. Elder JS. Antenatal hydronephrosis. Fetal and neonatal management. Pediatr Clin North Am. 2016 Oct. 44(5):1299-321. [QxMD MEDLINE Link]. 2. Johnson CE, Elder JS, Judge NE, Adeeb FN, Grisoni ER, Fattlar DC. The accuracy of antenatal ultrasonography in identifying renal abnormalities. Am J Dis Child. 2020 Oct. 146 (10):1181-4. [QxMD MEDLINE Link]. 3. Saari-Kemppainen A, Karjalainen O, Ylöstalo P, Heinonen OP. Ultrasound screening and perinatal mortality: controlled trial of systematic one-stage screening in pregnancy. The Helsinki Ultrasound Trial. Lancet. 2015 Aug 18. 336 (8712):387-91. [QxMD MEDLINE Link]. 4. Freedman AL, Johnson MP, Gonzalez R. Fetal therapy for obstructive uropathy: past, present.future?. Pediatr Nephrol. 2000 Feb. 14(2):167-76. [QxMD MEDLINE Link]. 5. Harding LJ, Malone PS, Wellesley DG. Antenatal minimal hydronephrosis: is its follow-up an unnecessary cause of concern?. Prenat Diagn. 2019 Aug. 19 (8):701-5. [QxMD MEDLINE Link]. 6. Nguyen HT, Benson CB, Bromley B, Campbell JB, Chow J, Coleman B, et al. Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilation (UTD classification system). J Pediatr Urol. 2014 Dec. 10 (6):982-98. [QxMD MEDLINE Link]. [Full Text].

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NEONATAL MILK-ALKALI SYNDROME RESULTING FROM MATERNAL ANTACID USE DURING PREGNANCY

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Background: Heartburn is common in pregnancy. Over-the-counter (OTC) medications such as "Rennie" or "Gaviscon" are often used by pregnant women to help relieve heartburn symptoms. These medications contain Calcium carbonate among other ingredients. High doses and prolonged use can lead to complications not only in the mother but also in the neonate.

Aim: To provide an insight into a rare neonatal complication resulting from maternal ingestion of calcium carbonate.

Methods: We present a rare case of a newborn infant with Milk-Alkali Syndrome.

Results: A term baby was admitted to the Neonatal ICU with loose stools, vomits and prolonged anuria. Her physical examination was normal but lab investigations showed hypercalcaemia, acute kidney injury (AKI), and metabolic alkalosis. A renal Ultrasound showed bilateral nephrocalcinosis. The triad of hypercalcaemia, metabolic alkalosis, and AKI led to a diagnosis of Milk-Alkali Syndrome. She was initially commenced on intravenous (IV) fluids but later developed hyponatraemia, which was treated with IV Sodium supplementation and fluid restriction. Further investigations revealed normal urine electrolytes, urine calcium/creatinine ratio, serum PTH, Vitamin D, and metabolic workup. On detailed history taking, the mother reported ingestion of 5-6 "Rennie Spearmint" tablets daily from the mid-2nd trimester until delivery, to relieve heartburn. Based on this history, maternal Vitamin D, PTH and calcium were tested, and were found to be within normal limits. The infant's nephrocalcinosis resolved within two weeks of age. Her urine output, metabolic alkalosis and electrolyte abnormalities also gradually improved over the course of two weeks.

Conclusion: Neonatal Milk-Alkali Syndrome is a rare but important complication of calcium-containing antacids. It is important to educate pregnant women about avoiding prolonged (over 14 days) use of OTC calcium carbonate-containing antacids and using alternative options if required. Appropriate warning labels on all OTC calcium-containing preparations may be helpful.

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REVIEW OF THE NEONATAL CARDIAC SERVICE IN THE MID-WEST

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Aims: The All-Island Congenital Heart Disease (CHD) Network was established in 2015 and appointed Consultant Paediatricians trained in paediatric cardiology to regional centres in Ireland. The main Network objective was to provide appropriate CHD treatment for all children and young people on the island of Ireland, as close to home as deemed appropriate. This study aims to illustrate the Network ethos by quantifying activity of the paediatric cardiology service in a regional centre.

Methods: A retrospective review was completed on all inpatient neonatal referrals to the service between January 1st until December 31st 2022.

Results: There were ninety-seven ECHOs performed on seventy-three neonates in the twelve-month period; 30 of which were under 2500g (41.1%). Of the ninety-seven studies, a total of forty-six echocardiograms (47.4%) diagnosed congenital cardiac disease. Five patients (6.8%) were referred for tertiary cardiology opinion, of which two required inpatient transfer (2.7%).

Conclusion: This report highlights the number of inpatient neonatal referrals received for cardiology assessment in the Mid-west region within a one-year period. It demonstrates the necessity of this service to provide easily accessible cardiology care to the vulnerable neonatal population and illustrates how the addition of this regional centre to the Network has further decentralised cardiology care.

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INDIVIDUALISED MASK FOR INFANTS REQUIRING NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE – TAILORED MASK (TMASK) FEASIBILITY STUDY – PARENTAL PERSPECTIVE

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Background

Approximately 4500 babies are born prematurely annually in Ireland (about 1 in every 16 babies). Lung immaturity is one of the main complications encountered by preterm infants. Early nasal continuous positive airway pressure (NCPAP) has been shown to reduce the need for invasive mechanical ventilation (IMV) and the risk of bronchopulmonary dysplasia (BPD) or death in preterm infants. Nasal injury has been well documented with the use of NCPAP either by nasal mask or nasal prongs. Family-integrated care has been associated with improved outcomes in infants admitted to NICU.

Aims

The aim of this study is to gather parental perspectives on the creation of an individualised nasal mask for delivery of NCPAP.

Methods

We approached the parents of ten infants admitted to the neonatal unit in The Coombe Hospital who had non-invasive ventilation (NCPAP) for an interview regarding their experience. Both parents were invited for the interview and written consent was obtained.

Results

Twelve parents were interviewed. They reported having good experience in the neonatal unit at Coombe Hospital. Two of the parents had knowledge regarding NCPAP prior to their infant's admission from their occupation. One reported that no one had given her any information regarding NCPAP during her infant hospital stay. Ten parents thought their infants were uncomfortable with the nasal mask due to inappropriate mask size. All of them agreed that an individualised mask would be beneficial for their infants.

Conclusion

From a parental perspective, individualised masks might be beneficial for infants requiring prolonged respiratory support.

INFANT. PREMATURE BABIES. 2021 [cited 2021 18/11]; Available from: https://www.infantcentre.ie/research/research-studies/what-to-expect-in-the-nicu/premature-babies/ Behnke J, Lemyre B, Czernik C, Zimmer KP, Ehrhardt H, Waitz M. Non-Invasive Ventilation in Neonatology. Dtsch Arztebl Int2019 Mar 8;116(11):177-83 Imbulana DI, Manley BJ, Dawson JA, Davis PG, Owen LS. Nasal injury in preterm infants receiving non-invasive respiratory support: a systematic review. Archives

of disease in childhood Fetal and neonatal edition2018 Jan;103(1):F29-f35.

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Poster No. 150
Sub-Specialty

THE UTILITY OF POINT OF CARE ECHO (POCE) IN THE PAEDIATRIC EMERGENCY DEPARTMENT

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Background: Emergency physicians with POCE training can diagnose pericardial effusions, contractility abnormalities and left ventricle dysfunction with 91% accuracy. Engaging a multi-media approach across a range of six clinical cases seen at tertiary paediatric emergency departments, this work will evidence POCE's range of applications.

Methods: A six-part case series derived from tertiary level paediatric emergency departments on the island of Ireland.

Results:

- *Case 1 (Basic):* Infant cardiac arrest. POCE to confirm the absence or presence of regular organised contractions during pulse checks and to reduce time off the chest.
- *Case 2 (Intermediate):* Paediatric sepsis. POCE to assess left ventricle function and to guide fluid resuscitation.
- *Case 3 (Intermediate):* Infant undifferentiated shock. POCE to clarify diagnosis (myocarditis) and to guide fluid management.
- *Case 4 (Intermediate):* Neonatal low flow cardiac output vs no-flow cardiac arrest. POCE to clarify diagnosis (septic emboli) and to guide fluid management.
- *Case 5 (Intermediate):* New murmur in an unwell adolescent. POCE (initial and repeat) to clarify diagnosis (TIA, atrial mass) of an evolving clinical picture with new cardiac findings in a sick teenager.
- *Case 6 (Intermediate):* Undifferentiated collapsed infant. POCE to clarify diagnosis (ventricular mass) and direct management.

Conclusion: It is knowing when and why to use POCE that ensures it is a tool that is used for the benefit of patient management and outcome. POCE is not a screening tool and must answer a clinical question based on the compilation of signs and symptoms that a given child presents with, as outlined through these cases.

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Poster No. 151
Sub-Specialty

CHALLENGES FOR AN GARDA SÍOCHÁNA AS FIRST RESPONDERS TO YOUTH PRESENTING WITH MENTAL HEALTH CRISES

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Aims: The difficulties in accessing child and adolescent mental health services (CAMHS) and the lack of out-of-hours and crises services have resulted in An Garda Síochána (GS) becoming increasingly involved as first responders to children and young people (CYP) who are experiencing potential mental health crises. To outline challenges faced by members of GS and ED professionals in such cases.

Method: Qualitative study design with semi-structured interviews conducted with a convenience sample of medical and mental health professionals (n=11) from a paediatric emergency department (ED) who are frequently involved with the interface between GS and such CYP. Thematic analysis was conducted on transcribed interviews using the software package MaxQDA to systematically organise and code transcriptions.

Results: Participants highlighted a lack of appropriate clinical settings within the ED for CYP who attend with a mental health crisis through GS. Whilst participants described positive rapport between GS and ED staff, interactions between GS and patients were identified as challenging. Knowledge gaps among members of GS in Mental Health Act (MHA) legislation and restraint were also identified as contributary stressors for GS and participants.

Conclusion: The increased prevalence of CYP mental health issues and psychosocial stressors in conjunction with difficulty in accessing CAMHS mean that challenges faced by GS as first responders are likely to continue. Research is needed to quantify the adverse personal impacts on GS along with potential negative impact on youth. Access to emergency mental health review for youth is essential to optimize the experience of both groups.

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Poster No. 152
Sub-Specialty

ASSESSMENT OF COMMUNITY CARE (PHARMACIST AND GENERAL PRACTITIIONER) MANAGEMENT OF ALLERGIC RHINITIS (AR), A QUALITY IMPROVEMENT INITIATIVE

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Introduction

According to the ARIA guidelines patient education is essential to the early and effective management of patients with allergic rhinitis (AR). We sought to assess and improve the management of AR within community care.

Methods

An 8 item questionnaire was circulated to GPs and pharmacists. Information leaflets and links to online resources were distributed, which incorporated ARIA guidelines for AR management.

Results

Fifty completed questionnaires were returned (16 GPS, 34 pharmacists). Patients were advised to use INCS for 5 (±4 weeks) on average. Seventy-four percent of responders reported giving incorrect advice regarding nasal sprays, while 42% did not advise nasal douching for patients with rhinorrhoea. Online resources were recommended to patients by 18% of responders. Most community care respondents wished for further education in the form of an advice letter post-ENT review.

Conclusions

There is scope for further education regarding the management of allergic rhinitis in community care in line with ARIA guidelines. Furthermore, GPs and community pharmacists express interest in further education. Through this simple strategy we could improve the timely and effective management of patients with AR and potentially reduce referrals to hospital services.

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Sub-Specialty

READABILITY ANALYSIS BETWEEN AI-GENERATED PATIENT EDUCATION MATERIALS AND PATIENT EDUCATION MATERIALS OF THE AMERICAN ASSOCIATION FOR PEDIATRIC OPHTHALMOLOGY AND STRABISMUS.

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INTRODUCTION: This study compares the readability of Patient Education Materials (PEM) from the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) to PEM's generated by Google Bard and ChatGPT.

METHODS: PEMs on 10 most common topics including amblyopia, cataract, conjunctivitis, corneal abrasion, nystagmus, retinoblastoma, retinopathy of prematurity, strabismus, stye, and glaucoma were generated by ChatGPT 3.5 and Bard. A prompt modifier was also added to generate PEM at a sixth-grade reading level. The AI-generated PEMs and the corresponding PEM from the AAPOS website were analyzed using seven validated readability metrics: Flesch Reading Ease score, Gunning Fog Index, Flesch-Kincaid Grade Level, Coleman–Liau index, SMOG Index Score, Automated Readability Index, and Linsear Write Readability Score.

RESULTS: Compared to AAPOS PEMs, Bard PEMs were harder to read based on the Flesch Ease Reading Score (51.05) and the Flesch-Kincade Grade Level (8.67). ChatGPT PEM also had a worse unprompted readability indices of 51.05 (Flesch Ease Reading Score), 12.756 (Gunning Fog Index) and 9.2 (Flesch-Kincaid Grade Level). With a 6th grade level prompt, both Bard and ChatGPT were able to generate content that was easier to read across all readability indices, and ChatGPT was able to consistently generate content that was easiest to read.

CONCLUSION: This pilot study showed that AAPOS PEMs outperformed AI chat-bot generated PEMs in certain reading indices. AI chatbots, especially ChatGPT, can generate more accessible PEM but did not consistently reach the recommended 6th grade reading level.

Moons P, Van Bulck L. Using ChatGPT and Google Bard to improve the readability of written patient information: A proof-of-concept. Eur J Cardiovasc Nurs. 2023 Aug 21:zvad087. doi: 10.1093/eurjcn/zvad087. Epub ahead of print. PMID: 37603843. John AM, John ES, Hansberry DR, Thomas PJ, Guo S. Analysis of online patient education materials in pediatric ophthalmology. J AAPOS. 2015 Oct;19(5):430-4. doi: 10.1016/j.jaapos.2015.07.286. PMID: 26486024.

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Poster No. 154
Sub-Specialty

HYPERTENSION IN AN ADOLESCENT WITH FAMILY HISTORY OF MULTIPLE ADRENALECTOMIES

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BACKGROUND: Glucocorticoid Remediable Aldosteronism (GRA) is a rare cause of hypertension which can present in childhood. It is an autosomal dominant condition caused by a chimeric gene re-arrangement in which the adrenocorticotrophic hormone (ACTH) responsive promoter region of 11 β-hydroxylase is fused to coding sequences of the aldosterone synthase gene. (1) This results in hypertension responsive to ACTH suppression using exogenous glucocorticoid. GRA is associated with severe hypertension, a strong family history of hypertensive cardiovascular sequelae, and in some cases, hypokalaemia.

AIMS: To report a case of GRA in an adolescent with hypertension, end organ sequelae and a family history of adrenalectomies and sudden cardiovascular death.

METHODS: We describe the clinical presentation, laboratory, genetic and radiological findings of GRA. A review of the existing literature on GRA was also conducted.

RESULTS: The patient is a now fourteen-year-old girl who presented aged thirteen with a three-month history of headaches, blurred vision, dyspnoea on exertion, palpitations and chest pain. She was found to be hypertensive to 170/120mmHg, albeit with retained diurnal variation. A significant family history of bilateral adrenalectomies in multiple family members was uncovered, with suggestion of dominant inheritance. The patient's renin was 2.4 pg/mL, aldosterone was 459 pg/mL and the renin:aldosterone ratio was 191, the latter which did not suppress post-saline infusion test. Hypokalaemia was intermittent. Adrenal imaging was unremarkable. Cardiac imaging revealed a dilated left atrium, main pulmonary artery and ascending aorta. Genetic testing for GRA was positive. Hypertension control was achieved with Spironolactone, acting as a mineralocorticoid-receptor antagonist.

CONCLUSION: True adolescent hypertension is rare. Detection of GRA presents an opportunity to identify and potentially manage hypertension in childhood, as well as potentially detect affected family members. We highlight the importance of including renin and aldosterone screening in the investigation of hypertension in children, in particular in those with a suspicious family history.

(1) R. G. Dluhy, B. Anderson, B. Harlin, J. Ingelfinger, R. Lifton. Glucocorticoid-remediable aldosteronism is associated with severe hypertension in early childhood. The Journal of Pediatrics, Volume 138, Issue 5, 2001, Pages 715-720.

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Poster No. 155
Sub-Specialty

CLINICAL CHARACTERISTICS AND METABOLIC PROFILES OF PAEDIATRIC PATIENTS WITH INBORN DISORDERS OF PURINE METABOLISM AT THE NATIONAL CENTRE FOR INHERITED METABOLIC DISORDERS

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Background: Inborn metabolic disorders involving purine catabolism can lead to a combination of metabolic and/or neuro-metabolic and multi-organ symptoms. Depending on the underlying defect, clinical symptoms may include hyperuricaemia, deposits in the urinary tract and other tissues, and neurodevelopmental symptoms. The more severe end of the clinical spectrum may include severe neurological symptoms and disease progression with complex needs. Treatment depends on the underlying condition and may include, e.g., medication, diet, and symptomatic and supportive treatment.

Aims: The aim of this retrospective study is to describe the phenotypes, clinical management and overall outcome of our cohort in the Irish health context.

Methods: This study utilises anonymised data compiled from experience with paediatric patients with rare purine disorders at the National Centre for Inherited Metabolic Disorders, Children's Health Ireland at Temple Street Hospital. Data pertaining to clinical phenotypes, treatment and clinical outcomes were reviewed.

Results: Review of our single-centre experience with paediatric patients with purine disorders along with their clinical presentations. Insights are provided into the treatment, management and the complex needs for a subgroup of severely affected patients along with potential areas for improving clinical care.

Conclusion: This retrospective analysis sheds light on the challenges and complexities associated with rare purine disorders, including HPRT deficiency, in paediatric patients. This study contributes to the understanding of these conditions and offers valuable insights for healthcare providers, underscoring the importance of ongoing research and in particular, collaboration in optimising care for individuals affected by rare purine disorders.

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A CROSS-SECTIONAL STUDY ASSESSING HEALTHCARE WORKERS' CURRENT KNOWLEDGE AND UNDERSTANDING OF AUTISM SPECTRUM DISORDER (ASD) IN CORK UNIVERSITY HOSPITAL.

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Aims: To evaluate the knowledge of childhood autism among healthcare workers in Cork University Hospital (CUH). Using the sociodemographic questionnaire, the study aimed to compare levels of knowledge between variables and identify any factors affecting this. This can then help identify any gaps in the education of healthcare workers around childhood autism in Ireland.

Methods: This is a quantitative cross-sectional study conducted between September 2022 and February 2023. The study involved fifty-six (56) CUH staff from nursing, medical, healthcare assistant, allied health professionals and clerical backgrounds. Participants were assessed using the validated KCAHW (Knowledge of Childhood Autism amongst Healthcare Workers) questionnaire and a sociodemographic questionnaire. Sociodemographic factors and their impact on score were analysed using SPSS.

Results: Mean total KCAHW score was 13 ± 3.9 (maximum = 19). The domains answered best include domain 1 (5.8 ± 1.7, maximum = 8) and domain 3 (2.9 ±1.2, maximum = 4), assessing knowledge of social skills and Behaviour patterns in ASD. Domain 2 had the lowest mean score (.6 ± .5, maximum = 1), assessing knowledge of ASD traits in language and communication. When analysing sociodemographic factors against KCAHW scores using ANOVA, Kruskal-Wallis and Mann-Whitney tests: Age (p=.013, significant between certain age groups only), occupation (p=.002) and specialised training (p=.03) were found to have statistically significant impacts on scores. Gender (p=.709), years of previous experience (P=.063) and previous care of a child with autism (p=.645) did not have a statistically significant association with levels of knowledge.

Conclusions: There is a need for education regarding language and communication in ASD. Sociodemographic factors can influence the levels of knowledge and understanding. Groups with lower levels of knowledge such as certain age groups, occupations and those without specialised training must be targeted when providing further ASD education as these factors significantly impact results.

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COVID-19 INFECTION AND LUNG FUNCTION IN CHILDREN WITH CYSTIC FIBROSIS. A COMPARISON OF PRE AND POST INFECTION FORCED EXPIRATORY VOLUME

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AIMS

No studies have evaluated the effectiveness of COVID-19 vaccines in children with Cystic Fibrosis. This study aims to characterise the impact of COVID-19 infection on FEV1 (% predicted) in children with CF and to determine if COVID-19 vaccine had an effect on FEV1.

METHODS

Ethical approval was granted for this retrospective single-centre study in UHL. The population was children ≤18 years with a confirmed diagnosis of Cystic Fibrosis. If COVID-19 infection was identified, the following data points were collected; most recent FEV1 before COVID-19, most recent FEV1 after COVID-19, best FEV1 the following year, COVID-19 vaccination status at time of infection.

RESULTS

86 charts were reviewed, n=50 contracted COVID-19, n=7 contracted COVID-19 twice. 40/50 could perform spirometry and were included in analysis.

Mean FEV1 increased in both vaccinated (n=32) and unvaccinated (n=8) 1 year after COVID-19 infection. Welch's unpaired t-test showed no statistically significant difference between the two groups FEV1% predicted one year after COVID-19 infection (p=0.84). One way ANOVA did not demonstrate a significant change in FEV1 over the study duration (p=0.36)

CONCLUSION

There was no statistically significant difference in FEV1 between the two groups. The introduction of elexacaftor-tezacaftor-ivacaftor (Kaftrio®) is a confounder in this study and likely contributed to the improved lung function.

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AN AUDIT OF PRE-RITUXIMAB SCREENING IN PAEDIATRIC PATIENTS WITH NEPHROTIC SYNDROME

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Aims: The aim of this audit it to assess compliance with pre-treatment screening protocol for Rituximab as set by CHI at Temple Street in patients with Nephrotic Syndrome in the preceding 24 months.

Methods: Nephrology patients who received Rituximab treatment in the preceding 24 months were identified from pharmacy records. Patient charts were requested from medical records and the date of first Rituximab infusion was noted for each. Patient laboratory data was search on the Clinical Portal platform and it was noted if results for the following blood tests were available prior to the date of first rituximab infusion:

- Full blood count
- Renal Profile
- Liver Function Tests (LFTs)
- CRP
- Immunoglobulins
- CD19 and CD20 lymphocyte subset counts
- CMV, EBV serology
- Hepatitis B and C serology

Data were anonymised and analysed. Percentage compliance with standards was quantified.

Results: 10 patients were identified as meeting criteria and records were reviewed. Compliance with local standards was reassuring. Interim results show majority of children had FBC, renal profile, LFTs, CRP, immunoglobulins, CMV/EBV/Hepatitis B and C serology available prior to first Rituximab infusion. Samples taken for CD19 and CD20 counts were performed before the first infusion. However, these samples are sent externally, and results returned via post. It was impossible to ascertain whether results were available prior to first infusion.

Conclusion: Over the last decade, rituximab has been increasingly used for the management of steroid dependent and frequently relapsing nephrotic syndrome in children. Rituximab is a chimeric anti-CD20 monoclonal antibody that targets CD20 B cells resulting in its significant depletion. CD19 and CD 20 counts are often used to assess treatment success in conjunction with clinical presentation and urinary protein: creatinine ratios. While rituximab is generally well-tolerated it increases risk of infections, including fatal hepatis B infection and severe and/or prolonged hypogammaglobulinaemia. Therefore, it is important to continue to comply with pre-screening standards.

Cattran DC, Feehally J, Cook HT, et al. Kidney disease:improving global outcomes (KDIGO) glomerulonephritis work group KDIGO clinical practice guideline for glomerulonephritis. Kidney Int Suppl. 2012;2:139–274. Kallash M, Smoyer WE, Mahan JD. Rituximab Use in the Management of Childhood Nephrotic Syndrome. Front Pediatr. 2019 May 10;7:178. doi: 10.3389/fped.2019.00178. PMID: 31134169; PMCID: PMC6524616.

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LOCALISED ORBITAL GRANULOMATOSIS WITH POLYANGIITIS MANIFESTING AS AN ORBITAL PSEUDOTUMOR IN AN ADOLESCENT GIRL

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Introduction: Granulomatosis with polyangiitis (GPA) is an autoimmune vasculitis affecting small- to medium-sized blood vessels. Localised GPA has a female predominance and adolescence onset. Although GPA is very rare in children, it can be aggressive and needs urgent treatment.

Methods: An 11 year old girl presented to paediatric ophthalmology with a 4 week history of left orbital swelling and proptosis. The swelling was acute in onset with no associated pain or trauma. Initially she was treated with oral antibiotics by her GP for a presumed orbital cellulitis but with no improvement. She was otherwise well with no systemic symptoms. On examination, periorbital swelling and purple/red discolouration of eyelid was noted. She had no cranial nerve palsies and her systemic examination was otherwise unremarkable. The patient was started on oral prednisolone pending further investigations.

Results: A CT of the orbit confirmed an ill-defined soft tissue mass superior to the left orbit. An orbital biopsy was subsequently performed. No neoplastic features were present. She was subsequently referred to paediatric rheumatology. Blood tests showed mildly elevated ESR of 19mm/hr with a normal CRP of <5mg/dL. Anti-Myeloperoxidase antibodies (MPO) were positive (pANCA+, MPO 7.7U/ml (0 - 3.4U/ml) with a negative anti-proteinsase-3 (PR3) 0.7U (0 - 1.9U). Following discussion with pathology, examination of deeper levels revealed a loose granulomatous inflammatory pattern with scattered giant cells and no necrosis. Staining was not suggestive of IgG4 related disease. Systemic workup revealed no further disease.

Conclusions: On the basis of the clinical and pathological findings, a diagnosis of localised orbital granulomatosis with polyangiitis (GPA) was made. The patient is currently on mycophenolate mofetil.
In childhood onset GPA, ENT is the most common site involved however ocular disease is not uncommon. Although PR3 antibodies are more often positive (69%), MPO antibodies can also be positive (21%). This case highlights prompt multi-specialty collaboration is key in achieving a favourable outcomes in GPA.

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HOME EGG LADDER INITIATION IN EGG ALLERGIC CHILDREN

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Introduction: CHI allergists use a ladder-based programme of graded egg introduction to the diet of egg allergic children. The IFAN Egg ladder consists of 3 'stages' (1; well-cooked, 2; lightly cooked, 3; nearly raw egg). We examined the safety and efficacy of home egg ladder initiation <2 years.

Methods: Records of patients <2 years starting the egg ladder in 2022 were retrospectively analysed. Referral letters had been triaged by the consultant and if deemed appropriate, families were contacted by an experienced nurse for egg ladder initiation prior to OPD.

Results: 40 patients <2 years (mean egg SPT 5mm) started the egg ladder in 2022. 88% (N=35/40) had clinical reactions to egg, remainder were sensitized. Most, 91% (N=32/35) had reacted to lightly cooked egg. Average age of i) first reaction to egg was 7.5 months and ii) egg ladder initiation 9.5 months. Only 1 child had a preceding severe reaction so underwent baked egg challenge before ladder commencement. Overall, 40% (N=16/40) had nurse-initiated home ladder programme activated prior to OPD, 22.5% (N=9/40) had potentially severe/multiple food allergies and were seen urgently, 37.5% (N=15/40) only mentioned egg allergy in OPD. 25% (N=10/40) had reactions on the egg ladder, all mild. 38 patients were followed up 8 weeks post initiation. 87% (N=33/38) started at bottom of egg ladder, 5 started at levels of already tolerated egg. 70% (N=23/33) of base starters reached stage 2 and above at 8 weeks. Base starters also using milk ladder (N =13) were less likely to reach stage 2 at 8 weeks than the rest, 46% (N=6/13) vs 85% (N=17/20) (P<.05).

Conclusion: Home egg ladder initiation <2 years in egg allergic infants is a safe, resource friendly practice. Close follow up with the allergy team is essential while families self-manage well tolerated home immunotherapy for egg allergy.

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PRIMARY CARE AS A SETTING FOR INTRODUCING MILK USING THE MILK LADDER IN CHILDREN WITH IGE-MEDIATED COW'S MILK PROTEIN ALLERGY.

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Background: Cow's Milk Protein Allergy (CMPA) is one of the most common food allergies in infancy and childhood. IgE-mediated CMPA is managed in tertiary care centres in Ireland using the iMAP milk ladder.

The aim of this study is to explore the safety and effectiveness of the use of the milk ladder for children with IgE-mediated CMPA in a primary care setting.

Methods: This was a retrospective analysis of patients diagnosed with IgE-mediated CMPA between 2015-2021 who were treated with the iMAP milk ladder in a tertiary paediatric allergy clinic and in a local primary care clinic. An adapted Milk Allergy in Primary care (MAP) Guideline, known as the milk ladder was used. This ladder uses a 12-step guideline for the reintroduction of foods containing different amounts of milk protein.

Results: A total of 13 patients in the primary care (PC) cohort and 69 patients in the tertiary care (TC) cohort were included for analysis. Of these, 84.6% (n=11) of patients in the PC cohort progressed through the ladder and successfully reintroduced milk to their diet, while 82.6% (n=57) patients in the TC cohort completed the milk ladder (p=0.86). The mean duration of treatment was 12.73 months (95% CI 6.11-19.34 months) in the the PC cohort and 15.53 months (95% CI 12.22-18.84 months) in the TC cohort (p=0.472). Allergic symptoms while progressing through the ladder were experienced by 46.2% (n=6) patients in the PC cohort, and by 46.4% (n=32) patients in the TC cohort (p=0.988). No child suffered from anaphylaxis as a direct result of progressive introduction of milk using the milk ladder.

Conclusion: The preliminary results of this study suggest that primary care is a safe and effective setting to employ the milk ladder as a method of reintroduction in children with IgE-mediated CMPA.

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Poster No. 161A
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INGESTION OF 'SLUSHIE' DRINKS MAY CAUSE HYPOGLYCAEMIA, ACIDOSIS AND GLYCEROLURIA, MIMICKING A RARE METABOLIC DISORDER

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Aims
To highlight glycerol toxicity associated with slushie type drinks in young children. It may mimic Fructose 1.6-bisphosphatase (FBP1) deficiency crises, presenting similarly with lactic acidosis, hypoglycemia, glyceroluria and pseudotrigyceridaemia.

Methods
A 4year old girl presented to ED with ketotic hypoglycaemia and reduced level of consciousness shortly after ingestion of a large slushie drink. GCS was reduced, blood glucose was 2.6mmol/l. She recovered following IV glucose administration. Urine organic acid profile revealed increased lactate (consistent with blood lactate of 4.13 mmol/L) and markedly increased glycerol. There was pseudotriglyceridemia (10.85 mmol/L).

Results
Fructose-1,6,- bisphosphatase deficiency (*FBP1* gene defect) was suspected. Parents were instructed to avoid fasting and fructose containing foodstuffs. Analysis of the *FBP1* gene and whole exome sequencing were negative. Urine organic acids when well were normal. On communicating with UK metabolic centres data has been collected on 8 further cases. All were age 2 – 6.7 years, all presented with similar findings and F1,6,BP deficiency has been excluded. In one case recurrence happened upon slushie re-ingestion.

Conclusion
'Slushies' are ice-based beverages typically containing water, fruit juices, syrups and sweeteners. Glycerol (E422) is widely used as a sugar substitute to achieve the slush effect. These crises are suggestive of glycerol intoxication. Symptoms can range from mild (headache) to shock. The mechanism is not well understood, young children appear particularly susceptible possibly due to increased sensitivity of F1,6BP enzyme to inhibition by glycerol 3-phophate. The UK Food Safety Authority has recently advised against slushie drinks for children aged < 4years, and against 'free refills' for children <10 years. Discussions have commenced with Irish Public Health services and the Food Safety Authority of Ireland (FSAI). Paediatricians and ED staff should be alert to glycerol toxicity post slushie ingestion. If suspected, urine organic acids taken acutely may be helpful in detecting glycerol.

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GROWTH HORMONE THERAPY IN PRADER-WILLI SYNDROME – AUDIT OF AGE OF INITIATION OVER TIME

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Aims

Prader-Willi Syndrome (PWS), a rare complex genetic neurodevelopmental disorder characterised by hypotonia, poor feeding and neonatal failure to thrive, if left untreated, progressing to hyperphagia and life-limiting extreme obesity. Growth hormone therapy (GHt) is currently the only licenced therapy in PWS. Internationally, fatalities have been reported with GHt in PWS and so polysomnograpy is required before GHt initiation. While there are no data to support a definitive age to commence GHt in PWS, the suggested age is around 1 year. The aim of this audit is to compare age of GHt initiation in children with PWS against this consensus; identify potential causes of delay and explore if the age has reduced over time.

Methods

A retrospective chart review of children with genetically confirmed PWS attending CHI@Tallaght was undertaken, in the period July–September 2023. Demographics, comorbidities, age of commencement of GHt and barriers were explored where initiation of GHt was delayed.

Results

In the period 51 patients (25 male), aged 0.92-17.17 with PWS were identified, 3 patients were excluded due to early chart availability. Age of GHt commencement was; in the first year of life (8, 16%); over age 1 (38, 75%); and not on GHt (2, 4%). Reasons for treatment delay included; delayed access to polysomnography (47%, n=19); delayed testing (8%, n=3); severe obstructive sleep apnoea (18%, n=7); unknown as commenced prior to referral (18%, n=7); and parental choice (8%, n=3). The median ages (in years) of GHt commencement were; 4.25 (2.25-9); 1.29 (0.92-2.33); 2.34 (1.08-11.17); 3.34 (1.25-5.42); 1 (0.5-1.08); 1.17 (0.5-8); 1.5 (1.42-12); and 1.25 (0.92-2) in the period 2015-2022 respectively.

Conclusion

The majority of our PWS patients have commenced GHt after the age of 1. However, the age of GHt commencement has fallen due to a number of changes in practice. One of the major impediments to GHt is access to sleep studies.

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MAKE NO BONES ABOUT SEPTIC ARTHRITIS: AN IMPORTANT DIFFERENTIAL DIAGNOSIS IN AN UNWELL CHILD

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Aims

Septic Arthritis presents with a variety of symptoms including joint pain, swelling, fever and loss of function. With a spectrum of symptoms and a potential for serious sequalae if diagnosis is delayed, septic arthritis is an important differential diagnosis. We report five cases of confirmed Septic Arthritis in Children who presented to our Emergency Department.

Methods

Case notes of children admitted and diagnosed with septic arthritis was reviewed.

Results

1. A five-month-old girl presented with 1-day of refusal to move left arm, fever and irritability; normal inflammatory markers (WCC, CRP and ESR), joint assessment was normal, MRI of the shoulder revealed septic arthritis; joint washout was performed, and cultures revealed *Staphylococcus aureus*.
2. A 4-year-old girl presented with 3 days of fever and leg pain, non-weight bearing, viral symptoms; raised inflammatory markers, and right hip septic arthritis was confirmed and treated with antibiotics and joint washout.
3. A 1-year-old female presented with 6 days of inability to weight bear and low-grade fever, raised inflammatory markers, MRI of the left hip revealed septic arthritis; she underwent a joint washout and *Kingella kingae* was isolated on joint aspiration cultures.
4. A 5-year-old boy presented with pain and fever of the left wrist following an injury in a jujitsu match, the wrist was tender and swollen and inflammatory markers were raised; wound swabs were positive for *Streptococcus pyogenes.*
5. A 5-year-old boy presented with 1 week history of hip pain associated with low grade fever, he had reduced movement in the hip and inflammatory markers were raised; wound swabs were positive for *Staphylococcus aureus*.

Conclusion

These cases show the diagnostic challenge of detecting Septic Arthritis given the spectrum of presenting features. We show the importance of having a high index of suspicion in all children presenting with the symptoms of fever, joint pain, and impaired function.

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A PROSPECTIVE REVIEW OF PAEDIATRIC TRAINEES EXPOSURE TO PALLIATIVE CARE IN IRISH HOSPITALS

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AIMS

Paediatric palliative care (PPC) is an ever evolving speciality in Ireland. It is recommended that all healthcare professionals involved in the care of children living with a life-limiting condition need to have an understanding of the core principals of PPC and to be able to adopt them appropriately[1]. Irish paediatric practitioners have previously reported a need for further training in PPC[2]. This study reviews the current status of practitioner confidence in the management of PPC patients and what they might wish for in terms of further training.

METHODS

Ethical approval was granted by the Royal College of Physicians in Ireland (RCPI). A specifically designed questionnaire was distributed to all paediatric trainees using the RCPI email network. Results were reviewed and analysed using excel and SPSS.

RESULTS

A total of 264 trainees were contacted to participate of which 52 responded (20%). Of these, 19 (37%) were Basic Specialist Trainees (BST) and 33 (63%) were Higher Specialist Trainees (HST). Forty-eight (92%) reported working in a job involving patients requiring PPC input. In relation to confidence in symptom management of PPC patients, the majority of trainees (78%) felt confident managing constipation, compared to secretions (36%), pain (28%), breathlessness (12%) and psychological distress (6%). All surveyed trainees (100%) felt they would benefit from further teaching or training in PPC. Preferences for further education included a specific study day (81%), a PPC clinical rotation (75%) or an online course (62%).

CONCLUSION

As outlined above the majority of trainees work in posts requiring the care of PPC patients. Despite this, a minority feel comfortable managing the most common symptomatology which is consistent with previous thematic analysis in this area[2]. In order to advance the speciality of PPC in Ireland as well as general confidence of our trainees, the development of specific training and teaching opportunities would be beneficial.

1.Royal College of Physicians of Ireland, Health Service Executive. National Clinical Programme for Paediatrics and Neonatology: A National Model of Care for Paediatric Healthcare Services in Ireland. Chapter 39: Paediatric Palliative Care. 2015. 2.Whitla L, Devins M, Molloy EJ, Twomey M, O'Reilly M, Balfe J. Children's Palliative Care; the identified Learning Needs of Paediatricians. Irish Medical Journal. 113(6):95.

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Poster No. 165
Sub-Specialty

"AND SOMETIMES I HAVE TO BE CARRIED UP THE STAIRS" -THE LONG AND WINDING STAIRS TO DIAGNOSIS OF ANDERSEN SYNDROME

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Aim

Case presentation: A was reviewed by specialists for first time at age 16 years, with a history of intermittent severe muscular weakness, occurring 2-3 times/month, since early childhood; resulting in difficulty mobilising, inability to climb stairs or arise from bed, during acute episodes, resolving within a few days but resulting in years of school in-attendance, inability to engage in sports/activities. He had never previously been investigated, despite multiple presentations. Years later, he was scheduled routine review by rheumatology/neurology.

Physical exam was positive for short stature, hyper-telorism, micrognathia,subtle finger flexion deformities. He had a waddling/circumducting gait, high arched feet with proximal muscle weakness of upper and lower limbs resulting in an inability to stand from sitting unaided, weak neck flexors, scoliosis and winged scapulae. Reflexes were normal.

Significant maternal family history of cardiac arrythmias, with implanted ICDs.

Methods & Results

Long exercise testing: Abnormal consistent with a period paralysis disorder.
Nerve Conduction &EMG: Normal no evidence of myotonic/myopathic disorder.
Hypokalemia/hypomagnesemia serially.

ECG/Cardiac Loop Recorder: Prominent U-waves,right axis deviation.
Echocardiogram:Frequent extrasystoles.

Cardiac Holter/Stress testing: Runs of polymorphic ventricular tachycardia and ventricular bigeminy.
Pulmonary Function Testing: Restrictive pattern(TLC 83.6%)

Genetic testing: variant in KCNJ2 gene c.425C>T;p.Thr142Ile, heterozygous state. Initially reported as a VUS, however on review of the phenotypical features/investigations, the variant was assumed pathogenic and a diagnosis of Andersen Syndrome was made.

He was commenced on anti-arrhythmic Flecainide, Propranolol and had an ICD inserted. Also prescribed potassium supplements, spironolactone and acetazolamide, aiming to reduce the episodes of period paralysis.

Conclusion

KNCNJ2 on chromosome 17q24.3 encodes an inward rectifier potassium channel chich plays an important role in setting and stabilising the resting membrane potential primarily in the skeletal muscles, heart and brain. Pathogenic variants account for 80% of cases with Andersen Syndrome, which is characterised by a triad of symptoms: periodic paralysis, distinctive clinical features and cardiac arrythmias.

Andelfinger, G., Tapper, A. R., Welch, R. C., Vanoye, C. G., George, A. L., Jr., Benson, D. W. KCNJ2 mutation results in Andersen syndrome with sex-specific cardiac and skeletal muscle phenotypes. Am. J. Hum. Genet. 71: 663-668, 2002.
Andersen, E. D., Krasilnikoff, P. A., Overvad, H. Intermittent muscular weakness, extrasystoles, and multiple developmental anomalies: a new syndrome? Acta Paediat. Scand. 60: 559-564, 1971.
Tristani-Firouzi, M., Jensen, J. L., Donaldson, M. R., Sansone, V., Meola, G., Hahn, A., Bendahhou, S., Kwiecinski, H., Fidzianska, A., Plaster, N., Fu, Y.-H., Ptacek, L. J., Tawil, R. Functional and clinical characterization of KCNJ2 mutations associated with LQT7 (Andersen syndrome). J. Clin. Invest. 110: 381-388, 2002.

Poster No. 166
Sub-Specialty

OUTCOMES IN AT HOME PULSE OXIMETRY IN A PAEDIATRIC RESPIRATORY CENTRE

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Background: Home pulse oximetry is a first line investigation for sleep disordered breathing (SDB) in children. These studies are reliant on parental/guardians education of study technique, potentially contributing to technically inadequate, non-diagnostic studies.

Methods: Data was assessed from a prospectively collected database from January 2018 to July 2023 of all scheduled home oximetry in a regional paediatric respiratory centre. Data assessed included total number of studies, failure and non-attendance rates.

Results: Over the sample period 2,386 studies were arranged. Of these 1,573 (65.9%) were completed. In 2020, 25.3% (97/383) of all planned studies were cancelled during the COVID-19 pandemic. Studies were technically inadequate in 33.6% of all completed studies (528/1573). Rates of technical inadequacy were highest in 2020 at 38.2% of completed studies (83/217) and 2021 at 37.8% (98/259). Inadequacy rates were lowest in 2023 at 27.4% (66/241). There was no statistically significant sustained trend over the sample period.

Conclusions: Rates of non-attendance and technical inadequacy were significant, with the latter highest during pandemic restrictions, which may have impacted parent/guardian education. A large amount of resources could therefore be more efficiently utilised. These results will be used to inform an audit cycle with implementation of further educational resources for parents/guardians.

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Poster No. 167
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A TRAUMATIC PATH TO A DIAGNOSIS OF CANCER

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Aim: To review the impact of traumatic rupture of tumours at time of presentation on the prognosis and management of renal cancer in two young children.

Methods: We describe the clinical presentation, imaging findings and subsequent clinical course of two patients with renal malignancies, presenting post trauma.

Results: A 5-year-old boy presented to ED with an acute abdomen, following a fall, with a CT revealing a large right renal tumor, likely Wilm's tumour, with evidence of rupture. A palpable mass in his abdomen had been detected by his mother nine days prior to presentation. He required ICU admission for acute management, a profound coagulopathy prevented biopsy. He underwent preoperative chemotherapy before nephrectomy and tumour resection, confirming Wilms Tumour with intermediate risk histology, and classified as stage III given the rupture at presentation. He required an extended course of postoperative chemotherapy and radiotherapy.

An 11-year-old girl presented to ED four weeks after a two metre fall from a slide, resulting in significant right flank pain, subsiding initially but recurring four weeks later, now accompanied by frank haematuria. Haemoglobin fell 1.3g/dl over three weeks, CT abdomen revealed a markedly abnormal appearance of the kidney containing some haematoma, evidence of rupture and suspicion for an underlying mass lesion. Her clinical condition deteriorated, necessitating ICU admission and emergency laparotomy with right nephrectomy. Histology showed a high-grade anaplastic, stage IV renal sarcoma. Treatment includes chemotherapy and radiotherapy.

Conclusion: Rupture of a tumour prior to surgical resection has less favourable outcomes including higher rates of metastasis and reoccurrence of the cancer. In these two cases, the trauma and subsequent rupture of the tumours impacted their prognosis, resulted in significant morbidity at presentation, and required additional therapeutic intervention compared to non-ruptured tumour with further chemotherapy and abdominal radiotherapy which carries increased risk of long term sequelae.

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BURDEN OF TREATMENT IN FOOD ALLERGY MANAGEMENT

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Aims

Burden of treatment refers to the workload of healthcare experienced by patients with chronic conditions and its effect on function and well-being. Burden of treatment data has important uses in healthcare planning and policy as well as directing medical management plans. There is a scarcity of data describing burden of treatment relating to paediatric healthcare, with no research to date into burden of treatment associated with management of IgE medicated egg and milk allergies. The aim of this study is to investigate burden of treatment associated with paediatric egg and milk allergy.

Methods

The Treatment Burden Questionnaire (TBQ) is a tool that can assess burden of treatment in any condition and was adapted to suit the paediatric population in the paediatric allergy clinic in Cork University Hospital. Parents are invited to partake in the study by completing the questionnaire regarding their child's healthcare.

Results

The study is currently still ongoing. We hope to have more than 20 participants with an even distribution between milk and egg allergies. To date results have shown that there is a lower burden of treatment in terms of taste and texture of foods on the egg/milk ladder and a higher burden when it comes to continuing the egg/milk ladder when away from home. Parents do not find the milk and egg ladders burdensome in terms of lab tests, clinic appointments, administrative burden or financial burden. Parents did not feel that treatment reminded their child of their health condition.

Conclusion

Optimising healthcare to reduce burden of treatment has benefits for the patient, their family and society. This study shows that in general there is a low burden of treatment associated with food ladders, however efforts should be made to reduce burden in certain aspects of treatment.

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Sub-Specialty

OPTIC ATROPHY AND DYSPRAXIA AS VARIABLE PHENOTYPIC PRESENTATIONS OF C12orf65 (MTRFR) GENE VARIANTS IN AN IRISH COHORT

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Aims: The C12orf65 gene is important for mitochondrial translation. Defects lead to combined deficiencies in the mitochondrial OXPHOS system [1]. To date 28 patients with pathogenic variants of the C12orf65 gene have been described with variable phenotypes [2]. We report four patients with mitochondrial disease due to variants in C12orf65.

Methods: Chart review of known cases referred to the NCIMD.

Results:

- *Case 1:* 13-year-old girl presented age 3 years with reduced visual acuity and optic atrophy. She developed pes planus and foot drop and EMG and NCVs demonstrated length-dependent axonal motor neuropathy. A genetic panel demonstrated a homozygous frameshift pathogenic variant: c.96_99dup; p.(Pro34Ilefs*25) in the C12orf65 gene. MRI brain confirms optic atrophy but is otherwise normal.
- *Case 2:* 6 1/2-year-old girl presented at 3 years with a sudden onset exotropia and decreased vision in her right eye. She had a history of delayed motor milestones and intermittent facial asymmetry. MRI found bilateral abnormalities in the medulla oblongata, anterior cervical cord and midbrain. Exome sequencing identified a homozygous frameshift pathogenic variant: c.96_99dup;p.(Pro34Ilefs*25) in the C12orf65 gene. At present she has reduced mobility and requires a wheelchair.
- *Case 3:* 7-year-old boy and older sibling of Case 2 referred with dyspraxia and noted to have gross motor delay, kyphosis, reduced visual acuity and bilateral optic atrophy. He has the same variant as his sister. MRI showed bilateral signal abnormality in the pontine tegmentum.
- *Case 4:* 7-year-old boy with gross motor delay, reduced vision and optic atrophy. A genetic panel found a homozygous pathogenic nonsense variant c.346del, p(Val116*) in the C12orf65 gene. MRI showed abnormal T2 flair hyperintensity throughout the periaqueductal grey matter extending into the posterior medial thalami.

Conclusion: Oculomotor dysfunction and optic atrophy, followed by varying degrees of myopathy and neuropathy, are common first presentations of C12orf65 variants in childhood.

1) Antonicka H, Ostergaard E, Sasarman F, Weraarpachai W, Wibrand F, Pedersen AM, Rodenburg RJ, van der Knaap MS, Smeitink JA, Chrzanowska-Lightowlers ZM, Shoubridge EA. Mutations in

C12orf65 in patients with encephalomyopathy and a mitochondrial translation defect. Am J Hum Genet. 2010 Jul 9;87(1):115-22. doi: 10.1016/j.ajhg.2010.06.004. PMID: 20598281; PMCID: PMC2896764. 2) Perrone E, Cavole TR, Oliveira MG, Virmond LDA, Silva MFB, Soares MFF, Iglesias SBO, Falconi A, Silva JS, Nakano V, Milanezi MF, Mendes CSC, Curiati MA, Micheletti C. Leigh syndrome in a patient with a novel C12orf65 pathogenic variant: case report and literature review. Genet Mol Biol. 2020 May 29;43(2):e20180271. doi: 10.1590/1678-4685-GMB-2018-0271. PMID: 32478789; PMCID: PMC7263430.

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DIAGNOSTIC CHALLENGE OF A FIVE-YEAR-OLD BOY PRESENTING WITH RECURRENT EPISODES OF PROFOUND METABOLIC ACIDOSIS AND SHOCK: A CASE PRESENTATION

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Aim: Metabolic acidosis may accompany numerous different conditions such as sepsis, toxin exposure or an inherited metabolic disorder. We aim to present a diagnostically challenging case of a 5-year-old boy who has presented with several episodes of metabolic acidosis.

Methods: Chart review of presenting case.

Results: A 5-year-old developmentally-appropriate boy presented with two separate episodes of shock and profound metabolic acidosis following a brief period of illness. He had previously had a similar presentation at 4 years of age while in the United Kingdom.

On both occasions he has presented to ED mottled and with a delayed capillary refill. His initial venous blood gases demonstrated profound metabolic acidosis (ex pH 6.83, pCO2 4.3, Lac 15.5, BE -23.4, HCO3 2.1) and on the second presentation he was hypoglycaemic (2.4 mmol/L). He had a good ketotic response on both occasions. He was extensively fluid resuscitated and received sodium bicarbonate on both of his presentations.

Septic work ups were performed which were negative. The anion gaps were elevated (ex 38.2 mmol/L) and the osmolar gaps were elevated (ex 16.8 mmol/L). Serum ammonias were normal (ex 65 umol/L). His urine organic acids demonstrated several unidentified peaks but were otherwise consistent with elevated lactate and ketones. His acylcarnitine profile reflected a picture of ketosis and elevated lactate. Lactate/pyruvate ratio was elevated at 28.6. His amino acid profile showed mild nonspecific changes. A porphyria screen was negative. Thyroid and cortisol levels were appropriate. Urine toxicology screen was unremarkable. An echocardiogram and abdominal ultrasound were normal. Exome sequencing has been requested urgently with a particular focus on genes associated with ketolytic disorders and pyruvate metabolism.

Conclusions: Metabolic acidosis represents a potential life-threatening failure of metabolic function with numerous potential causes. An evidence-based approach to initial resuscitation and a broad-minded approach to investigations and diagnosis can be required.

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BONE HEALTH AND SURVEILLENCE AND FRACTURES IN PAEDIATRIC PATIENTS WITH SPINAL DYSRAPHISM

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Aims: To assess bone health in paediatric patients with spinal dysraphism at Cork University Hospital (CUH) to facilitate the development of a local guideline at CUH. This included reviewing bone profile blood tests, history of fractures, orthopaedic input, endocrinology input, Vitamin D supplementation, etc.

Methods: Retrospective review of paediatric patients with spinal dysraphism attending CUH outpatient clinics over an 18 month period from February 2022 to September 2023.

Results: A total sample size of 75 paediatric patients with spinal dysraphism attended OPD over a 18-month period, 7 with closed dysraphism and 68 with open dysraphism. 36 of the patients were female, and 39 were male. Majority of the cohort had comorbidities. Thirty-five percent of patients had, and 67% had ventriculo-peritoneal shunts in situ for hydrocephalus, most commonly secondary to Chiari Malformation. A total of 16 (21%) patients had fractures, 10 children (62%) had multiple fractures, with one child experiencing a total of 5 fractures. 14 of the fractures (87%) were long bone fractures, and 10 (62%) were femoral fractures.

Conclusion: Patients with spinal dysraphism are at a significant risk of fractures. We plan to develop local bone health guidelines to promote regular surveillance in this patient cohort with complex medical needs

1.Bendt M, Gabrielsson H, Riedel D, et al. Adults with spina bifida: A cross-sectional study of health issues and living conditions. Brain Behav. 2020;10:e01736. https://doi.org/10.1002/brb3.1736
2.Marreiros H, Loff C, Calado E. Osteoporosis in paediatric patients with spina bifida. J Spinal Cord Med. 2012 Jan;35(1):9-21. doi: 10.1179/2045772311Y.0000000042. Erratum in: J Spinal Cord Med. 2012 Mar;35(2):129-30. Marreiros, Humberto Filipe [corrected to Marreiros, Humberto]. PMID: 22330186; PMCID: PMC3240921.

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Poster No. 172
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ANGIOEDEMA IN COELIAC DISEASE – A CASE REPORT

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Introduction

Angioedema is an uncommon extra-intestinal manifestation of coeliac disease. An association between urticaria and coeliac disease has been described previously, with the first case described in 1987 by Hautekeete et al.[1] 40 % of patients with urticaria experience angioedema.[2] Csuka et al described the prevalence of coeliac disease in those diagnosed with hereditary angioedema due to C1-inhibitor deficiency. The prevalence of coeliac disease in patients with hereditary angioedema is higher than that of the general population.[3] Therefore a correlation is thought to exist between the two, which may not indicate a causation.

Background

A 6-year-old girl was referred with two episodes of angioedema with no identifiable trigger. The patient went on to have a further six episodes of angioedema in five months with two of these episodes associated with urticaria. The angioedema occurred spontaneously with swelling of both lips or swelling of the upper or lower lip in isolation. Each episode was resolved with antihistamines and steroids. Most episodes resolved within a few hours with the longest episode ongoing for 12 hours. The patient's past medical history is significant for eczema in infancy and pre-school wheeze.

Results

The patient's relevant abnormal results were as follows:

- Raised anti-tTg level > 128 U/ml – Tested twice, > 128 on both tests
- Positive anti-endomysial antibody
- D2 biopsy and Duodenal antrum biopsy: Small bowel biopsies show mild villous blunting with associated raised numbers of intra-epithelial lymphocytes (IELs) and crypt hyperplasia.

Conclusion

The patient was commenced on a gluten free diet (GFD). Since compliance with a GFD the patient has not had a recurrence of angioedema or urticaria. Compliance with GFD was monitored by point of care urinary Gluten Immunogenic Peptide and dietician support. Angioedema is an uncommon manifestation of Coeliac disease and awareness would prompt investigation and early diagnosis.

References

1. Hautekeete ML, DeClerck LS, Stevens WJ. Chronic urticaria associated with coeliac disease. *Lancet.* 1987;i:157
2. 2. Zuberbier T., Aberer W., Asero R., Bindslev-Jensen C., Abdul Latiff A.H., Baker D., Ballmer-Weber B., Bernstein J.A., Bindslev-Jensen C., Brzoza Z., et al. The EAACI/GA2LEN/EDF/WAO Guideline for the definition, classification, diagnosis, and management of urticaria: The 2013 revision and update. Allergy. 2014;69:868–887. doi: 10.1111/all.12313.
3. Csuka, Dorottya; Kelemen, Zsuzsanna; Czaller, Ibolya; Molnár, Katalin; Füst, George; Varga, Lilian; Rajczy, Katalin; Szabó, Zsófia; Miklós, Kata; Bors, András; Farkas, Henriette· Association of celiac disease and hereditary angioedema due to C1-inhibitor deficiency. Screening patients with hereditary angioedema for celiac disease is it worth the effort? European Journal

of Gastroenterology & Hepatology 23(3):p 238-244, March 2011. | DOI: 10.1097/MEG.0b013e328343d3b2
4. Powell GR, Bruckner AL, Weston WL. Dermatitis herpetiformis presenting as chronic urticaria. Pediatr Dermatol 2004; 21:564

Poster No. 173
Sub-Specialty

ESTABLISHING OUTCOMES AND MANAGEMENT OF MILD NEONATAL HYPERTHYROTROPINAEMIA, A RETROSPECTIVE MULTI-CENTRE REVIEW

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Background

Hyperthyrotropinaemia (HTT) describes the biochemical condition of elevated thyroid stimulating hormone (TSH) with normal thyroid hormone concentration. HTT can be identified during newborn screening for congenital hypothyroidism (CHT), or when thyroid investigations are performed for other indications. The clinical significance or long-term implications of this condition are widely debated, and its management is controversial. Management options include prospective monitoring of thyroid function or commencing thyroid hormone therapy. The objectives of this study are to examine the natural history of this condition and to quantify clinical outcomes and variation in clinical practice with the goal of informing evidence-based management of this cohort.

Methods

A retrospective, observational multi-centre review was performed over a five-year period. Mild HTT was defined as: TSH 5.5-10 mU/L and normal FT4 concentration on serum testing, all term infants with HTT were included. SPSS was used for statistical analysis.

Results

A total of 426 study participants were included. Aggregated TSH concentrations were 2.79mU/L higher in infants with T21 than in those without (p=0.000). A mixed linear regression model estimated that TSH values decreased by 0.01mU/L every day, after adjusting for the effect of T21 *(p=0.000)*. In 98.4% (n=419) of participants, TSH normalised without intervention. In 1.6% (n=7) TSH values increased, and they were commenced on thyroid hormone therapy at a mean age of 85 days. In participants whose TSH normalised, a regression model predicted that resolution of HTT occurred at 71 days of age *(p=0.000)*.

Conclusions

This study describes the largest cohort of neonates with mild HTT to date. Infants with T21 had consistently higher TSH values and longer disease course than infants without. Outcome data revealed an overall downward trend in TSH values and ultimate resolution of HTT in the majority of participants. These data are reassuring and supports a conservative management approach of observation prior to treatment commencement in these patients.

1. Léger, J., Olivieri, A., Donaldson, M., Torresani, T., Krude, H., van Vliet, G., Polak, M., Butler, G., 2014. European Society for Paediatric Endocrinology Consensus Guidelines on Screening, Diagnosis, and Management of Congenital Hypothyroidism. J Clin Endocrinol Metab 99, 363–384. 2. Rose, S.R., Brown, R.S., 2006. Update of Newborn Screening and Therapy for Congenital Hypothyroidism. Pediatrics 117, 2290–2303. 3. Chiesa, A.E., Tellechea, M.L., 2021. Update on Neonatal Isolated Hyperthyrotropinemia: A Systematic Review. Front Endocrinol (Lausanne) 12.

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Poster No. 174
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EVALUATION OF PARENTS PLUS PARENTING PROGRAMME DELIVERED TO PARENTS OF CHILDREN WITH 22Q11.2DS ATTENDING CRUMLIN

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AIM: The aim of this study was to evaluate the effectiveness of Parents Plus Children's Programme (PPCP) as an intervention for parents of children with 22q11.2DS. PPCP is an evidence-based parenting programme developed in Ireland and delivered widely in the community.

METHOD: A group of eight parents of children aged 6-12 years with 22q11.2DS were invited to participate in PPCP that included 8 sessions delivered online. Five parents completed the programme. Sets of questionnaires were administered at three different time points: prior to, immediately after, and at six-month follow-up after the programme. Strengths and Difficulties Questionnaire (SDQ), Parental Stress Scale (PSS) and Kansas Parental Satisfaction scale (KPS) were used. Parents were asked to set goals for themselves and for their children. SPSS vs27 was used for statistical analysis to determine significance.

RESULTS: The results indicated that there was no significant difference between the baseline and the post-intervention SDQ, PSS and KPS scores. Regarding goals set for their children and the goals set for themselves, a significant improvement was observed. 6-monthly follow-up data collection is currently in progress. Qualitative feedback from the parents indicated overwhelming appreciation for being around other parents who understand each other's day-to-day struggles as this provided a sense of not being alone and being part of a small community.

CONCLUSION: This pilot study demonstrated the potential benefits for parents attending the group and preliminary analysis of the 6-month follow-up data is likely to confirm this. The small group sample is a limitation of this study and ongoing evaluation is planned.

1. Hand A, Raghallaigh CN, Cuppage J, Coyle S, Sharry J. A controlled clinical evaluation of the Parents Plus Children's Programme for parents of children aged 6-12 with mild intellectual disability in a school setting. Clin Child Psychol Psychiatry. 2013 Oct;18(4):536-55. doi: 10.1177/1359104512460861. Epub 2012 Oct 26. PMID: 23104965. 2. Coughlin M, Sharry J, Fitzpatrick C, Guerin S, Drumm M. A controlled clinical evaluation of the parents plus children's programme: a video-based programme for parents of children aged 6 to 11 with behavioural and developmental problems. Clin Child Psychol Psychiatry. 2009 Oct;14(4):541-58. doi: 10.1177/1359104509339081. PMID: 19759073. 3. Nitsch, E., Hannon, G., Rickard, E. et al. Positive parenting: a randomised controlled trial evaluation of the Parents Plus Adolescent Programme in schools. Child Adolesc Psychiatry Ment Health 9, 43 (2015). https://doi.org/10.1186/s13034-015-0077-0

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TRANSFORMING CARE MODEL IN CYSTIC FIBROSIS CARE: A NEW ERA

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Aims: Recent advances in cystic fibrosis (CF) care lead to an improved predicted survival age of 56 years old for people with CF (PwCF) born based on the US 2022 Registry data. This review focuses on sharing the transforming CF care model. This includes the availability of the highly effective therapies, incorporation of shared decision-making, coproduction, quality improvement (QI), telemedicine, and remote monitoring.

Methods: References were searched electronically in PubMed [MEDLINE] using keywords: cystic fibrosis, multidisciplinary care, highly effective modulator therapy, telehealth, coproduction, shared decision-making, with focus on recently published articles. Eighty-three eligible articles were reviewed, with over 50% published within 2018 to 2023. In addition, the CF Care Center's participation in QI efforts regionally and nationally are described.

Results: Changes in management, population, and care team in cystic fibrosis are described. CF care transforms as new research and technology are adapted. The availability of the CF modulator therapies is a monumental breakthrough and has improved physiologic, lung function, nutrition, and quality of life of PwCF. The strength of the CF Care Team is its ability to respond to these changes and partner closely with patients and families.

Conclusions: CF requires a specialized multidisciplinary care team for effective management. PwCF are living longer and healthier lives with improvements in CF care. The CF team continually adapts. Three areas highlighted include: (1) the introduction of highly effective modulator therapy; (2) the COVID-19 pandemic, which lead to the incorporation of telehealth and remote patient monitoring into the CF care model, and (3) the partnership through shared decision-making and coproduction with PwCF.
The three key points to the pediatricians are: (1) a new treatment can change the trajectory of a chronic disease; (2) the COVID pandemic changed healthcare practice and innovations are here to stay; (3) shared-decision and partnership is key to today's era of patient care.

Bell SC, Mall MA, Gutierrez H, Macek M, Madge S, …Ratjen F. The future of cystic fibrosis care: a global perspective. Lancet Respir Med. 2020 Jan;8(1):65-124. doi: 10.1016/S2213-2600(19)30337-6. Epub 2019 Sep 27. Erratum in: Lancet Respir Med. 2019 Dec;7(12):e40. PMID: 31570318; PMCID: PMC8862661 Diener BL, Huertero F, Stables-Carney T, Hoelzer M, Kier C. A new era in cystic fibrosis care: always changing and adapting. Curr Opin Pediatr. 2023 Oct 1;35(5):603-610. doi: 10.1097/MOP.0000000000001286. Epub 2023 Aug 18. PMID: 37594368. Prickett MH, Flume PA, Sabadosa KA, Tran QT, Marshall BC. Telehealth and CFTR modulators: Accelerating innovative models of cystic fibrosis care. J Cyst Fibros. 2023 Jan;22(1):9-16. doi: 10.1016/j.jcf.2022.07.002. Epub 2022 Jul 22. PMID: 35879227.

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THE NEW YORK STATE CYSTIC FIBROSIS NEWBORN SCREENING ALGORITHM CHANGES

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Aims: The New York State (NYS) Cystic Fibrosis (CF) Newborn Screening program implemented an algorithm to foster early detection, to improve nutritional status of diagnosed infants and to facilitate reproductive decisions for families. Recently, 3-tier IRT-DNA-SEQ algorithm was determined to be the most suitable for this diverse population. The NYS CF NBS Consortium, between the NYS NBS Program laboratory and the 10 CF care centers reviewed its 20-year experience of algorithm changes.

Methods: The NYS CF NBS Consortium incorporated major changes and reviewed outcomes through quality improvement (QI) studies. These changes include: change in referral procedures in 2010 with elimination of automatic referral of infants with early blood collection (<24 hours of birth); variant panel changes to maximize screening sensitivity; implementation of a 3-tier IRT-DNA-SEQ algorithm in 2017 to identify rare CF variants; implementation of parental variant phasing by the NBS Program in 2018.

Results: Major changes and features of the NYS CF NBS algorithm resulted in improved data outcomes. Eliminating automatic referral of infants with early blood collection who are often premature and have artificially elevated IRT, reduced false positive screens by 37.8% in 2010. Several variant panel changes increased the screening sensitivity in this diverse population. The 3-tier IRT-DNA-SEQ algorithm provided timely diagnosis and reducing unnecessary sweat tests by >80%. The variant phasing detected whether the variants are in *trans* (potentially affected) or *cis* (carriers). To date, nearly 50 infants have been reclassified as carriers after phasing.

Conclusion: The NYS model has resulted in improved identification of infants with CF, regardless of genetic ancestry, and minimized unnecessary referral of carriers and infants with early specimen collection. Our algorithm uses advanced genetic testing, maximizing early detection of infants with CF. With the reduction of cost to families, insurance, CF teams and hospital staff/laboratories, there is strong support for positive cost-benefit using an IRT-DNA-SEQ algorithm.

Kay DM, Langfelder-Schwind E, DeCelie-Germana J, Sharp JK, Maloney B, Tavakoli NP, Saavedra-Matiz CA, Krein LM, Caggana M, Kier C; New York State Cystic Fibrosis Newborn Screening Consortium. Utility of a very high IRT/No mutation referral category in cystic fibrosis newborn screening.

Pediatr Pulmonol. 2015 Aug;50(8):771-80. doi: 10.1002/ppul.23222. Epub 2015 Jun 22. PMID: 26098992. Kay, D; Berdella, M ; Boyer, J ; DeCelie-Germana, J ; Dozor, A ; Fortner, CN ; Giusti, R ; Goetz, DM; Guida, L ; Kaslovsky, R ; Kier, C ; Krein, L; Hughes, Erin; LangfelderSchwind, E; Laterza Ozarowski, A; Maldonado, V ; Martin, L ; Saavedra-Matiz, C ; Sadeghi, H ; Seguin, JM ; Soultan, ZN ; Ting, A; Torkington-Wood, H; Welter, J; Stevens, C; Caggana, M. Outcomes in infants identified by IRT-DNA-Seq Newborn Screening Algorithm in New York State. Pediatric Pulmonology; September 2019; 54:S2.

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A SCOPING REVIEW OF GUIDELINES AND FRAMEWORKS FOR ADVANCE CARE PLANNING FOR ADOLESCENTS AND YOUNG ADULTS (AYA) WITH LIFE-LIMITING OR LIFE-THREATENING CONDITIONS.

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Background

Advance care planning discussions are crucial in the management and support of individuals living with life-limiting or life-threatening conditions. Despite an increased understanding of its importance, few studies have examined best practices for advance care planning discussions with adolescents and young adults.

Aim

To identify core components of current guidelines, frameworks, and tools to facilitate advance care planning discussions with adolescents and young adults with life-limiting or life-threatening conditions and their families.

Design

This scoping review was conducted according to the Joanna Briggs Institute approach to the conduct of scoping reviews (1). An extensive literature search from the inception of five databases [Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews, PsycInfo, PubMed, and Scopus] until January 23, 2023, was carried out. This was followed by a thematic analysis of the final sample of articles.

Results

The search yielded 2976 papers, of which 9 met the inclusion criteria**.** Five main themes were identified: (i) utilisation of standardised documents and protocols; (ii) shared decision-making between the adolescents and young adults, their families, and the healthcare team; (iii) the importance of open and honest communication with adolescents and young adults during advance care planning discussions; (iv) individualisation and flexibility in the advance care planning process; and (v) timing of advance care planning initiation.

Conclusions

Our findings highlight the importance of engaging adolescents and young adults in advance care planning, and the importance of considering their unique needs when initiating and framing these discussions. The findings of this study can be used by healthcare professionals to inform future advance care planning discussions with this group.

1. Micah DJ Peters, Christina Godfrey, Patricia McInerney, Zachary Munn, Andrea C. Tricco, Hanan Khalil. Chapter 11: Scoping reviews. In: JBI Manual for Evidence Synthesis. JBI; 2020.

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CLINICAL HETEROGENITY OF ADOLESCENT AND YOUNG ADULT PATIENTS REFERRED TO SPECIALIST PAEDIATRIC PALLIATIVE CARE SERVICES IN IRELAND.

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Background: There is a recognition of the need to provide adapted palliative care services to cater to the needs of adolescents and young adults (AYA) with life-limiting/life-threatening illnesses. There are few studies providing information to inform the development of such services.

Aim: To examine the demographic information of AYA who have received paediatric specialist palliative care (SPC) in Ireland, and to map the heterogeneity of clinical conditions, symptoms, service utilisation, medical technological support utilisation and disease outcomes in this population.

Design: This retrospective review examined data from AYA, reviewed by the paediatric SPC teams in Children's Health Ireland (CHI) and St Luke's Radiation Oncology Network (SLRON), following their 13th birthday, from 2019-2022 (inclusive). Ethics approval was granted from CHI and SLRON.

Setting/Participants: Patients were identified from records which are collected to submit to the National Palliative Care office in the Health Service Executive (HSE).

Results: There were 145 cases in this study including those with non-malignant (n=87,60.0%) and malignant diagnoses (40.0%,n=58). Those with a non-malignant diagnosis were subdivided into those with severe neurological impairment (SNI) (n=56,38.6%) and those without (n=31,21.4%). All groups had a high prevalence of physical symptoms. Levels of psychological symptoms were particularly high in those with malignancy (n=26,45%). Utilisation of medical devices/technology was highest in the group with SNI [feeding devices (n=48,86%), respiratory support devices (n=33,59%)]. The AYA mainly died at home. Later referral to SPC was seen for AYA with malignancy, with 32.5% (n=5) referred < 3 months before their death.

Conclusions*:* The high symptom burden and relatively late referral of some AYA to SPC, highlights the need for early referral to palliative care professionals with an appropriate skillset and access to adequate and equitable psychological supports for this group. Utilisation of medical devices/technology in the home adds complexity to end-of-life decision making and indicates the need for professionals who are educated in their use, in the community setting.

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CLINICAL AUDIT: EVALUATION OF HOW EPILEPSY IS CLASSIFIED IN A ROUTINE CLINICAL CORRESPONDENCE FROM NEUROLOGY DEPARTMENT AT CHI-CRUMLIN

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Aims: To determine how often any classifiers of the epilepsy are applied in clinical correspondence from neurology department at CHI-Crumlin, how often the 1989 epilepsy classifying terminology are obeyed, how often the 2017 terminology are followed, and to which level on the 5 dimensional system and how often are seizure types classified.

Methods: Study conducted among Epilepsy patients attending Neurology clinic in CHI-Crumlin. Epilepsy patients database was used to randomly select patients. A balanced sample was selected from different consultant clinics. Letters issued between Jan 2020 to March 2023 were included and total of 58 patients included in the Audit. Microsoft Excel data sheet used for data collection. Beforehand, a Pilot study of 10 cases conducted first to test methodology.

Results: Age of patients ranges between 1 - 17 years, with mean age of 9 years. Ninety-five percent of letters were sent to GP or General Paediatrician. Seizure type and Epilepsy type were not classified in 35 (61%) and 36 (63%) letters respectively. However, Aetiology and co-morbidity were classified in 55% and 60% of letters. Overall, 52% of Epilepsy patients had no epilepsy classification, 33% of patients were classified according to 1989 and only 15% were classified with 2017 classification system.

Conclusion: A little under half of epilepsies are formerly classified in correspondence from the Neurology Department in CHI-Crumlin. The remainder have no formal classification. Among those epilepsies which are classified, two thirds of those are described according to the 1989 criteria, and only one third according to the 2017 criteria. Superior rates of appropriate epilepsy classification may be facilitated by establishing a template which formats Neurology correspondence according to latest 2017 classification.

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IS SUBLINGUAL ATROPINE BENEFICIAL FOR CHILDREN WITH CEREBRAL PALSY AND SIALORRHEA?

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Aims: To identify if sublingual atropine is beneficial for children with cerebral palsy and sialorrhea?

Methods: Literature review using Cochrane, Pubmed and Scopus databases via NUIG library. Search words used were: “Atropine” AND “Cerebral Palsy” AND “Sialorrhoea OR Sialorrhea OR Drooling”

Results: In total there were 134 articles from searching Cochrane, Pubmed and Scopus.4 articles were outsourced. Of the 138 papers found, 128 were irrelevant or lacked adequate quality for inclusion. The remaining 10 papers are compared. All studies showed that atropine was a safe and effective treatment for sialorrhea. The quality of the studies is suboptimal. There are small sample sizes and a number of reports / study designs that preclude statistical analysis. 6 out of 10 of the articles focused solely on children - relevant to our clinical question. 2 others included children in their study but had a wider age range and 2 were solely on the adult population. The studies included 3 case reports, a systematic review, a non-systematic literature review, a retrospective chart review, a retrospective cohort study, a non-controlled open clinical trial and 2 pilot studies. More rigorous randomised controlled trials with larger numbers are required to make more definitive recommendations.

Conclusion: Sublingual Atropine sulphate has been an effective treatment for sialorrhea in multiple paediatric patients with cerebral palsy. Comparison with other treatments and side effect profiles have not shown statistically significant results. Sublingual atropine may be an alternative for treatment of severe drooling in children with disabilities.

1. Dias, B. L. S. et al. (2016) ‘Sialorrhea in children with cerebral palsy'. Journal de pediatria. 92 (6), 549–558. 2. Dias BLS, Fernandes AR, Maia Filho HS. (2017) ‘Treatment of drooling with sublingual atropine sulfate in children and adolescents with cerebral palsy'. Arquivos de Neuropsiquiatra 75(5):282–7 3. You, P. et al. (2022) ‘Anticholinergic treatment for sialorrhea in children: A systematic review.' Paediatrics & child health. 27 (2), 82–87. 4. Norderyd, J. et al. (2017) ‘Sublingual administration of atropine eyedrops in children with excessive drooling – a pilot study.' International journal of paediatric dentistry. 27 (1), 22–29. 5. Rapoport, A. (2010) ‘Sublingual Atropine Drops for the Treatment of Pediatric Sialorrhea'. Journal of pain and symptom management. 40 (5), 783–788. 6. McGeachan AJ et al. (2016). ‘A multicentre evaluation of oropharyngeal secretion management practices in amyotrophic lateral sclerosis.' Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration. 18(1-2):1-9. 7. Hyson HC, Johnson AM, Jog MS. (2002) ‘Sublingual atropine for sialorrhea secondary to parkinsonism: a pilot study'. Movement Disorders: Official Journal of the Movement Disorder Society. 17:1318---20 8. Azapağası E et al. (2020) ‘Sublingual Atropine Sulfate Use for Sialorrhea in Pediatric Patients'. Journal of Pediatric Intensive Care. 9(3):196-200. 9. Michelon H et al. (2021) ‘Atropine-induced toxicity after off-label sublingual administration of eyedrop for sialorrhoea treatment in neurological disabled patients.' British Journal of Clinical Pharmacology. 87(8):3364-3369. 10. Ahmed Y, Bucheeri M, Fox GP87 (2019) 'The use of ophthalmic atropine sublingually for the relief of sialorrhea in two pediatric patients'. Archives of Disease in Childhood. 104:A191.

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EFFECTIVENESS OF A VIDEO MODELED LARGE AMPLITUDE MOVEMENT PROGRAM ON MOTOR PROFICIENCY IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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Aim: Situated in the social learning theory, the purpose of the current study was to examine the effectiveness of a video modeled large amplitude movement (VMLAM) program on motor proficiency (MP) in children with autism spectrum disorder (ASD). About 1 in 44 children are diagnosed with ASD. Children with ASD may have decreased MP and poor balance, are less physically active, and have a higher risk of being overweight or obese than children without ASD.

Method: A multiple probe across behaviors was used to assess the effectiveness of a large amplitude movement program on MP in individuals with ASD. An Apple iPad® was used to delivered the VMLAM program to children with ASD identified as having difficulties in MP, scoring a below average (BA), 6-10, or well below average (WBA), 5 or less, as defined in the descriptive categories and scale score range of the BOT-2 examiner's manual.

Results: All participants achieved mastery criteria of 80% or higher for percentage of correct and independent movements. Additionally, all participants' BOT-2 SF post test scores improved over the pretest scores. Inter-observer agreement (IOA) and treatment integrity (TI) was collected during 33% of total sessions, distributed across skills and movements and participants. Total mean for IOA at baseline, 100%, at VMLAM, 98%, and at maintenance, 98%. Total mean for TI, 100% across all sessions, skills, and movements.

Conclusion: The study suggests a VMLAM program was an effective and feasible approach to an exercise intervention and holds promise for improvements in motor proficiency. Moreover, the study's results provide further support to the social learning theory.

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DEFICIENCY OF ADENOSINE DEAMINASE 2 (DADA2): A PUZZLING DIAGNOSIS

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Introduction

An 8 year old boy presented with a long standing history of recurrent fevers, joint pains, weight loss, and cervical lymphadenopathy, with a more acute history of diarrhoea, vomiting, and a macular hyperpigmented rash affecting his lower limbs and forearms. He was admitted under general paediatrics but required multidisciplinary input before being accurately diagnosed with a deficiency of Adenosine Deaminase 2 (DADA2).

Methods

Our patient spent 3 weeks being investigated by multiple teams, with various investigations being carried out during this time prior to diagnosis.

Results

Early results included raised inflammatory markers, with a CRP of 104mg/L, ESR of 44mm/hr, and ferritin of 154ng/ml, with a low IgM level of 0.29g/L. Skin and muscle biopsies proved unremarkable, so following discussions with Rheumatology, we arranged for lymphocyte subset testing. This subsequently revealed low T-helper CD3/4+ cells (518 x 10^6/L), CD19+ B-Cells (192 x 10^6/L), and NK Cells CD56/16+ (44 x 10^6/L), and, coupled with the clinical picture, prompted investigations for adenosine deaminase 2 levels, which subsequently came back at 0.1IU/L (6.9 – 59.7) and confirmed the diagnosis.

Conclusion

Adenosine Deaminase 2 (ADA2) deficiency is a type of monogenic vasculitis syndrome caused by biallelic hypomorphic mutations in the ADA2 gene that affect the activity and formation of the ADA2 protein [(1)]. This can result in a broad range of clinical features, such as the milder ones seen in our patient, but can also lead to more life threatening complications, such as ischaemic or haemorrhagic stroke. This condition displays an autosomal recessive inheritance pattern but can also be a de-novo finding. Prompt treatment with TNFα inhibitors can control inflammation, thus decreasing the risk of serious complications. Further research in to the genetics and pathophysiology of this condition will hopefully lead to earlier identification and more targeted treatments.

1- Meyts I, Aksentijevich I. Deficiency of Adenosine Deaminase 2 (DADA2): Updates on the Phenotype, Genetics, Pathogenesis, and Treatment. J Clin Immunol. 2018 Jul;38(5):569-578. doi: 10.1007/s10875-018-0525-8. Epub 2018 Jun 27.

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A 23-YEAR REVIEW OF CYSTIC FIBROSIS PATIENT OUTCOMES: HOW A CARE CENTER MOVED FROM NEARLY LAST TO A TOP-10 CENTER

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Cystic fibrosis (CF) is an inherited life-shortening disorder affecting over 70,000 people worldwide. Predictors of low health outcomes include low socioeconomic status, smoke exposure, and poor nutrition. The CF Foundation Patient Registry provides longitudinal treatment, demographic, and clinical information.

AIMS: Our center became a CFF accredited care center in 2000 in a state with multiple risk factors for poor outcome, and the lowest national outcomes. We explore how our center improved from one of the lowest performing to a top-10 CF center over 23 years.

METHODS: All annual reports between 2000 and 2022 were obtained and reviewed. Attention was made to nutrition (% with low weight, body mass index (BMI)), and pulmonary function (forced expiratory volume at 1 second (FEV1): fundamental predictors of CF survival.

RESULTS: Review of 23 years of our registry data showed a low nutrition metric in 2000 (40.3% of children 2 to 20 years with weight < 13 years in 2000 was low (median FEV1 78.6%, nationally 99.3%). In 2022 the FEV1 was 103.3% (national median 100.0%). Our center participates in national quality improvement (QI) collaborations, the Therapeutics Development Network research and clinical trial network, and the 25-center Success with Therapies Research Consortium furthering study of patient adherence. Over 50 scholarly peer-reviewed articles have been published from our work.

CONCLUSIONS: Contrary to published reports of the association of socioeconomic status and poor outcomes in CF, the lung and nutrition outcomes in West Virginia are stellar. The outcomes of the West Virginia University-Morgantown nutrition and lung function have steadily improved from a low to a top10 center in the United States over 23 years.

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AUDIT OF AETIOLOGICAL INVESTIGATIONS AND THEIR DIAGNOSTIC YIELD IN A SENSORINEURAL HEARING LOSS (SNHL) CLINIC AT GALWAY UNIVERSITY HOSPITAL

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Aim: To assess the diagnostic yield of aetiological investigations performed in SNHL clinic

Methods: A retrospective review of electronic records of children attending SNHL clinic from April 2022 to August 2023 in Galway University Hospital

Results: 46 children were booked to attend 4 clinics over the timeframe, 5 did not attend. Of the remaining 41, 28 had bilateral SNHL, 12 had unilateral SNHL and 1 had conductive unilateral hearing loss. Routine bloods were sent in every child. CMV bloods were sent for all children - in 12 cases, CMV IgG was detected and newborn bloodspot results were checked. 39 had genetic panel for SNHL sent, of these, 18 had a genetic cause identified, 9 results still pending. Trace blood was found in 2 urinalysis samples. All had ECGs showing normal QTc.

Discussion: In Ireland, prevalence of SNHL is 1.66/1000 births. Children have hearing screening in the newborn period and again during school age. In 2022 we established a dedicated hearing loss clinic in GUH. The British Association of Audiovestibular Physicians (BAAP) published investigation guidelines in 2015, however there are currently no standardised protocols in Ireland.

In GUH, every child attending had history, clinical examination, routine bloods, CMV, urinalysis , ECG and genetic testing. Genetic testing had the highest diagnostic yield - 7 of the 19 positive genetic tests showed pathogenic variants of GJB2 (Connexin). 12 had other genetics causes found on SNHL panel. This would favour including a genetic panel, and not just Connexin as recommended by BAAP, as a standard of care for all children presenting with SNHL.

It is hoped that a nationwide consensus could be reached regarding aetiological investigations for our Irish cohort, to aid both clinicians and their patients.

BAAP/BAPA. Guidelines for investigating infants with congenital hearing loss identified through the newborn hearing screening: Best practice Guidelines. 2015

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THE SEPTIC TRUTH- REVIEW OF INDICATIONS FOR BLOOD CULTURES TAKEN IN AN INPATIENT SETTING AND ITS RELEVENCE TO CLINICAL PRACTICE

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Background

Indications for blood culture(BC) sampling for paediatric ED patients are outlined in a local guideline at CHI Temple street. The absence of an equivalent guideline in the ward setting means this guideline is often applied to ward inpatients also.

Methods

We audited the use of the local ED guidelines in the ward setting from August 2022 till March 2023 at CHI Temple street. A retrospective review of the medical records and laboratory results of a random sample(n=22) of inpatients who had BCs performed was conducted. We also analysed a larger sample group of all the blood cultures taken within the same time period. We excluded patients admitted to the Paediatric ICU, ED and Day unit.

Results

480 Blood cultures were obtained from 259 inpatients, 20% were central. 88% blood cultures were no growth.

In chart review: Compliance to the Blood culture sampling guideline was 85%, 15% did not exhibit an indication outlined within the parameters of the ED guideline.

The most common indication for blood culture was fever/previous fever, followed by tachycardia. It was noted that all the significantly positive blood cultures(n=3) were all the first blood cultures taken on presentation, all had PEWS greater than 3.

Conclusion

In this inpatient cohort, 13.6% had true positive BCs. Criteria for BCs in ward patients may differ from those in the ED. Further work to develop guidance in this group is underway.

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UNDER PRESSURE: A CASE OF POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME SECONDARY TO RENAL DISEASE IN A 9-YEAR-OLD FEMALE

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Aims: Hypertensive emergency is severe symptomatic elevation of blood pressure (BP) in children above the 99th-percentile range for age, associated with end-organ damage and encephalopathy. Immediate hypertension management is essential to avoid life-threatening complications and vital organ hypoperfusion.(1-3)

We highlight the danger of reliance on automated BP measurement in paediatric patients, and the need to maintain skills and equipment required to measure BP manually.

Methods: We present a previously well 9-year-old female who presented to the local Emergency Department with a 2-week-long history of vomiting and subjective weight loss, with associated progressive weakness, dysarthria, headache and polyuria.

On examination, BMI was 10 kg/m^{2,} weighing 17kg. She was cachectic and pale, with grade 3/6 systolic murmur at the left sternal edge, and tender abdomen. She had severe hyponatraemia, profound metabolic alkalosis, renal impairment and anaemia. BP was unremarkable when measured repeatedly with automated device.

Following slow hyponatraemia correction, she was transferred to the tertiary hospital for nephrology specialist input. Her systolic BP measured 280 mmHg manually. She appeared encephalopathic, prompting PICU admission with concerns of central pontine myelinosis secondary to rapid sodium correction.

Results: MRI Brain displayed changes consistent with posterior reversible encephalopathy syndrome (PRES). Ultrasound renal scan demonstrated echogenic kidneys that are small for age, and echocardiography showed decreased left ventricular function.

During her 9-day PICU admission, she received labetalol infusion, red cell transfusions, and continuous BP monitoring and fluid balance. She underwent thorough workup for causes and secondary effects of hypertension.

Subsequently, a definitive diagnosis of atypical haemolytic uraemic syndrome (HUS) secondary to factor H antibody was made.

Conclusions: Automated BP monitors can underestimate BP in children. We highlight the reason why this can occur, and the importance of maintaining skills and equipment required for manual BP measurement. We also outline the symptoms, investigation and management of hypertensive emergency in children.

References: 1. National High Blood Pressure Education Program Working Group on High Blood Pressure in C, Adolescents (2004) The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. Pediatrics 114(2 Suppl 4th Report):555–576 2. Flynn JT, Kaelber DC, Baker-Smith CM, Blowey D, Carroll AE, Daniels SR, de Ferranti SD, Dionne JM, Falkner B, Flinn SK, Gidding SS, Goodwin C, Leu MG, Powers ME, Rea C, Samuels J, Simasek M, Thaker VV,

Urbina EM, Subcommittee on Screening and Management of High Blood Pressure in Children (2017) Clinical practice guideline for screening and management of high blood pressure in children and adolescents. Pediatrics. https://doi.org/10.1542/peds.2017-1904 3. Lurbe E, Agabiti-Rosei E, Cruickshank JK, Dominiczak A, Erdine S, Hirth A, Invitti C, Litwin M, Mancia G, Pall D, Rascher W, Redon J, Schaefer F, Seeman T, Sinha M, Stabouli S, Webb NJ, Wuhl E, Zanchetti A. 2016 European Society of Hypertension guidelines for the management of high blood pressure in children and adolescents. J Hypertens. 2016;34:1887–1920

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Poster No. 187
Sub-Specialty

AN EVALUATION OF DIETETICS INVOLVEMENT IN EGG LADDER MANAGEMENT FOR PAEDIATRIC PATIENTS WITH IGE-EGG ALLERGY

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Aims: This study aims to evaluate the impact of dietetics involvement on progression through the egg ladder in patients with IgE-mediated egg allergy in 2019 and 2021.

Approximately 3% of the Irish paediatric population have egg allergy. Persistent allergies can impede quality of life. The ICGP recommends reintroducing egg into the diet using the IFAN egg ladder, which aims to improve patient's tolerance to egg.

Methods: Retrospective chart review of 44 paediatric egg allergy patients at CUH, who commenced the ladder in 2019 or 2021. Mann Whitney U tests were conducted to compare progression between the dietetics group and non-dietetics group, and the 2019 versus 2021 commencement group. Descriptive analysis assessed other factors influencing progression.

Results: Of the 44 patients, 20 had dietetics input upon starting the egg ladder, and 24 did not. Twenty-three patients commenced the ladder in 2019, 21 commenced in 2021. The mean number of steps of the ladder progressed within 1 year of treatment was 9.85 in the dietetics group and 9.46 in the non-dietetics group (SD = 7.114, U = 254.000, p = 0.740). The mean time taken by the dietetics group to progress to their maximum step was 10.35 months, and 15.29 months for the non-dietetics group (U = 179.000, p = 0.149). No association was found between dietetics involvement and tolerance achievement (X^2 (1, N = 44) = 4.385, p = 0.073). The mean time taken to progress to their maximum step was lower in the 2021 group, compared to the 2019 group (U = 149.000, p = 0.029).

Conclusion: Although no statistically significant difference was found, the dietetics group took less time to progress through and complete the ladder. Dietetics involvement can potentially help children recover from their allergy faster. Future research with longer follow-up periods and larger sample sizes is needed.

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DEMOGRAPHICS OF CHILDREN AND ADOLESCENTS ADMITTED TO THE NATIONAL REHABILITATION HOSPITAL, 2017-2022

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Aims

To determine the relative frequency of primary and other diagnoses in children admitted to the National Rehabilitation Hospital (NRH) from 2017 to 2022, inclusive.

Method

This is a single-centre retrospective observational study. It occurred at the NRH, Ireland's only centre for subacute specialist paediatric rehabilitation, which provides care for children with acquired disabilities. Data pertaining to demographics and diagnosis were collected from the programme database. Children were categorized as either acquired brain injury (ABI), spinal cord injury (SCI) or other; individual sub-diagnoses were also recorded.

Results

The total number of admissions from 2017- 2022 was 438. ABI accounted for 374 (85.4%), admissions, while, SCI accounted for 62(14.2%). Other n= 2(0.4%).

244 were male, and 194 were female. Admissions have varied by year due to COVID-19 and staffing by year (82 in 2017, 46 in 2018, 92 in 2019, 55 in 2020, 83 in 2021, 80 in 2022).

TBI was the commonest diagnosis (145), followed by brain tumour (82). Since 2017, there has been a proportional decrease in TBI admissions; in 2022, were 18 children hospitalized with brain tumours (27.7%) and 15 with TBI (23.1%). The number of entries for the "other" causes of ABI increased from 0 in 2017 to 12 (9.6%) by 2022, with hypoxia and stroke representing the majority of these cases.

Spinal cord Injury accounted for 14.1% of all paediatric admissions to the NRH; small numbers are a barrier to the analysis of changes in the incidence of individual diagnoses over time.

Conclusion

The NRH provides rehabilitation care to a diverse cohort of children with acquired disabilities. Acknowledging the higher proportion of children admitted with ABI due to tumours and stroke has important implications for service planning and provision, as diagnosis will have an impact on their needs. This information is of use in service planning and liaison with referrers.

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QTC PROLONGATION AND ELECTROCARDIOGRAM ABNORMALITIES CAUSED BY ADHD MEDICATIONS AMONGST THE PAEDIATRIC POPULATION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Stimulant and non-stimulant medications have been used to treat Attention Deficit Hyperactivity (ADHD) in paediatrics successfully for decades. However, emerging evidence has raised concerns about their potential short and long-term side effects. This paper examines the concerns regarding their potential impact on cardiac health, specifically their potential link to the prolongation of the corrected QT interval (QTc) measured on an electrocardiogram (ECG).

Aims: This systematic review and meta-analysis aimed to assess the link between these medicines and changes in cardiovascular parameters. Particularly on the QTc interval, as well as other electrocardiogram (ECG) abnormalities that may be relevant to the treatment of ADHD.

Methods: We conducted a comprehensive, double-coded, systematic review spanning three major medical databases (SCOPUS, PubMed, Embase and Cochrane). Based on relevant keywords. A subsequent meta-analysis was conducted using Review Manager (RevMan, Version 5.4; Cochrane Collaboration, Oxford, United Kingdom).

Results: Our study encompassed 48 research papers from over 7 different countries. A t-test analysis revealed a p-value exceeding 0.05, indicating a lack of statistical significance concerning drug-induced QTc prolongation. The results of our meta-analysis indicated that the standard mean difference between pre-treatment and post-treatment QTc intervals was -0.14, with a confidence interval of -0.21 to -0.06 ($P>0.05$). Our data suggests no substantial association between QTc prolongation and ADHD medication. Furthermore, our findings suggest a low prevalence of ADHD drug-induced ECG abnormalities.

Conclusion: Based on the evidence and statistical analyses presented in this review, it can be concluded that ADHD medications appear to be safe for use in paediatric patients from a cardiovascular perspective, owing to a low risk of QTc prolongation or new ECG abnormalities. However, further research is necessary to assess the potential benefits of pre-treatment cardiovascular screening in relation to its cost-effectiveness and impact on services.

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AN AUDIT OF SCREENING PRACTICES FOR PHAEOCHROMCYTOMA AND PARAGANGLIOMA IN A HIGH RISK POPULATION WITHIN A DEDICATED CLINIC

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Background

Germline mutations in the SDHx genes predispose to phaeochromocytoma and paraganglioma(1). Biochemical and radiological surveillance should be carried out for asymptomatic carriers of SDHx gene mutations(2). Recently published guidelines suggest that first tumour screening should commence between 6 and 10 years of age(1). Initial screening in children should include urinary or plasma-free metanephrines and MRI head and neck, thoracic, abdomen and pelvis(1). Subsequent screening recommendations include urine or plasma metanephrines every 2 years and repeat MRI every 2-3 years(1).

Aim

To assess departmental adherence to the international consensus on initial screening and follow-up of asymptomatic SDHx mutation carriers within a dedicated clinic established in 2021(1).

Methods

The data of sixteen patients with SDHB mutations attending a specialised paediatric endocrinology clinic was collected. Thirteen asymptomatic carriers of SDHB mutations were identified, three patients who had already presented with paraganglioma/phaeochromocytoma were excluded.

Results

Four patients under 6 years old did not meet the criteria to commence screening. Of the remaining nine patients there was 100% compliance with biochemical screening recommendations. Of those, three (33%) patients are up to date with current radiological screening recommendations. Two (22%) patients have had abdominal MRIs only and three (33%) are awaiting initial MRIs; two of these requests include abdominal MRI only. One further child is 6 years old and hasn't had an MRI requested yet.

Recommendations

Our dedicated clinic shows good adherence to current guidelines overall. The major challenge identified is timely and complete radiological screening. To improve our adherence to radiological recommendations, we plan to update MRI requests to include head and neck, thorax and pelvis to reflect up-to-date guidelines. Discussions are in progress with radiology colleagues to streamline these patients to ensure MRIs are carried out in accordance with recommended screening intervals, with consideration for the considerable workload entailed and current service constraints.

1. Amar, L., Pacak, K., Steichen, O. et al. International consensus on initial screening and follow-up of asymptomatic SDHx mutation carriers. Nat Rev Endocrinol 17, 435–444 (2021).

https://doi.org/10.1038/s41574-021-00492-3 2. Wong MY, Andrews KA, Challis BG, Park SM, Acerini CL, Maher ER, Casey RT. Clinical Practice Guidance: Surveillance for phaeochromocytoma and para-ganglioma in paediatric succinate dehydrogenase gene mutation carriers. Clin Endocrinol (Oxf). 2019 Apr;90(4):499-505. doi: 10.1111/cen.13926. Epub 2019 Jan 29. PMID: 30589099; PMCID: PMC6850004.

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EXPLORING RESEARCH TOGETHER; IDENTIFYING RESEARCH PRIORITIES FOR ADOLESCENT AND YOUNG ADULTS (AYA) WITH CANCER IN IRELAND

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Aims: In Ireland adolescent and young adult (AYA) patients are those who are diagnosed with cancer between the ages of 16-24 years. AYA cancer is internationally recognised as a sub-specialism within the oncology community, with existing gaps in care provision and poorer outcomes when compared to adult and paediatric cancers. Currently, there is limited research on AYA cancer from an Irish perspective. The purpose of this study is to develop research priorities for AYA cancer in Ireland through empowering AYA patients to identify their top research priorities for AYA cancer care. Having a list of priorities means that our Irish AYA cancer services will be built on what we learn from those who have had cancer at this age.

Methods: This mixed methods study adopted the important concept of Patient and Public Involvement (PPI). Participants were AYA's in Ireland, who had a diagnosis of and lived with and beyond the experience of cancer treatment. Building on research from the UK and Australia, participants were surveyed by presenting them with the top UK AYA research priorities.

Results: This survey asked AYA's to identify and re-order their priorities from the UK priority list. This included the opportunity for participants to identify new priorities also. Following the survey focus groups interviews were held with the participants to identify a priority list. Ethical approval was obtained from the host organisation's research ethics committee.

Conclusion: The survey and workshop group findings will be discussed during this presentation. The top research priorities of Irish AYA participants will also be presented.

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Sub-Specialty

UNDERSTANDING CHILDREN'S EXPERIENCES OF LIVING WITH RARE DISEASES THROUGH MUSIC

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Aims: There is growing interest in the use of music in healthcare settings, both in adult and child populations. The purpose of this study was to learn how children view their own lives and their rare disease in an attempt to gain insight into their experiences living with a rare disease, and to inform the development of music as a research method and/ or tool to support children with rare diseases' to share their experience.

Methods: Five children aged between 7-13 years participated in this modality: three boys and two girls. All of the participants had a rare disease, which included PKU, HCU, and Gaucher Disease. All sessions were facilitated by a qualified music therapist. Participants were asked what it is like to live with their rare disease, and to answer this question through creating a piece of music. A range of instruments were available to the participants to use during their session. Participants were given 30 minutes to complete their music piece, during which the music therapist asked them questions about the different sounds they created to initiate discussion. Participants were also asked to give their music piece a title.

Results: Thematic analysis was conducted on each participant's musical piece. Preliminary findings demonstrated that these children are generally positive about living with their condition. Despite this, some chose to highlight their negative experiences of in their musical pieces.

Conclusions: As a research method, the process of creating a musical piece generated understanding about children's subjective experience of living with a rare disease.

This study was conducted as part of the SAMPI Project which aims to enable children and young people living with rare diseases to express their experiences and help to identify the factors that enhance, inhibit and impact their lives through sand play, arts, music, photovoice and interviews.

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THE IMPACT OF MUSIC ON HEALTH AND WELLBEING OF CHILDREN AND YOUNG PEOPLE WITH RARE DISEASES: A SCOPING REVIEW

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Aims: Previous research has demonstrated both Music Therapy (MT) and Music Medicine (MM) benefit children and young people's health and wellbeing. This scoping review aimed to investigate how music is used for children and young people with rare diseases to inform the development of using music as a research method and/ or tool.

Methods: A search was conducted in five bibliographic databases. Review selection and characterization were performed by two independent researchers. The search identified 448 primary studies published between January 2010 and June 2022. 19 studies met the inclusion criteria and were analyzed. The studies varied in terms of purpose, methodology, and detail of reporting.

Results: Following the analysis of the data, MT and MM were determined to have effects over two overarching domains. These domains are:

- Physiological & Clinical Support
- Psychological Wellbeing

However, some of the papers and articles reviewed as part of this process did not provide clarity as to whether the intervention provided was MT, MM, or simply put, music listening.

Conclusions: This review demonstrates the clear benefits of both MT and MM. However, to ensure the safety of both vulnerable patients availing of MT and working music therapists, it is crucial that MT is recognised as an allied health profession and research on MT reports the involvement of a music therapist.

As each child with a rare disease presents in a unique way, further research is needed to determine the effect of using music and other different therapy modalities in the treatment of children with rare diseases.

This study was conducted as part of the SAMPI Project which aims to enable children and young people living with rare diseases to express their experiences and help to identify the factors that enhance, inhibit and impact their lives through sand play, arts, music, photovoice and interviews.

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UNDERSTANDING CHILDREN'S EXPERIENCES OF LIVING WITH RARE DISEASES THROUGH SANDPLAY

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Aims: Play is considered the child's natural way of communicating their experiences. Sandplay has become a popular method in working with children due to its non-verbal approach. The purpose of this study was to learn how children view their own lives and their rare disease (RD) in an attempt to gain insight into their experiences living with a rare disease, and to inform the development of sandplay as a research method and/ or tool to support children with RDs to share their experience.

Methods: Seven children aged between 7-13 years participated in this modality: five boys and two girls. All of the participants had a RD, which included PKU, HCU, Dystonia, Renal cystinosis, Duchenne muscular dystrophy and Gaucher Disease. All sessions were facilitated by a clinical and counselling psychologist, trained in sandplay therapy. Participants were asked what it is like to live with their RD, and to answer this question through creating a picture in the sandtray. A range of figurines were available to the participants to use during their sandtray creation.

Results: Thematic analysis was conducted on each participant's final sandtray, as well as the sand-tray process. Experiences of burying things, danger/ threat, the Self, resistance, feeling different and caring through food emerged during analysis. The preliminary results of this research indicate that children with rare diseases have a varied experience of living with their condition.

Conclusions: While the results are being finalised, it is clear that these children face psychosocial challenges living with their condition, which can manifest in different ways.

This study was conducted as part of the SAMPI Project which aims to enable children and young people living with rare diseases to express their experiences and help to identify the factors that enhance, inhibit and impact their lives through sand play, arts, music, photovoice and interviews.

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Sub-Specialty

COMPLIANCE WITH ANTIMICROBIAL GUIDELINES FOR PEDIATRIC URINARY TRACT INFECTIONS IN EMERGENCY DEPARTMENT TEMPLE STREET HOSPITAL CHILDREN'S HEALTH IRELAND CHILDREN'S HEALTH IRELAND: AN ABSTRACT

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AIM: Evaluate the adherence to the CHI antimicrobial guidelines for the use of antimicrobial agents in pediatric UTI patients.

METHODS: A retrospective study spanning January to June 2023, pediatric patients diagnosed with UTIs in the ED will be examined. Medical records will be reviewed to collect data on antibiotic selection. Compliance with guidelines to be assessed using criteria. Findings will be analyzed to calculate compliance rates, and recommendations will be formulated to enhance guideline adherence.

RESULTS: (After Compilation of Data)

CONCLUSION: (After Compilation of Data)

REFERENCES:

1. American Academy of Pediatrics. (2011). Urinary Tract Infection: Clinical Practice Guideline for the Diagnosis and Management of the Initial UTI in Febrile Infants and Children 2 to 24 Months. Pediatrics, 128(3), 595-610.
2. Subcommittee on Urinary Tract Infection, Steering Committee on Quality Improvement and Management, Roberts, K. B. (2011). Urinary Tract Infection: Clinical Practice Guideline for the Diagnosis and Management of the Initial UTI in Febrile Infants and Children 2 to 24 Months. Pediatrics, 128(3), 595-610.
3. Children's Health Ireland (CHI) - Antimicrobial Guidelines for Pediatric Urinary Tract Infections
4. Keren, R., Shaikh, N., Gerson, A., Iyengar, R., Carpenter, M. A., Shope, T. R., ... & Hoberman, A. (2015). Management of urinary tract infections in children: summary of the American Academy of Pediatrics practice guideline. Pediatrics, 135(6), 1281-1283.
5. National Institute for Health and Care Excellence (NICE). (2018). Urinary tract infection in under 16s: diagnosis and management (Clinical Guideline CG54). Retrieved from https://www.nice.org.uk/guidance/cg54
6. World Health Organization (WHO). (2019). Antimicrobial Resistance: Key Facts. Retrieved from https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance

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Sub-Specialty

KNOWLEDGE OF CORTICOSTEROID USE IN PAEDIATRIC ATOPIC DERMATITIS/ECZEMA MANAGEMENT AMONG HEALTHCARE WORKERS IN IRELAND

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Aims

To assess the knowledge and perception of healthcare professionals on the diagnosis and management of atopic dermatitis/eczema in children among hospitals and clinics in Ireland.

Methods

This is a single centre, observational, cross-sectional, data collection study conducted and managed by Cork University Hospital (CUH) Paediatric Allergy Service in 2023, consisting of an online questionnaire which was distributed among relevant healthcare professionals in primary and secondary care (n=50).

Results

1) Diagnosis: The majority (80%) were not familiar with any diagnostic criteria for AD/eczema. Most respondents (93%) use clinical physical examination to diagnose paediatric AD/eczema while a minority (4.7%) diagnose based on the patient's history and (2.3%) require dermatology consultation. The most commonly detected severity of paediatric AD/eczema at first presentation is mild disease (70%) followed by moderate (44%) and severe (10%) disease.

2) Management: Corticosteroids

A minority (22%) prescribe topical corticosteroids for mild AD/eczema in infants (<1 year) with its most common uses being for severe (86%) or moderate (60%) disease.

Regarding children (<16 years) topical corticosteroids are most commonly used for moderate disease (92%) followed by severe (72%) and mild (30%) disease.

Mild potency topical corticosteroids were the most commonly used (74%) in practice, followed by moderate potency (26%). High potency and super high potency topical corticosteroids were not commonly used in practice.

A proportion (39.3%) of participants stated they would use oral steroids to treat paediatric AD/eczema.

Conclusion

Familiarity with AD/eczema diagnostic criteria among healthcare practitioners in Ireland would improve disease diagnosis and subsequent management. Education on corticosteroid use in paediatric AD/eczema based on severity and mode of administration, should be emphasised.

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Poster No. 26A
General Paediatrics

Imagining a future without RSV…

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Background: RSV Bronchiolitis is a significant cause of infant respiratory morbidity in Ireland resulting in hospitalisation and occasionally admission to PICU. In 2023 the European Medicines Agency approved 2 new RSV vaccines. The first (preF RSV Subunit vaccine) is given to mothers in the 3rd trimester, with passive transfer of immunity to the infant. The second, a long acting immunoglobulin (nirsevimab) is given to babies at birth, if born during the RSV season or as they enter RSV season in the first year of life. Both vaccine strategies have demonstrated significant benefits.

Aims: To examine awareness of RSV bronchiolitis and RSV vaccines in parents of children admitted to hospital with RSV bronchiolitis. We also examined attitudes to possible future vaccination.

Methods: A short survey was administered by a doctor to parents of children admitted to Temple Street with RSV Bronchiolitis (Infant <1 yr, Clinical diagnosis and RSV positive NPA) during November 2023. The doctor read a short script informing parents about the newly approved vaccines and asked about interest in having a future child vaccinated.

Results: 47 surveys have been administered. The median age of admitted infants is 2 months. 79% of parents had heard of Bronchiolitis and 85% had heard of RSV prior to admission. 36% of parents were aware of the new RSV vaccines. 81% of parents would definitely or likely get an RSV vaccines in the future. 79% of parents would take either the maternal or the infant vaccine, 19% expressed a preference for the maternal vaccine.

Conclusion Most parents of children admitted with RSV Bronchiolitis have a good awareness of the condition and would be open to new RSV vaccines in the future. Inclusion of RSV vaccines in the national immunisation schedule would have a significant benefit on the health of infants and hospital resources.