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Abstracts – Poster Presentations

Stereotactic radiosurgery for meningioma: a single institution retrospective analysis

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Purpose:

Meningiomas account from 15-25% of all primary brain tumours with an annual incidence of 1-10/100,000. While surgical resection is the preferred treatment for easily accessible meningiomas that can be safely removed, many patients with meningioma are unsuitable or unfit for surgical resection. Stereotactic radiosurgery (SRS) is increasingly used asprimary therapy as well as an adjuvant treatment for residual or recurrent meningiomas and has favourable response rates. We present a retrospective analysis of patients with meningiomas treated with SRS at our institution.

Materials and Methods:

Electronic medical records (ARIA) and stereotactic radiosurgery plans(iPlan) were reviewed to gather data on patients who were treated with SRS to meningioma(s) between 2014-2018.

Results:

Thirty patients (10 males; 20 females) were identified. The median age at commencement of SRS was 52.68 years. Twenty-eight patients had one lesion treated, two patients had two lesions treated. Fifty percent of patients had SRS for lesions that recurred post-surgical resection. Fourteen patients had histologically proven grade 1 meningioma, two patients had a diagnosis of grade 2 and one patient had a diagnosis of grade 3. Thirteen patients were radiologically diagnosed. Six patients had prior radiotherapy to the brain. The most commonly used dose was 25 Gray/5 fractions (n=9). Twenty patients were treated with SRS alone; ten patients with hybrid rapid arc radiotherapy technique. Median follow up was 1.7years. Of the 25 patients on whom follow up imaging and clinical follow up data is available,21 have stable lesions. In four patients, disease progression was noted on follow up imaging at1.6, 3.5, 0.4 and 1.8 years after SRS.

Conclusion:

Our analysis showed that SRS is an effective treatment option in patients with meningiomas and should be considered as primary treatment for unresectable meningiomasand in cases of meningiomas that require radiotherapy where surgery is contraindicated.

Dosimetric and early clinical impact of the introduction of hydrogel rectal spacer in patients undergoing VMAT-IGRT for prostate cancer: a single institution experience

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Purpose:

Since the publication of prospective randomised studies there has been increasing use of perirectal hydrogel prior to radiation for prostate cancer. The goal of this intervention is to reduce the risk of rectal side effects and improve patient quality of life. The use of gel spacers has not been universally adopted for several reasons, among them cost issues, concerns regarding potential toxicity of this intervention particularly in the setting low rates of rectal side effects with modern radiation techniques, and, also whether gel spacers truly impact on patient- reported quality of life in a clinically meaningful way. The utilisation of a hydrogel rectal spacer inaddition to fiducial marker implantation was recently adopted at our institution following completion of the appliers training programme. We examined two sequential cohorts of patients treated at our centre pre- and post-gel spacer implementation to assess the a) the dosimetric impact of this intervention and b) acute GI toxicity of this recent change in practice at our institution.

Materials and Methods:

To date 25 patients have completed radiation following gel spacer placement, 20 receiving 60Gy in 20 fractions and 5 receiving 78Gy in 39 fractions. This group was compared with 25 patients receiving the same dose fractionation schedules immediately prior to the implementation of gel spacer use i.e. without gel spacers in situ. Rectal doses werecompared using V60, V40 and D2cc for the 60Gy group, and, V75, V50, D2cc for the 78Gy group. The maximum grade of prospectively collected acute GI toxicity (CTCAE v4.0) was alsocompared between the two cohorts. Patient records were assessed for procedure-related complications.

Results:

All metrics of rectal dosimetry were significantly lower in the gel spacer cohort for the 60Gy group (see table 1). Only the D2cc was significantly reduced in the 78Gy group, although numbers in this group were very small. The maximal grade of acute GI toxicity was reduced in the spacer group (see figure 1). There were 2 minor procedure-related complications, a vasovagal episode post-placement and a further patient required laxatives for several days post gel placement.

Conclusion:

The implementation of gel spacer placement prior to prostate radiation resulted in significant reductions in rectal dose metrics for patients treated with moderate hypofractionation.Acute toxicity was lower with spacer use. This limited early experience of gel spacer use is encouraging for the lack of procedure-related complications to date. Longer term follow-up is required to assess late toxicity and patient-reported outcomes.

Outcomes in management of elderly patients with a radiological diagnosis of high grade glioma

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Purpose:

Increasing age is one of the strongest risk factors for cancer. The increase in life expectancy has led to a rise in the incidence of gliomas, particularly high grade gliomas, in the elderly. Not all elderly patients are suitable for either biopsy or surgery due to poor performancestatus, frailty and other medical comorbidities. We undertook a review of patients over 70 yearsof age with a radiological diagnosis of high grade glioma who were discussed the neuro-oncology multidisciplinary meeting (MDM) at our institution. The purpose of our study was to assess the outcomes in patients treated with radiotherapy

Materials and Methods:

A retrospective review of patients with a radiological diagnosis of highgrade glioma who were identified from neuro-oncology MDM records between March 2018 andOctober 2020 was performed. Data were collected from hospital charts and radiological databases. We obtained details regarding patient demographics, neuro-imaging findings, MDMdiscussions, treatment received and outcomes.

Results:

Twenty patients were identified of which 15 were male and 5 were female. Seven patients were deemed fit for and underwent radiotherapy. Median age at diagnosis for those who were treated with radiotherapy was 72.9 years (interquartile range (IQR) 71.9-80.4) and 80.2 years (IQR 78.2-84.7) for those who were not. The most common reason for not obtaining histological diagnosis was patient frailty (n=17, 85%). The median ECOG performance status was 2 (range 0-3) for those who were treated with radiotherapy and 3 for those who were not (range 1-4). Median dose delivered was 30Gy (range 20-40Gy). All radiotherapy courses were hypofractionated, minimum 3Gy per fraction, up to 5Gy per fraction. Patients tolerated radiotherapy reasonably well. All 7 patients completed their prescribed course. The most common side effect was fatigue (n=5, 71.4%).Only one patient (5%) remains alive to date, 212 days after diagnosis. He was treated with 20Gy in 4 fractions. The median time from diagnosis to death was 160 days (IQR 134-234.5) forpatients who were treated with radiotherapy and 61 days (IQR 44-117) for those who were not.

Conclusion:

Radiotherapy did appear to be associated with improved survival in our study. However, the patients treated with radiotherapy tended to be younger with a better performancestatus than those who were not which likely influenced selection for treatment. Whilst radiotherapy remains a reasonable treatment option for elderly patients with a radiological diagnosis of high grade glioma, the overall prognosis from the disease remains poor. Treatmentdecisions therefore need to be highly individualised for elderly patients who are considered too fragile for bio

Radiotherapy in Adrenocortical Carcinoma; A Case Study and Review of Literature

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Purpose:

Adrenocortical carcinoma (ACC) is a rare tumour with high recurrence rates and a median overall survival rate of approximately 3-4 years. There is limited data regarding the benefit of adjuvant radiotherapy (RT) in ACC due to the rarity of the tumour and the retrospective nature of the studies. The European Society of Endocrinology clinical practice guidelines advise against routinely using RT in patients with stage I or II disease or R0 resection. However, they advise considering RT in patients with R1 or Rx resection or stage IIIdisease. We present our experience of treating a patient with ACC and discuss the literature todate.

Materials and Methods:

A 63-year-old female presented with Cushing's syndrome. Computedtomography imaging showed a 5.5cm left adrenal mass. She underwent a left adrenalectomy. Pathology showed an 85mm, Fuhrman grade IV, ACC with clear margins and a Weiss system of 7. Lymph nodes were negative for malignancy.

Results:

Following discussion at the Endocrinology MDT she was referred for consideration of adjuvant RT and is currently planned for RT to the post-operative tumour bed (pre-op GTV + 15mm margin to CTV) and para-aortic nodes to a total dose of 54 Gy in 30 fractions.

Conclusion:

Small retrospective studies have shown a benefit in recurrence-free survival and overall survival in patients with ACC treated with adjuvant RT. We discuss treatment outcome and our rationale for treating this patient with adjuvant RT, based on published literature. Larger, prospective studies are warranted to better determine the role of adjuvant radiotherapy.

Do smoking cessation interventions have an impact on patients undergoing radiation treatment? A systematic review and meta-analysis

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P**urpose:**

Tobacco smoking can have a significant impact on overall survival and on the side effects of radiation treatment for cancer patients. This systematic review aims to assess the impact of smoking cessation interventions on the quit rate of cancer patients receiving radiationtreatment.

Materials and Methods:

Online data sources were searched in October 2020 and included Cinahl Complete, Medline, Embase, PubMed and Psychinfo/Psycharticles. The key search terms were “cancer” and “smoking” and “smoking cessation”. Eligible studies were RCTs and non randomized studies that enrolled patients in a smoking cessation intervention before, duringor after radiotherapy treatment. Interventions included counselling, support groups, alternate nicotine products, or a combination of these. Study quality was assessed by two researchers using the Effective Public Health Practice Project Quality Assessment Tool. (1) Odds ratios (OR) and 95% confidence intervals were calculated where possible for the pre-specified outcomes. A p-value of < 0.05 was deemed to be significant.

Results:

629 studies were imported into Covidence, the systematic review manager. Of these studies 3 met the eligibility criteria to be included in the meta-analysis. 7 studies in total were included in the systematic review. Cessation interventions were found to only have a significantimpact on the quit rate of patients at one-year follow-up (OR 0.57, 95% CI: 0.33-0.98).

Conclusion:

This systematic review indicates that smoking cessation interventions have a significant impact on the quit rate of patients at one-year follow-up. There is a need for additional research to determine which interventions are the most effective in maximising smoking cessation rates.

Knowledge and attitudes toward Radiation Oncology amongst NCHDs in University Hospital Limerick

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Purpose:

The purpose of this survey is to investigate knowledge amongst NCHDs in UHL regarding basic aspects of radiation oncology and their attitudes towards radiation oncology.This survey also aims to assess NCHDs attitudes toward education about radiation oncologyand their confidence in recognising and treating side effects of radiotherapy.

Materials and Methods:

A cross sectional survey was designed using web-based questionnaire on freeonlinesurveys.com. It was distributed to medical NCHDs in UHL. Knowledge was assessed using Yes/No and True/False answers and attitudes were assessedusing Likert Scale. The questionnaire was anonymous.

Results:

48 NCHDs responded to the survey. 88% reported no education in radiation oncology and 28% did not know if there was a radiotherapy department in UHL. 52% were unaware of services provided by a radiotherapy department. 74% reported they knew the indication for radiotherapy but only 32% felt they knew when to refer. 78% reported they knew the side effects of radiotherapy but only 22% felt confident in recognising side effects in a patient, 10% felt they could manage them. 96% of respondents felt it was important for NCHDs to have a basic knowledge of radiation oncology and 86% said they would be interested in education.

Conclusion:

Medical NCHDs do not routinely receive education on radiation oncology during their training. The survey shows there is an interest in education, and this may help to increaseconfidence of NCHDs managing patients undergoing radiotherapy. This would be beneficial for doctors working in a hospital, such as UHL, which offers radiation oncology services.

Health Related Quality of Life Outcomes for Gay/Bisexual Men with Prostate Cancer: A Review of the Literature

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Purpose:

To review the literature regarding Gay and Bisexual men with prostate cancer (GBMPCa) and their Health related quality of life (HRQOL) outcomes. To make suggestions forhealth care providers (HCPs) on how they can better improve the treatment experience for thisunder-researched group who may require specific supports.

Materials and Methods:

A literature review was conducted in April 2021 focussing on HRQOL outcomes for GBMPCa. Literature was stratified to identify significant differences in urinary, bowel and hormonal function outcomes for GBMPCa compared with Heterosexual men with prostate cancer (HMPCa). Sexual function and bother scores and psychological distress levelswere compared between GBMPCa and HMPCa. Literature was also stratified to identify available supports for GBMPCa.

Results:

GBMPCa report significantly worse urinary, bowel and hormonal function comparedwith HMPCa. They also report significantly worse psychological distress levels than HMPCa. GBMPCa reported significantly better sexual function and bother scores than HMPCa, thoughejaculatory bother was identified as a greater source of concern for this group than is reportedby HMPCa. There are limited support services available to GBMPCa.

Conclusion:

HCP's need to be made aware of the worse overall HRQOL and the different concerns GBMPCa experience. Support services need to be expanded and HCP's need to be better educated in order to offer this under-represented and vulnerable group improved HRQOLoutcomes.

A Comparison of the Quality of Work-Up for Curative Intent Radiotherapy for Lung Cancer inthe pre-COVID and COVID setting in St. James's Hospital

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Purpose:

Lung cancer is the leading cause for cancer related death in Ireland (1). The quality ofwork-up impacts accurate staging of disease which further impacts management strategies.
Where feasible, work up includes a tissue diagnosis of malignancy and endoscopic sampling ofN2/3 nodes. SLRON guidelines dictate that PET-CT and PFTs should take place within 3 months prior to planning radiotherapy. The Irish Government declared a national lockdown on 12/3/21 due to the COVID-19 pandemic. Access to diagnostic and therapeutic procedures were impacted by the surge in hospitalisations associated with the virus. Referrals and attendances at rapid access lung cancer clinics fell (2).

Materials and Methods:

We performed a retrospective analysis of all patients commencing radical lung radiotherapy / SABR to the lung (n=49) in May 2019 (pre-COVID, n=27) and May 2020 (n=22). This information was extracted from ARIA. Population characteristics including basic demographics, disease staging, lung function and surgical opinion were recorded.

Results:

Of the patients who commenced treatment in 2019, 20/27 (74%) had biopsy proven malignancy compared to 18/22 (82%) treated in 2020. 100% of patients with N2/3 lymphadenopathy underwent endoscopic sampling in 2019 and 2020. PET-CT within 3 months of RT planning occurred in 74% of patients (2019) vs 77% (2020). 74% of patients treated in 2019 had up-to-date PFTs vs 55% in 2020.

Conclusion:

The number of patients commencing curative intent lung radiotherapy / SABR tothe lung reduced by 19% in May 2020 (compared to 2019) which may have been an impact ofthe COVID pandemic.

Mesothelioma Management – Radical Hemithoracic Radiotherapy in practice

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Purpose:

Malignant pleural mesothelioma (MPM) is a rare and aggressive cancer which is typically incurable. Treatment historically was limited to palliative chemotherapy and surgery where suitable1. Palliative radiotherapy can improve pain2. A recently published phase 3 Randomised Control Trial demonstrated an overall survival (OS) advantage following treatment with Radical Hemithoracic Radiotherapy (RHR) vs Palliative Radiotherapy (Respective medianOS 25.6 vs 12.4 months, $p<0.001$) in selected patients post-lung sparing surgery and chemotherapy. Although associated with a nonnegligible toxicity profile3.

Materials and Methods:

We describe the case of a 58 year old lady with right sided epithelioid MPM(stage T4, N0) who received talc pleurodesis and chemotherapy, and who was subsequently planned for RHR (60Gy /25# (SIB)). This case was technically difficult to plan with unacceptablyhigh lung doses seen even after multiple iterations of a VMAT plan.

Results:

After external review by the trial's principal investigator, this lady was referred for tomotherapy in the UK via the Treatment Abroad Scheme. She was subsequently offered a second surgical opinion and underwent a right pleurectomy with complete macroscopic excision, thus adjuvant hemi-thoracic radiotherapy was not required.

Conclusion:

This case highlights new level one evidence regarding treatment of an uncommoncancer.

An investigation of Biochemical Failure and Toxicities in Patients with Intermediate and High-risk Prostate Cancer

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Purpose:

To investigate patients with intermediate and high-risk prostate cancer, treated with a combination of radiation therapies, for biochemical failure and associated toxicities. Toxicities were correlated with intra-operative dosing. The results of this study could aid patients and clinicians in making informed decisions about treatment options.

Materials and Methods:

Ethical approval was requested and granted from the, 'Galway Clinical Research Ethics Committee.' Data from eighty patients that were treated with external beam radiotherapy (EBRT) and a brachytherapy (BT) boost, either low-dose rate (LDR) or high-dose rate (HDR) were collected and included in this retrospective study. Prostate-specific antigen (PSA) test results as well as clinic notes and documentation were reviewed for reports of bowel,urinary and erectile dysfunction.

Results:

Among the data collected from the eighty patients in this study, ISUP grade group 2 and ISUP grade group 3 were the most frequently occurring grade groups. The most frequentlyoccurring NCCN risk group was the very-high risk group, which accounted for 40% of patients. The mean patient age was 62years with a standard deviation of 5.5years. Biochemical failure was identified in 6.4% of patients (5 patients). Sixty-one patients also received androgen-deprivation therapy and the most frequently reported side effect was, 'flushing,' which was reported by 32% of patients. The results related to toxicities were correlated with intra-operativedosing during brachytherapy.

Conclusion:

The results of this study could aid patients and clinicians in making informeddecisions about treatment options.

VMAT radiotherapy in the management of a complex case of cutaneous T-cell lymphoma of the lower limb

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Purpose:

Rare subtypes of lymphoma may present with extensive skin involvement confined to the lower limbs. With the circumference of a limb involved, opposed fields can be used but result in underlying soft tissue receiving 95% of dose and increasing toxicity. We present a complex radiotherapy (RT) planning approach using volumetric modulated arc therapy (VMAT), to highlight the role of RT in achieving long-term disease control.

Materials and Methods:

A 71-year-old male, on a background of renal transplant and bilateral knee replacements, presented with T-cell lymphoma affecting his left lower limb. He initially showed good response to chemotherapy, but after a recurrence was referred for palliative RT. At this stage, he presented with extensive painful, nodular cutaneous disease over the anterior aspect of his leg over a distance of 21cm.

Results:

He was initially treated with 4Gy/2 fractions with APPA fields. Following an excellent but partial response at one month, a VMAT plan of 20Gy/10 fractions achieved complete response. Four partial arcs was used to deliver the dose to the lower limb while sparing the central tissues, using a customised bolus and vacbag for setup. Disease control was achieved for 2 years and post a recurrence, he was re-treated with a dose of 24Gy/12 fractions with complete response.

Conclusion:

VMAT has been shown to offer highly conformal dose distribution with improved target volume coverage and sparing of OARs. With the use of rapid arc and its dosimetric advantages, we are able to offer re-treatment to radio-sensitive malignancies with no significant long-term toxicity especially lymphedema.

Case Report: Radium-223 therapy in colorectal cancer with osseous metastases

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Purpose:

This is an illustrative case report to discuss the use of Radium-223 (Ra-223) therapyfor the treatment of bone metastases in non-prostate solid organ malignancies.

Materials and Methods:

A 44yo pregnant woman presented in 2017 with de novo metastatic colon cancer. She was treated with emergent sub-total colectomy, systemic chemotherapy, and intra-hepatic chemotherapy and partial hepatectomy for bi-lobar liver metastases. She returnedover a year later with biopsy-proven painful bone metastases involving her left clavicle, T7 vertebral body and right scapula. Increased uptake was seen in these areas on isotope bone scan and PET-CT and Foundation Medicine analysis of her tumour demonstrated a heterozygous ATM mutation. Further bone metastases became evident during systemic chemotherapy. All sites were treated with hypofractionated external-beam radiotherapy with good symptomatic relief. There is increasing data demonstrating that patients with advanced prostate cancer who have inherited or acquired DNA repair gene mutations derive greater benefit from Ra-223 than similar patients without such mutations. On this basis, Ra-223 was considered for the treatment of osseous metastases in this patient with oligometastatic ATM- heterozygous-mutated colon cancer.

Results:

Our patient was treated with Ra-223 off-label and has tolerated this well with no significant adverse effects evident to date. She will be assessed with serum biomarkers (CEA,Ca19.9, ALP) and updated imaging on completion of a planned six cycles in total.

Conclusion:

This preliminary experience shows that Ra-223 therapy could potentially be a safeand useful therapeutic option in the rare setting of metastatic colorectal cancer to bone.

The Mask: a rare cause of iatrogenic seizures

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Purpose:

To describe a rare case of iatrogenic seizures in the radiotherapy department.

Materials and Methods:

The patient's clinical data and radiological investigations werereviewed using the oncology information system ARIA and NIMIS

Results:

A 50 year old male with recurrent left frontal grade 3 oligodendroglioma with 95%radiological resection was planned for adjuvant radiotherapy (35Gy over 10 fractions).Examination revealed a large left temporal pseudomeningocoele. Mask fitting in anticipation ofthe seventh fraction of radiotherapy led to a seizure-like event. The patient experienced focal right upper limb rigidity and clonus. Removal of the mask alleviated these signs. The episode was followed by confusion and inappropriate behaviour. Reapplication of the mask resulted inrecurrence of the event. CT Brain demonstrated an enlarged left pseudomeningocoele at the operative site (increased to 97mm from 42mm) with a large subdural component (85mm). Ourinterpretation hence, is that the application of the mask compressed the extradural componentof the pseudomeningocoele, leading to fluid translocation into the intracranial component with resultant rise in intracranial pressure and transient anoxic seizure. This issue was successfully addressed by cautious application of a conforming bandage before mask placement, and the patient completed his prescribed radiotherapy.

Conclusion:

This is, to our knowledge, the first reported case of transient anoxic seizure secondary to raised intracranial pressure from cerebral pseudomeningocoele compression. Large pseudomeningocoeles should raise awareness for this potentially fatal adverse event.

Re-irradiation in Breast Cancer

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Purpose:

Presentation of case series of patients re-irradiated for recurrent breast cancer aimingto highlight the main indications for treatment and to provide a summary of the evidence base for this approach.

Materials and Methods:

Review of the literature of breast cancer re-irradiation and case seriesreview.

Results:

Breast re-irradiation has not been examined in any randomised trials but several retrospective studies have shown re-irradiation with high dose external beam radiation therapy (EBRT) is well tolerated and has good results for local control and one year survival, 64-73% (1,2). The three main indications for breast re-irradiation are; post salvage mastectomy, post resection of chest wall recurrence and inoperable locally advanced recurrence. Case 1 is a caseof local recurrence fifteen years following initial wide local excision and RT, 40Gy in 15#.Recurrence was managed with salvage mastectomy and adjuvant postoperative re-irradiation,50Gy in 25#. Case 2 is a case of chest wall recurrence three years after previous mastectomyand RT, 30Gy in 10#. Recurrence was managed with excision of chest wall scar and re- irradiation, 50Gy in 25# + boost 8Gy/4# (initially planned for 16Gy/8#). Case 3 is a case of inoperable locally advanced breast recurrence two years following RT, 30Gy in 10#. She thenproceeded to have further RT, 50Gy/25# + boost 8Gy/4# (initially planned for 16Gy in 8#) for control of locally advanced recurrence.

Conclusion:

Re-irradiation is an important component of the multidisciplinary approach required for patients presenting with recurrent loco-regional breast carcinoma (3). Careful targetdelineation and normal tissue sparing techniques minimise late toxicities.

Radiotherapy for oesophageal squamous cell carcinoma in patient with Ehlers-Danlos syndrome: a case report

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Purpose:

Ehlers Danlos syndrome (EDS) is a disorder of connective tissue affecting collagen structure and function. Those affected by EDS may demonstrate abnormal wound healing and scar formation. There are only five case reports of patients with EDS receiving radiotherapy; thesites of treatment varied, and adverse events described range from mild to fatal.

Materials and Methods:

We present a case of a 58 year old lady with a presumed diagnosis of EDS with newly diagnosed locally advanced oesophageal squamous cell carcinoma. She has a phenotype consistent with EDS, with several shoulder dislocations in the past, and thin and elastic skin which bruises easily. The patient has family members with genetically confirmed EDS (Type 1). Regarding her oesophageal malignancy, neoadjuvant chemoradiation was felt torepresent the best chance of cure. She was treated in accordance with CROSS regimen, 41.4Gy in 23 fractions, with concomitant chemotherapy. The patient was referred to rheumatology services before starting radiotherapy. It was suggested that she likely had Type 1EDS, but her case could also be consistent with EDS Type III. Genetic testing would be necessary to confirm the diagnosis, but chemoradiotherapy could not be delayed to facilitate this.

Results:

The patient was reviewed regularly during treatment. Adverse effects to date includedysphagia and very mild skin reaction on the anterior chest wall. The patient will be followed closely to monitor for toxicity related to radiotherapy

Conclusion:

This is a case report of a 58 year old lady with a presumed EDS diagnosis treated with radiotherapy for a newly diagnosed oesophageal malignancy. Toxicity is being recorded and will be presented at the time of the meeting.

Prostate brachytherapy migration - a rare case report of embolisation to the heart

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Purpose:

We report a case of a patient who underwent loose seed brachytherapy for prostate cancer and had subsequent migration of a brachytherapy seed to their heart. We demonstrate apictorial guide to the sequence of investigations performed to manage this event.

Materials and Methods:

A 74 year old gentleman underwent brachytherapy monotherapy in2018. A seed was noted to migrate outside the capsule during the procedure. Radiological investigations demonstrated that the seed had in fact come to rest within this gentleman's pericardium (images to be displayed on poster)

Results:

Initial workup included chest and abdominal radiographs. The seed was visualised overlying the cardiac silhouette on radiograph. CT unexpectedly identified the seed in the heart rather than lungs, which is the most common site of seed migration (1). Cardiac workup including echocardiography, Holter monitor and catheterization were performed. There were frequent ectopic beats on the Holter, which could likely be attributed to the seed. The location ofthe seed was not definitively established, but a small coronary vein was deemed the most probable resting place. The patient remains asymptomatic 3 years later and has had no further complications.

Conclusion:

Loose seed migration via the peri-prostatic venous plexus is a known complicationof prostate brachytherapy (2). Migration to the heart has only been reported on a small number of occasions (3). Stranded seed brachytherapy has become a mainstay of treatment in recent years, as this technique has been shown to significantly reduce the risk of seed migration (4).

A survey of patient satisfaction among those enrolled in clinical trials at St Luke's Radiation Oncology Network

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Purpose:

Clinical and translational research is a keystone of modern medical practice. Any successful trial is likely to result in a range of output data, which researchers interpret to validatetheir hypotheses. One area within the data which is seldom explored is that of patient trial experience. Clinical trials stakeholders are often unsure of the level of satisfaction participants have achieved through their participation. We aim to explore this further in our study.

Materials and Methods:

Patient satisfaction is defined as the fulfilment of expectations, needsand preferences. Our study involved participants from six previous trials conducted at SLRON,including two breast cancer trials and one trial each in prostate, endometrial, rectal and head/neck cancer. These trials were selected in order to capture a diverse patient cohort.Patient satisfaction responses were collected by electronic questionnaire which was distributedvia email. Given the wide range in enrolment numbers between the trials (lowest 12 – highest 164), we aimed to create an even representation by limiting each trial to a maximum of 12 survey participants.

Results:

Our final output includes satisfaction reporting from 69 patients, just below our initialtarget of 72 patients. Our results demonstrate that 88% of surveyed participants were satisfiedwith their trial experience, compared to just 4% reporting dissatisfaction. Furthermore, 82% would participate in another trial and 87% would encourage family and friends to participate.

Conclusion:

As well as being a useful metric for completed trials, our study provides insight intobarriers to trial participation and may be useful in optimising recruitment for future studies.

NUT Carcinoma – a rare, underdiagnosed and fatal squamous cell carcinoma

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Purpose:

Introduction: In this case series, we will discuss three cases of NUT Carcinomas (NC)treated within SLRON. Background: NUT Carcinoma (NC) is a rare poorly differentiated subtypeof squamous cell carcinoma defined molecularly by rearrangement of the NUT gene on chromosome 15. NCs typically arise in midline structures of the head and mediastinum, and areassociated with rapid local progression and early distal metastases. NCs run a devastating course with median survival 5-9 months from diagnosis. Despite greater availability of diagnostictesting, NCs likely remain underdiagnosed.

Materials and Methods:

Case 1: 59 year old lady presented with facial pain. MRI Sinuses showed a locally invasive mass in the right medullary sinus. She underwent right orbital exenteration and maxillectomy and was referred for adjuvant chemoradiotherapy. She is planned for 66Gy/33# to the right maxilla and neck.
Case 2: 24 year old male presented with diplopia. MRI showed a locally invasive mass within the right ethmoid air cells. He completed 66Gy/33# to the paranasal sinuses and right orbit with chemotherapy. He unfortunately passed away 5 months after diagnosis.
Case 3: 19 year old male presented with neck pain. Imaging showed diffuse bony metastatic disease with a likely lung primary. He was planned for 20Gy/5#to C5 and the mediastinum but unfortunately passed away prior to completing treatment.

Results:

All 3 patients were evaluated during radiotherapy and treatment outcomes were evaluated

Conclusion:

No established treatment regimen exists for NCs and most patients receive a multimodal approach with surgery, chemotherapy and radiotherapy. Future directionsincluding targeted molecular therapies may improve outcomes for this aggressive and fatal malignancy.

Development of an introductory document for new radiation oncology registrars

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Purpose:

Radiation oncology is a highly subspecialised area of medicine and there is a steeplearning curve when starting in the specialty. We developed a thorough document to introducenew registrars to the specialty.

Materials and Methods:

We identified key stakeholders in the development of this document toensure the most relevant content was included in a manner that would be useful for new registrars. This included the SLRON training coordinator, clinical tutor, specialist registrars, and a relatively junior registrar. The document was developed to include an introduction to the practicalities of working in SLRON but has a stronger emphasis on the clinical and technical aspects of radiation oncology. We detailed a practical guide to managing common radiotherapy emergencies. This includes advice on the clinical management and also an introduction to basic radiotherapy planning.

Results:

The document was approved by the members of SLRON Medical Education Committee and has now been distributed to new registrars for the past two years. The clinicaland technical aspects of the document have also been useful for new SPRs and registrars commencing work in Cork and Galway.

Conclusion:

Involvement of doctors with varying levels of experience was very helpful in ensuring relevant and helpful content in this document. It has been distributed to incoming registrars to provide them with a helpful resource to enable them to work comfortably in theirnew clinical role.

Quality Improvement project for inpatient consultation service in SLRON Beaumont

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St Luke's Radiation Oncology Network, Dublin

Purpose

The consult service for radiotherapy in Beaumont hospital is a busy and pressurised service. Prior to this study, the number of patients were not being tracked and there was no record of staff workload. The ability to monitor patient progress and ensure all team members involved were up to date was also unreliable. The aim behind this project was to record consults more efficiently and also create a safer handover system to follow-up consults. A high proportion of consults are for stage 4 disease and require quick turnaround palliative treatment plans.

Materials and Methods:

Other departments in St Luke's use a tool on ARIA called "encounters". This is checklist page that allows accurate monitoring of procedures and treatment. The link on taskpad to encounters allows the team to tick each section of the consult as the process is being completed. This Quality improvement project was submitted via QART and approved by the ARIA HCR group. The project began in April 2021.

Results

The QIP was run as plan, do, and study act (PDSA) cycles. After initial roll out the QIP was evaluated 2months later by way of user feedback. At this time we amended the titles of encounters. We will continued to do 2 monthly PDSA. The number of inpatient consults is logged as a metric and included in the QIP final report.

Conclusion:

This Quality improvement project has provided a more efficient safer consult system in St Luke's Beaumont. The workload is now recorded and the handover between teams is now completed in a precise user friendly way.