



HSE Midwest NCHD Conference 2025

Date: Thursday May 15th, 2025.

Venue: Clinical Education & Research Centre, University Hospital Limerick, Dooradoyle, Co. Limerick.

2025 HSE Midwest NCHD Conference

The HSE Mid West National Doctors Training & Planning (NDTP) Team and the NCHD Conference Organising Committee hosted the 2025 NCHD Conference on May 15, 2025 at the Clinical Education & Research Centre, University Hospital Limerick. The aim of this annual conference is to provide an opportunity for NCHDs to present their research, audit, case study and quality improvement projects from their training year here at HSE Mid West.

Following the establishment of the new HSE Health Regions, this year the additional category of Public Health was included. **Professor Linda Mulligan**, Chief State Pathologist keynote speaker delivered her speech at the conference with a variety of questions and answers from doctors in the audience.

An exciting new addition to this year's conference was an interactive simulation workshop for NCHDs created by this year's Lead NCHDs with the kind support of **Dr Sarah Carroll**, Senior Technical Officer in Simulation.

A 60% increase in abstract submissions this year illustrates the popularity of this conference among doctors in the region. We would like to acknowledge the strong support given to the conference by all doctors in the Mid West with a special thank you to this year's outstanding Lead NCHDs. Over 224 diverse research projects were submitted across the disciplines of Medicine, Surgery, Paediatrics, Emergency Medicine, Obstetrics & Gynaecology, Anaesthesia, Radiology, Psychiatry, General Practice, Public Health and the Intern Network.

After a rigorous selection process, 13 winning abstracts were been chosen as the best in their specialty and these authors presented their research at the conference.

We are particularly grateful to **Ms Sandra Broderick**, Regional Executive Officer, **Mr Ian Carter**, CEO Midwest Acute and Older People Services, and **Dr Catherine Peters**, Regional Clinical Director, for their continued support. We are thankful to our many colleagues who agreed to help with the judging of the abstracts, electronic posters and platform presentations and in particular to **Professor Declan Lyons**, Director of Research, for chairing the Judging Panel.

HSE Mid West NCHD Conference Organising Committee 2025

Correlation between Repeat MRI Brain Imaging and EEG Findings in Pediatric Patients Presenting with Seizures

Dr. Liam O'Halloran - Ireland - University Hospital Limerick

Dr. Siobhan McGrane - Ireland - University Hospital Limerick

Dr. Ksenia Zuzanna Wykret - Ireland - University Hospital Limerick

Consultant Supervisor: Dr. Siobhan McGrane

Topic Areas: Radiology.

Introduction

Seizures are among the most common neurological emergencies in pediatric patients, often requiring both Electroencephalography (EEG) and Magnetic Resonance Imaging (MRI) for diagnosis and management. While initial MRI is routinely performed, the necessity of repeat MRI, particularly in patients with negative initial findings, remains unclear. This study aims to evaluate the correlation between repeat MRI findings and EEG abnormalities to assess their combined role in guiding clinical management.

Methods

This retrospective cohort study included pediatric patients aged 1 month to 16 years with a clinical diagnosis of seizures who underwent MRI at University Hospital Limerick between January 2022 and January 2024. Data collected included seizure type, initial and repeat MRI findings, and EEG results. Statistical analysis assessed correlations between MRI and EEG findings using Pearson correlation, chi-square tests, and logistic regression.

Results

Among 260 patients, 28 (10.8%) underwent repeat MRI imaging. Of these, 18 (64.3%) showed new abnormalities, including cortical dysplasia, gliosis, and hippocampal sclerosis. Generalized tonic-clonic seizures were most frequently associated with abnormal repeat findings. A significant correlation ($p < 0.05$) was observed between abnormal EEG findings and positive repeat MRI results, suggesting EEG as a potential predictor of structural changes. No significant correlations were found between initial MRI results and seizure type, age, or initial EEG findings.

Discussion

Repeat MRI is a valuable diagnostic tool in pediatric seizure management, particularly in cases with persistent abnormal EEG findings. The detection of new abnormalities highlights the importance of repeat imaging when clinical suspicion remains high. These findings support the combined use of EEG and MRI to enhance diagnostic accuracy and inform treatment decisions.

Phrenic Nerve Block Following Supraclavicular Brachial Plexus Block and Successful Reversal with Doxapram

Dr. Uzair Ali - Ireland - University Hospital Limerick

Consultant Supervisor: Prof. Dominic Harmon - Ireland - University Hospital Limerick

Dr. Areebah Hassan - Ireland - University Hospital Limerick

Topic Areas: Anaesthetics

Case Report

A 68-year-old male underwent elective thumb surgery under general anesthesia with a supraclavicular brachial plexus block using levobupivacaine 0.5% (20 milliliters) under ultrasound guidance. Postoperatively, he exhibited delayed emergence, slow respiratory rate, reduced tidal volume, mild hypoxia, and no signs of opioid overdose. Phrenic nerve involvement was suspected due to diaphragmatic paresis. Doxapram (1 milligram per kilogram intravenously) was administered, resulting in rapid improvement in respiratory effort, rate, and oxygen saturation. The patient recovered fully without invasive support.

Learning Points

Supraclavicular brachial plexus blocks are commonly used for upper limb surgeries but carry the risk of phrenic nerve block due to cephalad spread of local anesthetics, leading to diaphragmatic paresis and respiratory depression. Doxapram, a respiratory stimulant, is traditionally used for opioid-induced respiratory depression, but its role in reversing phrenic nerve-related respiratory compromise remains underrecognized. We present a case where doxapram successfully reversed respiratory depression following a supraclavicular block.

Phrenic nerve block occurs in 50-60% of supraclavicular blocks due to local anesthetic spread. While often subclinical, it can cause significant respiratory compromise in patients with limited reserve or residual anesthesia. Doxapram, acting on carotid chemoreceptors and central respiratory centers, effectively reversed respiratory depression in this case. Clinicians should consider phrenic nerve paresis in postoperative respiratory depression and use ultrasound-guided techniques to minimize risks.

Discussion

This case highlights the importance of recognizing phrenic nerve block as a complication of supraclavicular blocks. Doxapram can effectively reverse respiratory depression in such scenarios, avoiding invasive support. Careful patient selection and ultrasound guidance are essential to minimise risks and improve outcomes.

Are we achieving targets in cholesterol control in primary prevention of cardiovascular disease?

Dr. Agnieszka Mastalska - Ireland - The ICGP (Irish College of General Practitioners) Midwest Training Scheme

Dr Agnieszka Mastalska, Dr Colm O'Reilly

Introduction

Cholesterol lowering agents are common medications that are prescribed daily in general practice. They have a crucial role in prevention of stroke and myocardial infarction in the population, and their prescription and continual review should not be neglected. In this audit current prescription of cholesterol, lowering agents for primary prevention of cardiovascular disease was compared to best practice. The guidelines used were NICE guidelines, which were updated in 2023 "cardiovascular disease: risk assessment and reduction, including lipid modification". The aim of the study was to find out how much of the practice population studied reached over 40% reduction of non-high-density lipoprotein cholesterol (non-HDLc).

Methods

Socrates was used as a database for the audit. Fifty entries were chosen using random number generator to avoid selection bias. There was a proportion of the patients with insufficient data. This group was not used for results.

Results

The audit found that 48.8% of patients with complete data achieved reduction in non-HDLc greater than 40%.

Discussion

51.2% of the group did not meet the standards required. This might have been due to too low medication dosage or compliance issue. Actions recommended to improve outcomes would be to create practice protocol to which all prescribers would agree to during practice meeting and subsequently apply to improve outcomes. The protocol would include adding individual non-HDLc target into patient's chart where it could be easily reviewed.

Evaluating Medical Students' Knowledge, Skills and Attitude on Managing Childhood Obesity: a pilot study

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Dr. Grace O'Malley - Ireland - School of Physiotherapy, RCSI University of Medicine and Health Sciences

Prof. Clodagh O'Gorman - Ireland - University of Limerick School of Medicine and Department of Paediatrics, University Hospital Limerick

Topic Areas: Paediatrics

Introduction

There is an urgent need for improved undergraduate medical education relating to child and adolescent obesity (CAO), due to the increased prevalence in the last 3-4 decades. Literature suggests that medical students feel unprepared to address CAO and additional training is needed¹. This study explored the initial impacts of a CAO educational intervention on the knowledge, skills and attitudes of medical students.

Methods

This was a pilot observational study evaluating a blended educational intervention utilizing an online course, recorded lecture and case-based discussions (CBDs) on CAO for final year medical school students with ethical approval granted by University of Limerick. The online course and recorded lecture were completed by students prior to attending the CBDs. The CBDs facilitated history taking, physical examination and management of CAO. Students completed a readiness assurance test² at the start of the CBD. Students were invited to complete a Likert scale-based questionnaire addressing perceived knowledge, skills and attitudes on CAO before and after the intervention. Results were analysed descriptively.

Results

We present preliminary results for 29 students who attended the CBD session, with pre-and post-intervention questionnaires completed by 24 (83%) and 20 (69%) students, respectively. Post intervention there were increases in self-reported confidence in prescribing a CAO management plan (21% to 100%; p 0.42); treating CAO (13% to 95%; p 0.42); and in disagreeing with the statement that childhood obesity is caused solely by poor parental and personal choices (21% to 40%; p 0.28). Students self-reported knowledge of the aetiology of CAO increased (62% to 85%; p 0.39). Self-reported skills on plotting growth increased (62% to 95%; p 0.31) as did ability to interpret blood pressure measurements in a child (29% to 55%; p 0.28). Knowledge of physical activity (8% to 80%; p 0.42), nutrition recommendations (25% to 75%; p 0.39) and referral pathways (38% to 85%; p 0.41) all increased. While self-reported

knowledge of appropriate language to discuss CAO increased (75% to 95%; p 0.37), there was an increase in the percentage of students who reported feeling uncomfortable discussing CAO with children and their families (63% to 90%; p 0.32).

Discussion

Our preliminary results suggest that the educational intervention enhanced final year medical students' self-perceived knowledge, skills and attitudes regarding CAO at the end of their Paediatric rotation. Although no statistically significant differences were observed, this remains to be proven.

References:

- 1) Lee S, Smith ML, Kromann L, Ory MG. Medical Students and Childhood Obesity: Health Disparity and Implication for Education. *Int J Environ Res Public Health*. 2019 Jul 19; 16(14):2578. doi: 10.3390/ijerph16142578. PMID: 31330948; PMCID: PMC6678104.
- 2) Olson A, Watowicz R, Seeholzer E, Lyons K, Butsch WS, Croniger C. Team-based learning intervention to improve obesity education in medical school. *MedEdPORTAL*. 2023; 19:11369. https://doi.org/10.15766/mep_2374-8265.11369

An analysis of factors associated with attendance at University Hospital Limerick Emergency Department and socioeconomic position

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Consultant Supervisor: Dr. Anne Dee - Ireland - Public Health HSE Mid West

Topic Areas: Public Health

Introduction

Lower socioeconomic position (SEP) is associated with poorer health and higher emergency department (ED) attendances globally. There is a significant gap in the Irish literature. The ED at University Hospital Limerick (UHL) has been the most overcrowded in Ireland for the past decade and experienced record attendances in 2024. Levels of extreme disadvantage in the Mid West region have increased between Census 2016 and Census 2022. This study examines the relationship between SEP and UHL ED attendance at Census 2022 Small Area (SA) level, and distance using geocoding. It is the first known Irish study of its kind.

Methods

Randomly chosen, anonymised patient administration data for 4836 paediatric and 4613 adult ED attendances in 2023 were analysed using 'R' statistical software. Chi Square, binomial logistic regression, negative binomial modelling and geocoding methods were used to analyse patient referrals, presenting complaints, outcomes and distance from the ED. SEP was categorised using the Pobal HP Deprivation Index based on Census 2022 data.

Results

Adults from 'very disadvantaged' SAs were 2.64 (95% CI 2.06-3.39, $P < 0.001$) times more likely to attend ED than those from 'affluent' SAs. Children from 'extremely disadvantaged' SAs were 1.81 (1.28-2.58, $p < 0.001$) times more likely to attend. A social gradient was evident. Self-referral and ambulance transfer were more common among patients from disadvantaged SAs. A significant association on Chi square testing was also found between SEP and mental health presentations among adults. Increased distance was associated with lower ED attendance (IRR 0.97, 95% CI 0.97–0.98, $p < 0.001$), but when adjusting for distance, those from deprived SAs still had significantly higher attendance rates.

Discussion

This study provides robust evidence of the link between higher attendance rates at UHL ED and low SEP, with a clear social gradient observed. Accordingly, it is recommended that the routine recording of equity stratifiers in Irish healthcare settings, particularly EDs should be

considered a priority to identify disparities in access and outcome and enable policymakers to target resources where they are most needed. Addressing health inequalities should also be prioritised at national and regional level. Finally, these results will inform the establishment of a Mid West Health Equity region.

Assessing the Quality of Social Media Videos on Hypothyroidism

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Dr. Mohammed BinMahfooz - Ireland - University Hospital Limerick

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Dr. Anne Marie Hannon - Ireland - University Hospital Limerick (Consultant Supervisor)

Topic Areas: Medicine

Background

Social media has rapidly become a widely used source for disseminating health information, including content related to conditions like hypothyroidism and Hashimoto's thyroiditis. This research evaluates the quality and reliability of the information shared in such content.

Methods

Researchers analyzed content on TikTok, Instagram Reels, and YouTube using the keywords "Hypothyroidism," "Hashimoto's," and "TPO antibody." The top 50 videos for each term were reviewed (totaling 450 videos) between September 30 and October 28, 2024. After filtering for relevance and language (English), the selected videos were evaluated using the modified DISCERN tool and the Global Quality Score (GQS). The assessments were conducted independently by two physicians and the scores were averaged. Additional data such as video duration, upload date, and user engagement (likes, comments, and shares), was also recorded.

Results

In total, 379 videos met the inclusion criteria. On average, these videos had 19,102 likes, 476,862 views, 2,840 shares, and 431 comments. The median scores were 1.7 (IQR: 1.4-2.3) for the modified DISCERN and 2 (IQR: 1.5-2.5) for the GQS.

Notably, 90.2% (342 videos) scored below 3 on the modified DISCERN, and 75.7% fell below 3 on the GQS, indicating a general trend of low quality and reliability. While the median scores across the different social media platforms remained poor- YouTube scored higher (2.5: mDISCERN and 3: GQS) vs TikTok (1.5: mDISCERN: GQS) and Instagram (1.5: mDISCERN, 2: GQS). Furthermore, majority of the videos across the platforms were low scoring (< 3) for both mDISCERN (Instagram- 99.1percentage, TikTok 100%, YouTube- 72.9%) and GQS (Instagram- 93.8%, TikTok- 91.8%, and YouTube- 44.4%). Interestingly, only a minority of the videos were created by medical doctors/nurses (31%), but majority of the high scoring videos were created by them (84%: GQS, 79%: mDISCERN).

Discussion

In conclusion, the modified-DISCERN and GQS scores were poor through the different social media sites. Thus, individuals should be cautious whilst attaining medical information about hypothyroidism and hashimotos from these sites. Health care professionals need to engage more with social media and promote evidence-based information to the public.

The Effects of Social Deprivation on Colorectal Cancer Outcomes; A retrospective cohort study

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Prof. Christina Fleming - Ireland - Department of Colorectal Surgery, University Hospital Limerick Group, Limerick (Consultant Supervisor)

Topic Area: Surgery

Background

Although Colorectal Cancer (CRC) survival rates are improving, there is an emerging disparity according to levels of social deprivation. The reasons for the disparities in cancer incidence and mortality amongst different socioeconomic populations are complex and not completely understood. The aim of this study was to explore the impact of social deprivation on CRC presentation, treatment and outcomes using the HP Social Deprivation Index obtained from Pobal.ie.

Methods

We performed a retrospective cohort study of patients with CRC presenting to the regional multidisciplinary team meeting (MDT) at University Hospital Limerick. A mixed-effects logistic regression analysis approach was utilised to determine the association between deprivation and various colorectal cancer outcomes. Data was analysed using IBM SPSS V29.0.2.0 (20). Ethical approval was obtained from the Clinical Research Ethics University of Limerick Hospitals Group (REC Ref: 0179)

Results

Of the total population (N=701) discussed at the MDT between January 2021 to October 2024, 631 patients were eligible for inclusion. Almost a quarter of the population (N=148) were living in disadvantaged, very disadvantaged or extremely disadvantaged areas according to their Pobal deprivation index. These patients were more likely to present with metastatic disease (OR 1.46, CI 0.807-2.631) or present as an emergency (OR 3.47, CI 2.283-5.274). Of the 466 patients that were treated with curative intent, persons with a lower social deprivation score were more likely to have a stoma (OR 0.25, CI 0.152-0.439) and have disease recurrence (OR 2.6, CI 1.491-4.467).

Discussion

Those living in more deprived areas face barriers to accessing timely healthcare and are more likely to present as an emergency or with metastatic CRC. These findings could help inform more effective targeting of public health interventions for CRC.

Quality of Anaemia Care among prevalent patients undergoing Haemodialysis in the Midwest Region

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Prof. Austin G. Stack - Ireland - Department of Nephrology, University Hospital Limerick

Introduction

Anaemia is a common complication of advanced kidney disease and contributes significantly to elevated mortality and poorer quality of life. We evaluated the quality of anaemia management in haemodialysis and the extent to which standards were met when benchmarked with the international recommendations based on the NICE guidelines.

Methods

We audited 244 patients receiving haemodialysis in the Midwest Health Region in the period February 2025. Data was extracted from the Kidney Disease Clinical Patient Management System (KDCPMS) on patient characteristics, serum haemoglobin, markers of iron status (transferrin saturation and serum ferritin), and treatment with intravenous iron and recombinant erythropoietin use. The mean and median values for continuous variables were computed and the proportion of the patients achieving the following NICE Standards were determined: Hb target 10-12g/dL; serum ferritin target (ng/ml) 200-800; transferrin saturation TSATs (%): 20-40%. We also computed the percentage of patients with Hb above and below target range.

Results

The average age of patients was 66 years. 67% were men. The mean Hb was 11.2 g/dl and 11.4 in men and women respectively. Hb target was met in 59% of patients. 15.9% had Hb 12g/dL. Men were more likely to have Hb < 0.01). For those patients with Hb 40%. Of the patients with TSAT 40%, 69% were receiving IV iron and 88% were on ESA therapy. 31% were receiving both. Of the patients with ferritin >800, 80.3% were receiving IV iron, 93.8% were receiving ESA, and 76.0% were on both.

Discussion

The management of anaemia is complex in patients undergoing haemodialysis. Our audit has revealed satisfactory achievement of Hb targets in two thirds of patients. Phase 2 will involve implementing clear anaemia treatment algorithms in the Dialysis unit.

Computer Efficiency Quality Improvement Project in University Hospital Limerick

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Dr. Aneesa Mangalam Lonappan - Ireland - University Hospital Limerick

Dr. Paudie Walsh - Ireland - University Hospital Limerick

Ms. Anna Farrell - Ireland - University Hospital Limerick

Dr. Yaseen Yacoob - Ireland - Department of Neurology, University Hospital Limerick
(Consultant Supervisor)

Introduction

Prompt access to essential digital systems is vital for efficient clinical decision-making and maintaining patient confidentiality. At University Hospital Limerick, delays in accessing platforms such as iHub, iLab and NIMIS have been observed to disrupt workflow and potentially compromise patient safety. This quality improvement project aimed to evaluate and enhance the efficiency of computer systems used by clinical staff across hospital wards.

Methods

Computers across fourteen hospital wards were assessed by team members, focusing on computers that are heavily used by clinical staff. Each machine was evaluated for the availability and launch times of iHub, iLab and NIMIS. Any computer missing a program or with launch times exceeding 30 seconds was flagged for IT review with the help of the Quality Improvement team. A total of 42 computers were tested, with timings recorded from login to full access to all platforms. Data were analysed using Microsoft Excel to identify performance trends and delays.

Results

Of the 42 computers assessed, 88% had all three programs installed; 12% were missing at least one. The average full access time was 2 minutes 14 seconds (range: 31 seconds to 7 minutes 44 seconds). Notably, 64% (n=27) exceeded the 30-second threshold for at least one program, and 71% (n=30) were referred to the IT department for intervention.

Discussion

This review identified widespread delays in accessing essential digital tools, with about two-thirds of the systems underperforming. These inefficiencies impede clinical workflow and may risk patient data protection. Collaboration with IT services and the quality improvement team is underway to address these issues, with a re-audit planned to assess improvements.

Breaking the Bias: A Decade of Growing Acceptance for Male Students in Obstetric Care at UMHL

Dr. Nicola O'Riordan - Ireland - University Maternity Hospital Limerick

Prof. Amanda Cotter - Ireland - University Maternity Hospital Limerick (Consultant Supervisor)

Topic Area: Obstetrics and Gynaecology

Introduction

Male medical students have long faced challenges in obstetrics, including limited patient acceptance and reduced opportunities for clinical involvement. These challenges are compounded by persistent gender stereotypes and societal perceptions of obstetrics as a female-dominated specialty. In recent years, the climate for male students has become increasingly complex. In the wake of the #MeToo movement and a broader societal reckoning with gender dynamics, there are reports of male students experiencing heightened scrutiny and a more cautious or even hostile clinical environment. This may be influenced by growing discomfort or distrust among female patients, contributing to a trend toward perceived anti-male sentiment. This study aims to explore whether these broader social changes have impacted maternal acceptance of male medical students over a ten-year period at the University Maternity Hospital Limerick (UMHL).

Methods

A structured questionnaire was distributed to 100 postnatal patients at UMHL in 2015 and again to a separate cohort of 100 postnatal patients in 2025. The survey evaluated patient comfort, perceived professionalism, and willingness to have a male medical student present during labour and delivery. All responses were collected anonymously and analysed using descriptive statistics to identify trends and changes in patient attitudes over time.

Results

In 2015, 65% of respondents expressed comfort with male medical students' involvement. Despite increased public discourse around gender and power in healthcare over the subsequent decade, acceptance improved in 2025, with 84% expressing comfort with male medical students. Reports of discomfort or refusal decreased from 35% in 2015 to 16% in 2025. Respondents increasingly emphasized professionalism and communication over gender as key factors in their care experience.

Discussion

Despite a broader social context that may pose challenges for male medical students, findings from UMHL suggest a positive trend in maternal acceptance over time. These results highlight the resilience of patient trust when professionalism and empathy are prioritized, and they

underscore the need for continued institutional support to ensure gender equity in clinical education.

A systematic review on how the time to diagnosis of a suspected Pulmonary Embolism impacts patient mortality

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Dr. Lizeri Jansen - Ireland - Royal College of Surgeons in Ireland (RCSI)

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Topic Area Emergency Medicine

Introduction

Pulmonary Embolism (PE) is the third most common cardiovascular disease after coronary artery disease (CAD) and stroke. Treatment delays in PE is associated with high morbidity and mortality and early identification and diagnosis is recommended. However, PE has no established diagnostic time standard, unlike CAD and stroke emergencies that have established evidence that rapid diagnosis within a specified time improves morbidity and mortality. The aim of this systematic review is to determine how the time to diagnosis of a suspected PE impacts patient mortality.

Methods

A search in June 2024 was performed on Embase, Medline and Web of Science. The search was constructed to identify time to diagnosis of a suspected PE from symptom onset, or hospital presentation. The primary outcome was mortality. A novel data extraction tool, guided by the Cochrane Handbook, was used. Quality assessment was performed using the Critical Appraisal Skills Programme (CASP) for cohort studies. A narrative synthesis incorporating vote counting based on direction of effect, summarising effect estimates, and tables based on Cochrane guidance on systematic reviews was used to report findings.

Results

A total of 11 studies are included after screening of the identified records (n = 9 885). Two diagnostic time intervals associated with mortality are identified. The first, defined by symptom onset to diagnosis (SDx), is subjectively measured. The second, defined by presentation (door) to diagnosis (DDx), is objectively measured. Most studies that report a SDx delay demonstrate no impact on mortality. Conversely, all studies that report a DDx delay demonstrate a negative impact on patient mortality. A DDx time (< 5 hours) in intermediate to high-risk PE improves mortality. Furthermore, faster DDx times lead to early treatment and sustained mortality reduction in patients. All included studies are cohort studies with heterogeneity and increased risk of bias between the included studies.

Discussion

A delay from patient presentation to diagnosis of PE demonstrate a negative impact on mortality. A diagnosis made within 5 hours in intermediate to high-risk PE may improve

mortality. Future robust and high-quality research is needed to confirm these findings and determine the true impact of rapid diagnosis on mortality.

An Analysis of Clinicopathological Patterns and Outcomes of Colorectal Cancer Presenting as an Emergency in HSE Mid-West

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Prof. Christina Fleming - Ireland - University Hospital Limerick (Consultant Supervisor)

Introduction

One in five patients with colorectal cancer (CRC) presents as a surgical emergency, often due to obstruction, perforation, or haemorrhage. These scenarios are typically linked to delayed diagnosis and suboptimal oncological outcomes. This study aims to evaluate the clinical and pathological features, treatment approaches, and oncological outcomes of patients with CRC who presented emergently to a tertiary centre (UHL).

Methods

We retrospectively reviewed all CRC diagnoses recorded between 2021 and 2024 in the UL Hospital Group. Data were drawn from a prospectively maintained institutional database at UHL. Patients were grouped based on whether they presented electively or as an emergency. A mixed-effects logistic regression analysis approach was used to assess associations between emergency presentation and various colorectal cancer outcomes. Data were analysed using IBM SPSS V29.0.2.0(20).

Results

Among 630 patients diagnosed with CRC, 132 (21.0%) presented as an emergency. Of these, 38 (28.8%) had rectal cancers, while 94 (71.2%) had colon cancers. High-risk stage (T4 tumour or N2 nodal disease) was seen in 42 patients (31.8%). Patients who presented as an emergency were more likely to present with advanced tumour stage (OR 2.18, CI 95% 1.41-3.36, $p < 0.001$).

Neoadjuvant therapy was administered to 14 patients (10.6%), and 42 (31.8%) received adjuvant chemotherapy.

Postoperative complications were documented in 43 cases (32.6%), with 6 patients (4.5%) requiring reoperation. Complications were more likely to occur in the emergency presentation cohort (OR 3.73, CI 95% 1.95-7.16, $p < 0.001$) compared to the elective surgery cohort. Similarly, stoma formation was more common in patients presenting emergently, seen in 71 cases (53.8%) (OR 5.88, CI 95% 2.96-11.65, $p < 0.001$).

A significantly higher disease recurrence rate was observed in patients with CRC presenting as an emergency (OR 3.03, CI 95% 1.43-6.40, $p = 0.004$) with a mean follow up time of 21 months.

Conclusion

Emergency presentations of CRC are frequently associated with more advanced disease and higher surgical burden. Patients presenting emergently with CRC are more likely to experience post-operative complications and adverse oncological outcomes. These findings highlight the need for earlier detection and intervention to reduce emergency presentations and improve patient outcomes.