

Abstracts

Research for Clinicians: Creating Tomorrows through Today's Research 2023



The following abstracts were presented at an online meeting organised by the Northern Ireland Medical and Dental Training Agency (NIMDTA) on 9th November 2023

ORAL PRESENTATIONS

MethoSAFE: Introduction of a High Dose Methotrexate Management Policy to Enhance Patient Safety

Dr C Rice

Problem: High dose methotrexate (≥ 500 mg/m²) administration can cause significant morbidity and mortality. Aggressive pre-treatment and post-treatment hydration, urinary alkalization and folinic acid administration are essential. Complications include hepatotoxicity, mucositis, myelosuppression, pneumonitis, renal toxicity, and encephalopathy. Local policies should align with national EviQ chemotherapy administration protocol to ensure patient safety. Often there is room for improvement in methotrexate management.

Strategy for change: We assessed high dose IV Methotrexate management in an Australian tertiary haematology unit over 6-months and compared this to EviQ guidelines. A multi-disciplinary education event was held to increase awareness of methotrexate toxicity and troubleshoot areas for improvement. A multi-disciplinary stake-holder meeting aided in designing a local methotrexate management protocol.

Measurement of improvement: We completed two PDSA cycles, comparing the morbidity rates pre and post policy implementation. The frequency of monitoring of urinary pH and weight were also assessed, and time lapsed to action taken regarding abnormal results.

Effects of change: The new policy included a guide for nursing monitoring intervals to ensure timely detection of adverse effects, and thus timely medical intervention. A medical protocol for the management of abnormal methotrexate levels, urinary pH or fluid overload was implemented. As a result, the morbidity levels reduced from 75% to 25%. Staff knowledge and confidence managing high dose methotrexate improved.

Discussion: While there is scope for improvement, we significantly reduced methotrexate associated morbidity by adoption of a pre-emptive approach to safe administration and monitoring of High Dose Methotrexate. Local and national guidelines aligned and patient safety was enhanced.

The MRI Alarm Clock: Waking Up to Thrombolysis in Stroke Patients

Dr Timothy Atkinson & Dr Ivan Wiggam

Introduction: Traditionally, intravenous thrombolysis (IVT) has been the standard treatment for acute ischaemic stroke in patients presenting within 4.5-hours from symptom onset. However, a significant challenge arises when the exact onset time is unknown, ranging from 14-27% of strokes, as in cases where stroke symptoms manifest during sleep. Historically, these patients have been excluded from IVT treatment, and not all are suitable candidates for mechanical thrombectomy. Recent guidelines recommend considering thrombolysis for wake-up stroke cases, even if the time from last seen well exceeds 4.5-hours, based on MRI findings. The DWI/FLAIR mismatch pattern is employed because it suggests the stroke likely occurred within approximately the preceding 4.5 hours, the accepted interval for thrombolysis treatment.

Description of Case: In our case, a 62-year-old woman presented with wake-up stroke symptoms 9 hours after her last well appearance. Examination revealed right INO, left arm ataxia, bilateral leg drift and fluctuating level of consciousness (NIHSS 8). Initial CT brain and CTA were unremarkable. Subsequent MRI revealed a small area of hyperintensity on diffusion trace B1000 involving the right ventral pons, accompanied by reduced diffusivity on ADC mapping. No FLAIR abnormalities were observed. Following these findings, thrombolysis was administered, leading to full recovery (24-hour NIHSS 0).

Discussion: The use of MRI, specifically DWI/FLAIR sequences, offers a promising approach to select wake-up stroke patients for IVT, expanding treatment options beyond the traditional time window. This case highlights the importance of advanced imaging in redefining treatment options and improving outcomes for wake-up stroke patients.

Heads up for Concussion Knowledge in Emergency Medicine – Knowledge of Concussion Amongst Emergency Medicine Physicians: A Scoping Review

Dr Adam Gowdy, Dr Neil Heron

Introduction: Concussion is a common condition, with sources estimating 6.6% of all ED presentations are related



to head injury and resultantly concussion has significant healthcare costs, not only limited to emergency departments. In April 2023, the UK Government published a report on concussions in grass roots sport, recommending anyone that has sustained a suspected concussion has a same day review by an appropriate healthcare professional. It is therefore essential that emergency medicine physicians have the required knowledge and use current clinical practice guidelines.

This scoping review aims to review the current literature regarding concussion knowledge, diagnosis and management amongst emergency physicians.

Material and Methods: This scoping review was conducted using the six-step process laid out by Arksey and O'Malley and included 17 papers from 2012 to February 2023, identified by searching of 5 online databases in February 2023 alongside a hand search of references. Search terms relevant to concussion, emergency medicine and medical education were used.

Results: 14 of the 17 papers originated from North America, all studies utilised either an online survey or chart review methodology. 3 papers included an educational intervention. 12 studies looked at all grades of EMPs. 14 of the studies highlighted knowledge gaps amongst EMPs, the 3 that did not specifically mention this were the 3 interventional studies.

Conclusion: EMPs have large knowledge gaps regarding concussion and limited adherence to current guidelines. Efforts should be made at improving these results amongst EMPs. Further research is needed to find the most beneficial and cost-effective approach.

Acute Myeloid Leukaemia: Fitness for Treatment Assessment Tool

Dr C Rice

Introduction: Assessing patients' fitness for intensive treatment can be complex in Acute Myeloid Leukaemia (AML). It is important, as it differentiates between curative or palliative intent. Older patients have inferior responses to therapy, refractory disease, and frequent infectious complications. Given this, older patients are often best managed with less intensive chemotherapy.

Aims: A recent British Society for Haematology good practice paper entitled 'Management of older patients with frailty and AML' recommended a local geriatric assessment tool for fitness for intensive treatment be considered as a decision-making aid. I considered; Will a formal fitness assessment tool change the fitness for treatment decision-making?

Method: From June to August 2022, all new AML cases discussed at the regional MDM were reviewed. As per the BSH recommendations, a score of >10 on Edmonton frailty scale, >3 on HCT-CI and >2 on ECOG PS would indicate higher risk for treatment related morbidity and mortality with

intensive chemotherapy. These were used in combination as a scoring tool to stratify patients into fitness groups.

Results: Treatment plans were mostly concordant (12/14) with MDM assessment for fitness and fitness as per the combined geriatric tool. Two cases which were not concordant were cases that the geriatric tool would have deemed fit, however, other information considered at MDM deemed the patient not fit for intensive treatment.

Discussion: The fitness assessment tool may not change decision-making regarding fitness for AML treatment but could formalise the process and improve documentation. There remains a need for holistic, patient centred and personalised treatment plans.

POSTER PRESENTATIONS - Quality Improvement

Improving Octaplex prescription and administration knowledge and confidence in the Emergency Department

Mohamed Shirazy, Suzanne Rankin, Lauren Christie, Madhuri Badolla, Daniel McGeown

Problem: An internal concern on the lack of knowledge of appropriate prescription, preparation, and administration of Octaplex by ED Drs and nurses.

Strategy for change: Two audit cycles were conducted in Antrim Area Hospital ED to quantify the ED Drs' and nurses' degree of confidence and knowledge of Octaplex prescription and administration. The quality improvement framework was designed using the FOCUS-PDCA tool. Accordingly, interventions and changes were implemented in the form of information posters and flyers, and education and simulation training.

Measurement of Improvement: The degree of confidence and knowledge gain were audited before and after implementing the proposed changes.

Effect of changes: Significant improvement was achieved in the degree of confidence and knowledge on Octaplex among ED Drs and nurses.

Discussion: FOCUS-PDCA model is an efficient model for improving healthcare performance. In this project stakeholders and service providers harmoniously collaborated. Audio-visual and various education modalities were implemented to achieve the required outcome.

Are we adhering to traumatic head injury guidelines and DVLA advice post admission with traumatic head injury?

Dr Shreya Sengupta

Problem: DVLA strictly advises to inform them if the patient has a traumatic head injury and can also be fined if they are not informed about head injuries making them unsafe to drive. Hospital guidelines also states that we should provide head Injury leaflets to patient on discharge to guide them.



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Retrospective data collection from all traumatic head injury patients admitted under general surgery at Frimley park hospital, Surrey showed less than 20% of the patients were given correct information

Strategy for change: dissemination of results in departmental meeting. Put up posters in the Surgical office and on SAU to remind Doctors of the guidelines and leaflets kept in stack to hand over with TTOS

Measurement of improvement: Re-audit

Effects of change: 80% of the eligible patients were informed to inform DVLA for their traumatic head injury in their discharge summaries.

62.5% of the patients were given head injury advice and leaflets mentioned in their discharge summary compared to only one patient in first cycle.

Discussion: Due to work pressure, overwhelming atmosphere from EPIC and sick colleagues, patients were missed to handover the leaflets. However, it is important to adhere to the guidelines for the following reasons-

Protects patients from further harm.

Protects the public (passengers and pedestrians etc.) Protects us from litigation But we need to continue awareness so that we pass on the advices to all the patients across the trust for everyone's safety.(passengers and pedestrians etc.) Protects us from litigation

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Assessment of discharge summaries in emergency surgical unit (EMSU)

Dr Shreya Sengupta

Problem: Discharge summaries are important Medico-legal document and is vital for Continuity of patient care (for GP and follow ups). Moreover, it's the documented Information for patients and relatives/carers. Retrospective data collection at Royal Victoria hospital showed lots of loopholes and incorrect follow ups of patients.

Strategy for change: Discharge summary checklist attached to patients getting discharged to be filled by SHOs and registrars in ward round to put in correct diagnosis, surgery and follow up plans with correct consultant.

Circulation of results to juniors and educating juniors regarding correct discharge summaries, to keep note of all relevant investigations, operations done and follow ups.

Involvement of management team to be able to edit consultant name in discharge papers and to add safety netting section if possible.

Measurement of improvement: Re-audit

Effects of change: 100% compliance in prepopulated discharge summary- Patient demographics, GP details, hospital site and date of admission, Allergies and medications on discharge.

100% compliance in putting signature, Discharge date, discharge destination, relevant investigations. Improvement in documenting Correct discharging consultant, source of referral, diagnosis, clinical information, Hospital follow up and GP actions and information patient/safety netting advice.

Discussion: Discharge summaries are important Medico-legal document and is vital for Continuity of patient care. Moreover, it's the documented Information for patients and relatives/carers. Although we noted improvement in quality of discharge summaries however there's a decline in correct surgeries and requires

100% compliance in rest of fields.

Assessment of antibiotics prescribed at EMSU

Dr Shreya Sengupta

Problem: Sepsis is the leading cause of death worldwide and resistance to antibiotics indirectly adds to the burden of death by not being able to provide correct first line antibiotics. To aid antibiotic prescription in general surgery, we have Microguide app from the Belfast Trust.

Antibiotics prescription also depends on the severity of infection and that is guided by either by SIRS criteria, qSOFA score and/or Canadian Guidelines — ED Sepsis 2022. However, Retrospective Data collection showed unnecessary and wrong use of antibiotics due to lack of awareness and clarity in terminologies used.

Strategy for change: Put up posters indicating SIRS and Canadian guidelines to decide on prescribing Tazocin to term as 'Severe' infection along with Microguide advice of antibiotics to be prescribed in non-severe and severe infection

Measurement of improvement: Re-audit after 6months

Effects of change: Overall increase in adherence to guidelines for antibiotics (74.3% correct antibiotics prescription compared to only 51.4% in first cycle as per local Guidelines)

No unnecessary use of tazocin in second cycle compared to 26% patients receiving tazocin in first cycle when not required according to severity or complications.

Discussion: Increase in awareness needs to be created among junior surgeons to avoid using antibiotics when not needed as benefited in second cycle. Daily review of antibiotics is required to stop/de-escalate when necessary. We need to standardize oral step-down regimes for penicillin allergies which lacks in Microguide.

Assessment of VTE prophylaxis: Proper Prescription and Application

Dr Shreya Sengupta

Problem: Thromboembolic phenomenon (DVT, PE) are avoidable perioperative events that carry significant morbidity and mortality. We have guidelines to help reduce the risk.

NICE GUIDELINES (NG 89)-

1. Mechanical (SCDs or AES) will be considered for all patients having risk of VTE on admission
2. Pharmacological VTE prophylaxis must be administered within 14 hours of admission

TRUST GUIDELINES (Document ID number: POLCMM003)- All patients must have VTE assessment within 24 hours and prescribe prophylaxis as per protocol. Retrospective data collection showed about half of the patients were not wearing stockings and about 1/4th of the patients were wrongly prescribed chemical prophylaxis.

Strategy for change: Increased awareness among nurses and junior doctors regarding importance of wearing stockings and correct dosage of clexane within 24hrs with posters and dissemination of result indepartmental meeting.

Measurement of improvement: Re-audit after 6months.

Effects of change: More patients wearing stockings compared to 1st cycle (60% from 51%)

More patients were prescribed VTE prophylaxis (97% from 95.6%)

More patients were given pharmacological VTE prophylaxis with 24 hours (98% from 90.7%) Doctors identifying more contraindications to VTE prophylaxis (91% from 68.8%)

Discussion: There is need of Increase awareness among doctors regarding proper VTE prophylaxis assessment and prescription on induction and through teaching. Increased awareness among nurses to encourage patients to put on stockings.

Genetic Screening of Inpatients with Intellectual Disabilities: a service development project to widen access to up-to-date genetic screening in adults with an intellectual disability

Dr Shauna Monaghan, Dr Ken Yeow, Dr Michael Kingsley

Problem: Around 10% of patients with an intellectual disability have a clinically relevant copy number variant in their DNA detected using microarray analysis. Adults with an intellectual disability may not have had access to genetic screening during their patient journey, or they may have had previous screening with now outdated technology.

Aim: to offer up-to-date genetic screening to adults with intellectual disability in an inpatient setting.

Strategy for change: In collaboration with the clinical genetics department, confirm local capacity for genetic screening by microarray testing, and create a pathway for referral with a screening tool for detection of "high risk" patients. Develop processes and resources for consenting patients with capacity, and for acting in best interests with family agreement for those without.

Measurement of Improvement: Increase in the number of patients with up-to-date genetic screening.

Effects of change: This project has detected previously

unknown genetic abnormalities in current inpatients. Further testing is underway and clinical discussions are ongoing regarding the implication of these findings for current patient care and management.

Discussion: Patients with capacity, families and multidisciplinary healthcare professionals were overwhelmingly supportive of this project with the aim of improving understanding and ultimately the care of each individual. With further discussion and assistance, this project could be widened to the community setting to benefit a greater number of patients and their families.

Improving confidence in dermatological surgical skills through simulation: A quality improvement project

Elamin S, Wong J, Doran N, McKenna J, Dolan O, Campbell V

Problem: With rising skin cancer cases, attaining surgical skills plays an integral part of dermatology training. Majority of new trainees have little to no prior surgical experience with no formal courses available within Northern Ireland. The advantages of simulation training are increasingly being recognised across the medical field; however, it is seldom used within dermatology. A workshop was set up to improve confidence levels in dermatology surgery through simulation training.

Strategy/measurement: Questionnaires were distributed to dermatology trainees and nurses evaluating prior surgical experience and confidence in various techniques. The workshop was set up at intervals, and included booking a suitable venue, attaining equipment and securing facilitators. Following each workshop, a similar questionnaire was sent to attendees to re-assess confidence levels.

Effects of change: Initial results showed that 66% had limited/no prior surgical experience with 100% agreeing that surgical skills training could be improved. Overall confidence level averaged at 37%. After the initial workshop, which covered requests ad hoc, the overall confidence score rose to 43%. The second workshop was improved with a more structured programme, learning objectives and addition of simulation scenarios. Following this PDSA cycle, overall confidence levels increased to 63%.

Discussion: This proved to be a successful project in improving skin surgery confidence and an opportunity for MDT collaboration. Despite the logistical challenges to begin with, it received uniformly positive feedback from the wider dermatology team. We aim to run this workshop biannually with ongoing improvements, and eventually hope to expand it to include other interested medical and nursing staff.

Annual Antipsychotic Blood Monitoring in North Primary Mental Health Team

Dr Bronagh McCarragher

Problem: Antipsychotics increase the risk of metabolic



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syndrome.

People with Serious Mental Illness have 15+ years reduced life expectancy (partly due to cardiovascular disease).

Maudsley guidelines advises patients on antipsychotics have annual: U&E, FBC, Lipids, HbA1c, LFTs and Prolactin. Abnormal results trigger needs for preventative treatments. Patients currently attend a peripheral phlebotomy site at Musgrave Park Hospital.

Doctors must consider and refer patients for bloods via Cyberlabs, record referral, review and action bloods (without dedicated clinical time).

Baseline audit: Only 10% of our patients are appropriately being referred for bloods (average 20 patients per month). Safety concerns raised over documentation regarding blood monitoring.

Strategy for change: Education sessions, Pilot of NIECR worklist, cyberlabs worklist and written log book to document bloods, Introduction of physical health review clinic, Introduction of antipsychotic physical health monitoring proforma.

Measurement of Improvement: Review written and electronic notes to see what percentage of patients are being referred for annual antipsychotic bloods appropriately.

Effects of change: Small improvement in percentage of referrals for blood monitoring, however, this was below 40% aim. Significant data obtained which is an excellent resource, which may aid building a business case to support a physical health service within the team.

Discussion: Barriers: time, buy in, resistance to change. Hurdles: multiple sources of sign off for Patient Information Leaflet.

Learning: good communication is key, regular meetings required to keep momentum, learning of Quality Improvement methodology, development of management and leadership skills.

Concentrating the Renal Referral Process for Northern Ireland's Regional Nephrology Centre.

Dr E McKenna, Dr E Borthwick, Mr S Swan

Problem: Historically, referrals were made via a rotational baton phone carried by the registrars on a twenty-four-hour basis. Covering this consult service was dreaded by trainees due to the associated workload with constant interruptions and twenty-plus calls received daily. Advice given via phone consults may be misinterpreted or not accurately documented by the referring team posing a patient safety issue.

Strategy for Change: Between 2020-22 this system has been replaced by an electronic e-referral system.

Measurement of Improvement: The aim was to improve the renal registrar's consult experience by 75% on a Likert scale within the first year of e-referral usage and to obtain documented advice for 75% of referrals. Data was reviewed from the first fourteen months of e-referral usage.

Effects of Change: 100% of renal registrars prefer the e-referral system to the baton phone. There were 662 referrals received in the first fourteen months of usage. 85% of referrals had documented advice generated. A secondary aim was to quantify the number of referrals received to guide future workforce planning.

Discussion: This change in referral modality was a positive change for the service and trainees alike.

SC-QUIT (Smoking Cessation- Quality improvement Using Interdisciplinary Teamwork)

Ryan Brolly, Michael Corr, Ashley Ramsay, Sarah-Jane Hanna, Claire Devine, Thelma Craig

Problem: Smoking is a major modifiable cause of disease, mortality, and increased healthcare costs. Despite working in dedicated respiratory wards, we realised that documentation of smoking status, prescribing of nicotine replacement therapy (NRT) and referral to smoking cessation services (SCS) were low.

Strategy for Change: An interdisciplinary team was formed in the Mater Hospital (doctors, respiratory nurse, physiotherapist, pharmacist specialists). The aim was to improve documentation of smoking status, prescribing of NRT and referral to SCS.

Implementation sprints were used to initiate and maintain change. Sprint changes included staff education, posters, agreeing NRT prescription pathway and pharmacist intervention with discharge scripts.

Measurement of Improvement: Rates of smoking status documentation were checked weekly among inpatients. Discharge letters were reviewed to assess outcomes: smoking status documentation; NRT prescription and referral to SCS.

Effects of Change: Documentation of smoking status in medical notes improved to 55-73% (baseline 32%). Nursing documentation was 100%. Weekly review of discharge letters revealed maximum improvements; documentation of smoking 43% (baseline 12%), NRT prescription 21% (baseline 8%) and SCS referral 14% (baseline 0%).

Discussion: Modest improvements were achieved. Our results are likely skewed by the fact non-smoker status or patient refusal for NRT/SCS were less likely to be documented (rather than intervention not being completed). Hence, it is likely a higher proportion of smokers benefitted from improvement than our data suggests. We hope to achieve further improvement through empowering non-medical members of staff to request NRT prescription and refer to SCS rather than relying mainly on junior medical staff.

Adherence and Legibility of Hand-Written Surgical Operation Notes, in Antrim Hospital, with Royal College of Surgeon (RCS) Guidelines

E. Johnston, C. Aka, O. Eltayeb

Problem: The surgical operation note is an essential form

of documentation in surgical practice and is critical in post-operative patient care, academic purposes, and medico-legal settings. Errors in patient handover are implicated in a high number of serious outcome events, highlighting the importance of written documentation and record keeping.

A prospective audit, evaluating 48 hand-written operation notes against 20 recommended parameters, identified poor legibility and substandard compliance with RCS guidelines.

Strategy for Change: Teaching, based on the RCS Guidelines and the recently published GRIFT “Best Practice Documentation” was delivered at the local surgical M&M meeting. An information poster, highlighting key areas for improvement, was designed, and displayed in the surgical ward and theatre notice board. The GRIFT guidelines were printed and added to each theatre, accompanying the hand-written operation note proformas.

Measurement of Improvement: Following education, a further prospective audit was carried out over a 3-week period.

Effects of Change: Correct education to the surgical department led to an improvement in hand-written operation note legibility from 69.8% to 90.7%. Overall, 84.8% of all parameters were found to be documented, in comparison to 75.8% in the first window.

Discussion: Legibility and adherence to guidelines improved with intervention. Preferably, as recommended by RCS, operation notes should be typed. This data will inform the design of the typed surgical operation proforma when ENCOMPASS is introduced in 2024.

Safety Net: Utilising QR code posters and Symptom Checker website to improve Paediatric discharge advice and enhance patient safety

Caitlin Patterson, Warren McCue, Kevin Halleron, Kenneth Millar, Emma Lyttle, Sarah Kapur

Problem: “Safety netting” at Paediatric discharge is a safety measure to educate parents on ongoing homecare and when to return if deterioration occurs. Optimal advice is specific, reinforced in writing and should be documented. Safety netting practice in Belfast’s Children’s Hospital (RBHSC) is previously unstudied.

Strategy for change: The Belfast Trust’s innovative Children’s Symptom Checker website, produced using national partners Alder Hey and Healthier Together, hosts trustworthy medical advice for parents. We commissioned novel QR code posters linking to the website as a source of discharge information for parents, after clinicians reported limited time to source written advice. We also led two teaching sessions on safety netting best practice.

Measurement of improvement: 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).

Effects of change: 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.

Discussion: Results demonstrated a sustained improvement in safety net practice, thereby positively enhancing patient safety, utilising the innovative and collaborative Symptom Checker, novel QR code posters and dedicated teaching.

LUMBAR PUNCTURE (LP): Improving patients’ safety through timeliness, Consenting and Standardised documentation

Drs Olugbenga Alabi, Mildred Ibekwe, Ola Suliman and Raeburn Forbes

Problem: The problems identified include time wastage gathering materials and occasionally unavailability of materials/ equipment, poor documentation of procedure and need to improve patients’ information and consenting process information

Strategy for change: Project was to be in Daisy Hill Hospital. Baseline data was obtained via google forms and stakeholder engagement completed to quantify magnitude of the problems identified and preparation of our intervention. We then introduced the Lumbar puncture trolley that has all the materials needed for the procedure as well as a documentation proforma, LP information leaflet and guidance on anticoagulants/antiplatelets in reference to LP. The post-intervention survey was done after 8 weeks of usage.

Measurement of Improvement:

- Time taken to source materials.
- Tracking staff feedback to determine whether the availability of materials on the trolley
- Percentage compliance/ completion of the Lumbar Puncture Proforma.

Discussion: Following our intervention, the time taken to gather materials for LP dropped down to less than 10 minutes in about 75% of respondents compared to over 1 hour in baseline data. Also, the use of the proforma received 100% compliance and these ensures compliance with Royal College of Emergency Medicine guidance as regards documentation of the procedure. The project has ensured timeliness of carrying out the procedure, reducing waiting times of patients during acute medical takes (and reducing duration of bed occupancy) and have also ensure guidance is available to doctors carrying out LP in the Southern Trust.



POSTER PRESENTATIONS –

Case Studies/Case Reports

Think once, think twice, think Amyloidosis!

Dr C Rice

Introduction: Delay in diagnosis of AL amyloidosis directly impacts the prognosis. Poor baseline functioning and multi-organ involvement reduces fitness for chemotherapy. A high index of suspicion is required in patients with multi-system symptoms, especially with cardiac, renal, and autonomic involvement.

Description of case: A 70-year-old presented with anorexia, dysphagia and 30kg weight loss over 6-months following COVID-19 infection. Past medical history included congenital hydrocephalus with ventriculoperitoneal shunt, and atypical cardiac chest pain, with normal CT angiogram 10 years previously. Unfortunately, due to the covid-19 pandemic, gastrointestinal investigations were delayed. The patient represented 4 months later with postural dizziness, abdominal pain, urinary retention, and constipation. He had noted vocal changes with a “huskier” tone, syncope, and weakness. Renal function and blood counts were normal. Cardiac MRI was suggestive of HOCM. Postural dizziness was treated as dehydration in the setting of anorexia. OGD did not reveal an abnormality, but barium swallow identified oesophageal dysmotility. There was delayed gastric emptying.

Referral to haematology occurred 10 months after initial presentation. Fat pad and bone marrow biopsy confirmed a diagnosis of AL amyloid. Unfortunately, due to the delay in diagnosis, with multiorgan failure, and ECOG 4, the patient did not respond to first line chemotherapy and passed away.

Discussion: Amyloidosis is characterized by extracellular deposition of fibrils in various organs. It is an important differential in patients with multi-system disease, especially with cardiac, renal, and autonomic symptoms. A low threshold for investigation expedites diagnosis in those affected, which consequently can potentially improve prognosis.

A case of acute intermittent porphyria (AIP) diagnosed during second pregnancy.

Emma Murray, Rizwan Haq, Helen Wallace,
Karen Mullan, Paul Hamilton, Grainne Connolly.

A 27 year old pregnant woman (second pregnancy, 7 weeks gestation) presented with severe hyponatraemia (Na 114mmol/L) to accident and emergency. She had a 1 week history of constipation, lower abdominal pain, nausea and vomiting; recent admission with hyperemesis; and was tachycardic and hypertensive on admission. Background medical history included a benign thyroid nodule; with no family history of porphyria.

The hyponatraemia persisted despite fluid restriction, continuous hypertonic saline infusion and the patient described increasing abdominal pain. Investigations revealed urine porphobilinogen (PBG) was 559.8 µmol/L (RR 0-10.7

µmol/L) with a PBG/creatinine ratio of 64.00 µmol/mmol creat (RR <1.5 µmol/mmol creat). Faecal porphyrin was 27 nmol/g (RR <200) in keeping with acute intermittent porphyria (AIP).

The patient was successfully treated with haem arginate and made a complete recovery; genetics are awaited and she has been counselled re symptoms and management of acute attacks, as well as safe drug prescribing.

Acute porphyrias can present in patients with a variety of symptoms, can be life threatening and easily missed. This case also highlights the importance of inter-specialty and multidisciplinary teamwork in establishing the diagnosis and management. We recommend considering a diagnosis of AIP promptly in someone presenting with this constellation of symptoms.

A rare cause of unilateral ureteric obstruction

M. Carvalho, D. Curry

Introduction: The seminal vesicles are an accessory structure of the male reproductive system. The most common pathology associated with seminal vesicles is infective and patients may present with haematospermia, pain and infertility. Patients presenting with unilateral obstruction secondary to seminal vesiculitis is rare and there is only one such case reported in the literature. This case report aims to review the presentation and management of such a case.

Description of case: A 59 year old male presented to the emergency department with right sided abdominal pain, vomiting, haematuria and reduced urinary output. Bloods showed raised inflammatory markers, hyperkalaemia and a significant acute kidney injury with a creatinine of 695 and eGFR of 7 from a normal baseline. CT imaging of the renal tracts identified a large soft tissue lesion at the level of the distal third of the right ureter, concerning for a primary ureteric malignancy. Notably, urine samples sent for cytology were reported negative for malignancy. Following secured drainage and recovery of the acute episode, a timely outpatient ureteroscopy revealed no abnormalities of the ureter and a subsequent MRI concluded right sided seminal vesiculitis as a cause for this patient's presentation.

Discussion: The most common causes of non-congenital unilateral ureteric obstruction include renal calculi and malignancy. This case demonstrates a rare cause for ureteric obstruction and highlights the importance of a secure diagnosis in patients with suspected upper renal tract transitional cell carcinoma prior to intervention.

Managing ulcerated infantile haemangiomas:

A case series

Myranda Attard, Sana Ashraf, Donal O'Kane, Helen L Hunter, Ronan Brennan

Infantile haemangiomas (IHs) are the commonest childhood tumour and 10% of cases cause substantial morbidity, with ulceration being the commonest complication. We present a case series of 9 infants who first attended our

department between 2016 and 2022 with ulcerated IHs. Gender distribution was balanced, average presentation was at 15 weeks old (ranging 3 to 35 weeks old). The majority of patients (n=7) had a solitary ulcerated IH whilst two patients presented with two. One case had an IH involving the perioral mucosa whilst the remaining 10 were cutaneous. The majority of cases had severe presentations, with 6 patients requiring attendances to the emergency department prior to initial dermatology review. 8 patients were started on oral propranolol in accordance with British Society of Paediatric Dermatology (BSPD) guidelines. The two most complex cases required short hospital admissions to manage pain or secondary infection. They received additional systemic treatment including antibiotics and corticosteroids. One of these patients received benefit from concomitant use of topical timolol maleate 0.5% gel-forming solution, with oral propranolol.

Our study supports the benefits of oral propranolol for management of ulcerated IH, with no incidents of worsening ulceration. Notably, we found that a combination of topical timolol maleate with oral propranolol could prove more effective than monotherapy but requires closer blood pressure monitoring. Despite a shift away from systemic steroid use, a case might be made for its use with propranolol in refractory cases. A multidisciplinary approach proved essential in two of our cases that required complex pain management.

The Mystery Tummy:

Type 2 Idiopathic Cocoon Abdomen

Ms. Shreya Sengupta

Introduction: The word cocoon is derived from 'eggshell'. Abdomen cocoon is a rare disease where a thick peritoneal membrane envelopes the small intestine either partially or fully causing the bowel loops to adhere to each other resulting in bowel obstruction or chronic pain. It may be either primary (idiopathic) or secondary to other causes. This condition is usually diagnosed intraoperatively although some cases may be picked up radiologically.

Description: Here we present a case of a 31 year old malnourished gentleman who presented with intestinal obstruction and intraoperative findings were suggestive of a type 2 Idiopathic Cocoon Abdomen as evident by a large thick cocoon encasing whole small bowel and stomach excluding large bowel. No cause could be found after a detailed clinical, microbiological, radiological, and histopathological assessment. He was treated conservatively with "drip and suck", TPN and discharged home when improved clinically.

Discussion: Although most primary cocoon abdomen are managed with surgical exploration and excision of the sac, conservative management can be considered in some cases of virgin abdomen showing resolution of small bowel obstruction as in our case. Intraoperative finding of a thick membrane covering the bowel is the golden standard for diagnosis. Our aim of this report is to raise awareness of this condition typically presenting with intestinal obstruction. Detailed history and physical examination are helpful,

especially in the case of secondary SEP.

Mesodiverticular band in Meckel's diverticulum: A rare case of small bowel obstruction

Ms. Shreya Sengupta

Introduction: Meckel's diverticulum occurs in less than 3% of general population and is mostly asymptomatic. The most common complication due to Meckel's diverticulum is intestinal obstruction followed by unexplained gastrointestinal bleeding, persistent abdominal pain or perforation. Complications mostly occur in male population and within 50 years of age.

Description: Here we present a case of a 72 year old lady who presented with a 24hour history of worsening abdominal pain, distension and vomiting. She underwent a CT scan which showed small bowel obstruction with a clear transition point in right iliac fossa but no obvious cause identified. She had a whipples resection 6 years ago with rooftop incision due to distal cholangiocarcinoma and had recovered from it. An emergency laparotomy revealed a band adhesion compressing the ileum and on relieving it, it was found to be a mesodiverticular band in meckles diverticulum causing the small bowel obstruction. 10cm of unhealthy bowel with the meckles diverticulum was resected and side to side anastomosis was performed.

Discussion: A mesodiverticular band is one that is attached to the diverticulum and ileal mesentery and directly compress the ileum. The diagnosis of Meckel's diverticulum as the cause of small bowel obstruction is often not made until the operation. CT scan, although being very accurate in identifying an obstruction, has poor sensitivity and specificity in detecting a mesodiverticular band.

'Myocarditis' COVID 19 complication in obese patient

Dr Prince Soneill Iqbal

Introduction: Despite the growing understanding of COVID-19 myocardial involvement, cases of COVID-19 myocarditis are likely under-reported.

Myocarditis is inflammatory conditions of the heart that present a range of symptoms, often including chest pain, fatigue, breathlessness and palpitations.

Description of case: 53 year old male presented with non-pleuritic central chest pain at rest lasted for 6 hours, 2 weeks prior to this chest pain patient had COVID 19, No significant cardiovascular risk factor except his BMI was 30kg/m2

Hemodynamically stable with normal cardiovascular examination.

1st ECG was sinus rhythm, subtle type ST sagging in V2 to V6 with early repolarization changes and later ECG showed dynamic T waves inversion in inferior and V4 – V6

Troponin T elevated 987, echocardiography was normal, coronary angiogram showed non-obstructive coronary artery disease.

Clinically suspected myocarditis as complication of COVID 19.



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Later cardiac MRI showed subepicardial contrast enhancement within the basal & mid inferolateral wall, consistent with recent myocarditis.

Patient treated with Aspirin, statin and beta blocker.

Discussion: Covid19 has been a detrimental cause of myocarditis with significant mortality and morbidity. It can be acute, subacute, or chronic.

Patients with hypertension, diabetes mellitus, chronic obstructive pulmonary disease, and obesity are at a higher risk of developing COVID 19 infection with complications. Obesity and COVID infection activate inflammatory storm, resulted organ injury. Obesity is a modifiable risk factor. Healthcare providers need to understand complications associated with obesity to optimize patient care.

NMDA receptor encephalitis associated with Gastric Adenocarcinoma

Introduction: Jake Clements, Gavin McCluskey, Barry Clements

Introduction: NMDA receptor encephalitis is a rare autoimmune condition associated with malignancy in approximately 60% of cases. This paraneoplastic phenomenon has been described in association with ovarian teratomas and small cell lung tumours but not previously in association with gastric stump carcinoma.

Case Description: A woman in her mid-70's presented with sudden onset of confusion, perseveration and aphasia. Her history included hypertension and a Billroth II gastrectomy for peptic ulcer disease. She exhibited no focal neurological signs and blood tests only revealed mild hyponatraemia. CT angiography and MRI of brain, as well as lumbar puncture were unremarkable. EEG did show interrupted periodic epileptiform discharges, and the patient was commenced on antiepileptic medication. Antiviral therapy was commenced empirically to no benefit.

Ultimately a brain biopsy confirmed the presence of encephalitis. Methylprednisolone was commenced for suspected autoimmune encephalitis which arrested the precipitous confusion and dysphasia.

CT imaging of chest, abdomen and pelvis scouting for occult malignancy was negative. An OGD was later performed to investigate an evolving anaemia and biopsies of an incidental gastric ulcer confirmed an adenocarcinoma. The autoimmune encephalitis screen was positive for NMDA receptor antibodies and the diagnosis of paraneoplastic encephalitis secondary to the gastric adenocarcinoma confirmed.

Discussion: Following a literature search this appears to be the first time such an occurrence has been described. When a malignancy has been identified, dramatic recovery has been reported following surgical resection. This case underscores the importance of evaluating for occult GI malignancies in NMDA receptor encephalitis.

Seizures as a rare complication of wasp sting in Northern Ireland

Mohamed Shirazy, Ramy Tartoura

Introduction: Wasp stings are not uncommon in Northern Ireland. They commonly present with localised pain, itching and swelling. However, systemic severe complications, including anaphylaxis, can occur. This case report describes seizure as a rare reaction to a wasp sting.

Description of case: A 49-year-old lady presented to the Emergency Department (ED) with localised finger pain, swelling, and widespread itch following a wasp sting. She had a history of hysterectomy for cancer cervix, asthma, and obstructive sleep apnoea and no history of seizures or known allergies. She was initially treated with chlorphenamine, hydrocortisone and painkillers with adequate response and kept under observation in the ED. After three hours in the ED, she felt dizzy and nauseated and took a witnessed generalised tonic-clonic seizure that self-terminated after 3 minutes. Laboratory investigations showed mild leucocytosis. Contrast CT brain ruled out any intracranial abnormality and any space-occupying lesion. She was discharged after 24 hours of uneventful observation.

Discussion: Wasp venom contains biogenic amines (histamine, dopamine, noradrenaline, serotonin), enzymes (phospholipase A2, phospholipase B, hyaluronidase), and peptides (mellitin, apamine, kinins, neurotoxins). Although the mechanism of seizures in wasp stings is poorly understood, it is postulated that the wasp venomous substance can induce neurotoxicity or an immune-mediated response and, subsequently, seizures. A single short-duration seizure does not require treatment; however, frequent and prolonged seizures require benzodiazepines. This case report highlights seizures as a rare complication of wasp stings and the need for vigilance in recognising and managing rare and atypical reactions.

Atraumatic Profunda Brachi Arterial Pseudoaneurysm

S Ahsan Nawaz, Denis Harkin, Atif Sharif, Ronan Lambon, Rebecca Hassard

Peripheral Artery pseudoaneurysm such as brachial artery pseudoaneurysm are very rare and typically happen after trauma or infections. We present a case of 70-year old man who presented with a large atraumatic nonpulsatile soft tissue mass like swelling.

Description: A 70 years old gentleman was referred by GP due to atraumatic swelling in right upper arm which was noticed 2 weeks before referral.

Patient noticed swelling unsure about duration which was mobile, tender and was about tennis-ball size. Neurovascular status of arm was intact with no redness or skin changes. Initially it was treated as infected pseudo-cyst by GP with oral anti-biotics for 5 days.

CT-angiogram of the arm demonstrated large well-

circumscribed mass lesion mid right upper arm medial to biceps. Patient also had USS-Doppler of right arm which showed active bleeding within the haematoma. On ultrasound this appeared to be associated with a branch of the brachial artery as opposed to the brachial trunk proper.

Patient was assessed in outpatient clinic and his case along with radiological images were reviewed in MDT meeting and decision of surgical repair was made.

Patient underwent surgical repair and intra-operative finding showed brachial profunda artery aneurysm. Median nerve and ulnar nerve were preserved along with brachial artery which was separate from the mass.

Discussion: Although upper extremity peripheral arterial pseudoaneurysm is rare, they can happen iatrogenically post-trauma.

Our case was different than usual as being without any previous trauma and therefore, early differential diagnosis of pseudoaneurysm could be considered in peripheral upper limb swellings.

Isolated hypoglossal nerve palsy: an unusual presentation of internal carotid artery dissection and pseudoaneurysm

Dr Timothy Atkinson & Dr Mark Bowman

Introduction: Isolated hypoglossal nerve palsy is an infrequent clinical presentation, often requiring thorough evaluation to uncover underlying aetiology. We report a case of a 37-year-old male who presented with a one-week history of left-sided headache, followed by progressive slurred speech and difficulty swallowing. On examination patient had mild dysarthria, tongue deviation to the left and left-sided tongue fasciculations. Initial MRI brain showed no acute abnormalities, prompting further investigation.

Description of Case: Subsequent MR angiogram revealed a left internal carotid artery dissection with an irregular, approximately 11mm pseudoaneurysm located at the skull base on the left side. This pseudoaneurysm was identified as the underlying cause of the patient's symptoms due to mass effect resulting in a compressive ipsilateral hypoglossal nerve palsy. While the headache initially raised concerns of intracranial pathology, the diagnostic findings shifted the focus towards vascular aetiology. Our patient was commenced on anticoagulation therapy as per National Clinical Stroke Guidelines. Early follow-up imaging will be arranged to assess pseudoaneurysm size. Ongoing anti-thrombotic therapy will be reviewed at 3-months with repeat imaging.

Discussion: Isolated hypoglossal nerve palsy as a result of internal carotid artery dissection and pseudoaneurysm formation is an unusual clinical presentation. This case highlights the importance of considering vascular pathologies in patients presenting with atypical neurological symptoms. While conventional imaging may not always reveal the underlying cause, advanced imaging techniques such as MR angiography play a crucial role in accurate diagnosis. Early

recognition of such cases is essential for timely intervention and prevention of potential complications, including embolic stroke.

Cervical and Epidural Abscesses

Waleed Khan, John Graham, Kenneth Jones, Niall Eames

Description: 62-year-old female, generally medically well, presented to a peripheral hospital with a 5-day history of progressively worsening back pain, pyrexia and shortness of breath. Referred to spinal unit after patient had undergone both CT scanning and MRI of the spine demonstrating septic arthritis at the level of C3/C4 and L4/L5 with paraspinal and epidural abscesses. The patient was found to be neurologically intact throughout and treated initially with intravenous antibiotics and then underwent a posterior decompression and washout of both levels 3 days later. Patient had grown Staph. Aureus both from blood cultures and intraoperative sampling. Medical input was sought from the infectious diseases and cardiology team to help identify any other possible sources of infection—none were found. Patient responded well to antibiotics and continued to improve during her stay in hospital and was discharged home when deemed fit with community based intravenous antibiotic administration.

Discussion: Epidural abscesses are generally a rare condition with a prevalence of 0.2 - 2.8 per 100,000 cases. Occurring mostly in adults beyond the sixth decade of life. Risk factors include HIV, IV drug use, immunocompromise, diabetes, malignancy and spinal surgery, though 20% will have no risk factors. Most common organisms are Staphylococcus Aureus (50-65%), Gram negative bacilli i.e., E. coli (18%) and pseudomonas in IV drug users. Mainstay of treatment is generally surgical decompression and stabilisation, although conservative management with intravenous antibiotics and bracing can be employed in a selective number of patients.

POSTER PRESENTATIONS – Medical Education

Concussion, what do emergency physicians know?

Dr Adam Gowdy, Dr Neil Heron

Concussion is a common condition and has significant healthcare costs. The UK Government recently published a report on concussions, recommending anyone that has sustained a suspected concussion has a same day review by a healthcare professional. It is essential that emergency medicine physicians (EMPs) have the required knowledge and use current clinical practice guidelines. A scoping review conducted by the authors found knowledge gaps and inconsistent use of current guidelines by EMPs.

We conducted a pilot study of 30 EMPs working in a Northern Irish emergency department (ED) assessing knowledge of concussion and preferred learning styles. We used a previously validated questionnaire.

There was an average score of 74%, 93% correctly defining



concussion, 73% were aware that a period of loss of consciousness isn't required to diagnose. 27% were able to correctly identify listed symptoms of concussion, 13% were able to identify all correct management steps, 27% were able to identify all listed red flags and 13% were able to identify potential long-term consequences. Respondents highlighted a lack of education and desire to improve. Online learning was the preferred learning format. Thematic analysis revealed a focus on ruling out structural brain injuries, lack of available follow up, vague symptoms and difficulty diagnosing concussion in the acute phase.

Concussion is a common presentation to EDs and surveyed EMPs highlighted a lack of concussion education and a desire to improve. Most respondents were able to correctly define a concussion, however large knowledge gaps were identified regarding management and long-term consequences.

Nephrology Trainees Ultrasound Educational Needs and Associated Interventions.

Dr E McKenna, Professor H Noble, Dr C McKeaveney

Ultrasonography or Point of Care Ultrasound (POCUS) is a bedside tool used by numerous medical disciplines with a wide variety of clinical applications. One such use is the provision of real time imaging when performing practical procedures such as central line insertion or renal biopsy, both of which are routinely completed by nephrologists. Within the field of nephrology, the ability to perform ultrasonography is a skill trainee nephrologists must master to become adept in performing these procedures independently before they complete training. Despite the obligatory usage of ultrasound for nephrology trainees there appears to be a lack of agreement in existing literature and real-time practice on an accepted and structured approach to medical education in this field.

Aims: To investigate what is known about the educational needs of nephrology trainees on ultrasound training and review what interventions have been devised to address these needs.

Methods: Scoping review methodology was used with 30 articles included. Content analysis and basic numerical analysis were used to analyse data.

Results: Three themes relating to ultrasound training needs were identified: curriculum development, clinical instruction, and simulation.

Discussion: Whilst ultrasound education is regarded as an important and interesting topic by trainees, there is a distinct lack of structured teaching in nephrology training programmes. Gaps identified within existing literature include establishing the best method or approach to the provision of ultrasound teaching and the identification of barriers to deliverance of teaching.

Promote GP as a Valued Career: Enabling GP Trainees as Near Peer Teachers in GP

Kelly Doherty, Jenny Johnston, Davina Carr, Nigel Hart

GP training is facing a recruitment crisis. The 'Wass report' highlights the importance of students' experience at medical school and need to promote GP as a valued career. One recommendation was to increase the visibility of GP trainees in the form of Near Peer Teaching (NPT). Undergraduate students benefit as they find 'near peer teachers' approachable and accessible. GP trainees also benefit as it cements their own learning and contributes to skills like communication and leadership. When implementing NPT in GP it's important to recognise that changes in clinical environments can negatively impact on workplace learning. We embarked on a realist synthesis that would seek to find out how NPT best works within the general practice workplace and under what conditions.

This research seeks to add to the literature by doing a formal realist synthesis with the review question 'How can we best implement NPT in General Practice?'.

Realist synthesis is a theory-driven summary of the literature and can help us understand why educational interventions work. This research will translate the findings of empirical studies into context, mechanism and outcome configurations and identify those causal relationships that allow for effective NPT implementation in the GP workplace.

The results of this synthesis have helped to provide a deeper understanding of how we can best implement NPT within GP. It highlights those contexts that are important for effective NPT and has enabled us to give suggestions on how to overcome barriers within the GP workplace.

It has informed the development of an NPT program due to be commenced in 2023; particularly timely with a new curriculum in QUB that provides greater exposure to GP.

Medical students experience of the undergraduate oncology education

Olivia Devlin, Seamus McAleer

Introduction: A rise in the prevalence of cancer, new treatment modalities and cancer survivorship have made it imperative that all practising physicians are able to provide basic cancer care. The multidisciplinary nature of oncology makes it more challenging for the Educator to deliver an effective cohesive curriculum. As a result, many universities lack a dedicated oncology programme often teaching it in fragments, across many specialities, throughout the undergraduate years.

Aims: The aim of this study is to explore what is known about MS's experience of undergraduate oncology education and how effective it is.

Methods: Scoping review methodology was used to review the literature and address the research question. Thirty articles were included in this body of research focusing on the experiences of MS's and their exposure to undergraduate oncology. A combination of basic numerical analysis and

content analysis was applied to illustrate the key findings.

Results: Thirty studies consisting of 5731 MS's from a range of countries are included in this scoping review. Eleven themes emerged across the studies including limited exposure to oncology; lack of confidence in core oncology skills; dissatisfaction with teaching; inadequate curriculum; poor radiation oncology exposure; lack of training talking to patients about difficult news or death; challenging specialty; unprepared to care for cancer patients; poor cancer survivorship training and lack of training on clinical research.

Discussion: The above findings highlight the global dilemma of poor oncology exposure and the need for specific training, a dedicated oncology curriculum with defined objectives and a longer period of grouped teaching at university.

A scoping review investigating the effects of simulation based training on surgical skills and confidence of Ophthalmology trainees in performing Glaucoma, Oculoplastic and Orbital surgical procedures

Dr S Hignett, Dr S Khan, Dr M Williams

Introduction: There is a need for alternative models of surgical training due to reduced clinical opportunities and ethical concerns of trainees learning surgical procedures on patients. Having a standardized simulation training course which is reproducible, cost effective and has translational downstream effects would provide a solution to the current problem.

Aims: The aim of this scoping review is to assess the effects of simulation-based training on surgical skills and confidence of Ophthalmology trainees within the Ophthalmic sub-specialties of Glaucoma, Oculoplastic and Orbital surgery (GOO).

Methodology: This was a scoping review of the literature using Medline and EMBASE databases as well as hand searching the literature. The Medical Education Research Study Quality Instrument (MERSQI) was used to measure the quality of the studies.

Results: Fifteen studies were included for qualitative data synthesis. The results show that simulation-based training has high levels of internal acceptability with subjective reports from the participants being overwhelmingly positive in its ability to improve confidence in performing surgical procedures related to GOO. With regards to improvements in surgical skills, the results suggest that there are some improvements such as reduction in time taken to perform the procedure and improvement in objective skills assessment scores.

Discussion: Simulation-based training greatly improves the confidence of Ophthalmology trainees in performing surgical procedures related to GOO. Evidence of its effects on downstream processes such as improvement in patient outcomes and cost saving is still lacking, therefore, more studies with validated instruments assessing outcomes are needed.

POSTER PRESENTATIONS – Clinical Research

10 Years of Meckel's and Meckel's Scans in Northern Ireland

Ahmed Mohamed, Brian Maccormack

Introduction: Meckel's diverticulum (MD) is a common congenital gastrointestinal tract anomaly in children, occurring in approximately 2% of the general population, and is often asymptomatic.

The diagnosis of symptomatic MD remains challenging. The Tc-99m-pertechnetate Meckel's scan is a non-invasive and low radiation test widely used in the diagnostic workup of patients with suspected MD.

Aim and Methods: We conducted a retrospective review of all the Meckel's scans done in our institute from 2012-2022 and correlated that with final diagnosis. During the same time period, we reviewed patients presenting with acute complicated MD to identify the commonest presentation.

Results: A total Number of 123 Meckel's Scan were done in the 10-year period with 92% of patients presenting with Melena or bleeding PR. 6 cases out of 123 were positive for Meckel's. All apart from one case (False Positive) was found to have Meckel's on abdominal exploration. 3 False Negatives were identified. Therefore, in our institute the False negative rate was 37.5% and False positive rate was 0.8%.

In the same time period, a total number of 53 cases of complicated Meckel's was found with an average age of 4 years. Presentation varied with small bowel obstruction and intussusception being the most common.

Discussion: Meckel's scan has a high specificity but moderate sensitivity and many factors can influence the result of this test. Complicated Meckel's most commonly presents with small bowel obstruction and intussusception at an average age of 4 years.

Longitudinal trajectories of plasma polyunsaturated fatty acids and associations with psychosis-spectrum outcomes in early adulthood

David Mongan, Benjamin I Perry, Colm Healy, Subash Raj Susai, Stan Zammit, Mary Cannon, David Cotter

Introduction: Polyunsaturated fatty acids (PUFAs) including docosahexaenoic acid (DHA) may be associated with psychosis risk, but longitudinal trajectories have not been characterised.

Aims: To test the hypothesis that trajectories characterised by higher omega-6:omega-3 (n-6:n-3) ratio and lower DHA are associated with psychosis-spectrum outcomes in early adulthood.

Methods:

3635 participants in the Avon Longitudinal Study of Parents and Children had plasma n-6:n-3 and DHA (%total fatty



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acids) measured at 7, 15, 17 and 24 years using nuclear magnetic spectroscopy. Outcomes at 24 years included any psychotic experiences (PEs); At-Risk Mental State; psychotic disorder; number of PEs; and negative symptoms. Growth mixture modelling derived trajectories of n-6:n-3 and DHA, adjusted for body mass index. Associations with outcomes were adjusted for sex, ethnicity, socioeconomic status, smoking and alcohol use.

Results: A three-trajectory solution was optimal for both n-6:n-3 and DHA. Relative to stable average, persistently high n-6:n-3 and persistently low DHA were associated with increased odds of PEs and psychotic disorder, which attenuated on adjustment. Persistently high n-6:n-3 was associated with number of PEs (adjusted β 0.41, 95% confidence-interval [CI] 0.05-0.78) and negative symptoms (adjusted β 0.43, 95% confidence interval [CI] 0.14-0.72), as was persistently low DHA (number of PEs: adjusted β 0.45, 95%CI 0.14-0.76; negative symptoms: adjusted β 0.35, 95%CI 0.12-0.58).

Discussion: Persistently high n-6:n-3 ratio and low DHA are associated with PEs and negative symptoms in early adulthood. Optimisation of PUFA status during development warrants investigation in relation to reducing psychosis risk.

Intra-operative Indocyanine Green Angiography (ICGa) as an Adjunct to Safe and Reliable Superficial Fascial Plane Free-Tissue Elevation in Lower Limb Reconstruction

Mr J Clements, Dr J Doherty, Mr M McBride

Microvascular reconstruction of the lower limb is a well-established practice, serving to resurface soft tissue defects with vascularised tissue and reduce rates of deep-seated infection. The aims of reconstruction have broadened with the progress of modern techniques and technologies, delivering functional yet highly aesthetic outcomes.

In our Regional Reconstructive Unit, the use of intra-operative indocyanine green angiography (ICGa) has served as an adjunct to superficial fascial plane thinning of free flaps to permit thin, pliable and reliable flaps to be raised with limited morbidity.

We performed a retrospective single-surgeon, single-centre electronic case-note review of patients undergoing lower limb resurfacing with free tissue in this fashion, between 2021 and 2023. In addition to patient demographic, we defined outcome measures including partial flap loss, total flap loss, early/late return to theatre and rate of secondary debulking procedures.

This technique and cohort are further highlighted by the presentation of 3 notable outcomes.

We describe ICGa as a new adjunct to a burgeoning approach in free flap surgery that may serve to reduce early and late operative morbidity through functional and aesthetic flaps. To our knowledge, this is a singular description of this technique with favourable outcomes.

Chronic Primary Pain: Exploring GP Perspectives

Dr Niamh Blythe, Prof Nigel Hart, Prof Carmel Hughes

Introduction: One in 10 adults are diagnosed with chronic pain per annum, with 20% suffering from pain globally. Historically, pain has been viewed as a symptom of disease, rather than defined as a disease state itself, which has contributed to a lack of prominence in the field of public health. Approximately 70% of chronic pain is managed in primary care, comprising 22% of presenting complaints. The publication of ICD-11 represents the first time a systematic coding system for chronic pain has been incorporated. The new classification introduces the term chronic primary pain (CPP), defined as pain that cannot be better accounted for by an underlying condition. Dissemination of recent UK guidance signifies the first time CPP has been recognised by NICE as a condition in its own right.

Aim: This research aims to explore the challenges encountered regarding managing CPP, as well as the use and acceptability of published guidance.

Methods: This qualitative study involved undertaking semi-structured interviews with a sample of GPs throughout the UK. Given the NICE guidance regarding CPP is the standard for NI, England and Wales, with Scotland following the SIGN guidance, we recruited GPs from throughout all four jurisdictions of the UK as to better develop an appreciation for the experiences of GPs nationwide. Thematic analysis will be undertaken, as to identify common themes within the data collected.

Discussion: Data collection and analysis is ongoing. The background, methodological considerations and preliminary data will be presented for discussion. The ensuing dialogue will help to give the research further grounding.

Utilising COM-B to identify what factors influence health behaviours in farmers at risk of cardiometabolic disease.

Rebecca Orr, Helen Reid, Mark Tully, Nigel Hart

Introduction and Aims: Evidence suggests that farmers carry a higher proportion of cardiometabolic risk compared to other occupational groups. It is supposed amongst clinicians that this patient group may delay seeking healthcare advice. We hypothesised that this behaviour may contributing to this inequality. Therefore, we aimed to utilise the capabilities, opportunities and motivations (COM-B) framework (Michie, et al. 2014) as a theoretical basis to 'diagnose' this behaviour. We aimed to identify what capabilities, opportunities and motivations (COM) influence farmers' health behaviour to seek medical advice. We aim to use this new knowledge to design better future behavioural change interventions (BCI).

Methods: This mixed methods study has been developed with a constructivist approach. The content and form of the study has been devised by farmers themselves following the NIHR guidelines on PPI and workshops. A questionnaire was developed to allow farmers to first self-evaluate their

‘COM-B’. Participants will then be invited to participate in a semi-structured interview on their own farm.

Results: The co-designed protocol, questionnaire and interview schedule are now being peer reviewed. The choice and wording of the methods represent the result of an innovative PPI approach ‘with’ a patient group. The study respects their established socio-economic culture and should result in richer data. It is hoped this process could form the basis for clinicians to increase engagement with other patient groups who may delay presentation or infrequently attend to healthcare settings and traditionally under researched occupational groups

Estimating the burden of Long COVID symptom clusters (post-acute fatigue syndrome, respiratory and cognitive symptoms) in the Republic of Ireland – 2-full years of the pandemic.

Tochukwu Igboanugo, Zubair Kabir

Background: Long COVID is a complex, multi-system illness with the potential for a substantial impact on society, from increased health care costs to economic and productivity losses. Long COVID is an umbrella term with no consensus on definition. Long COVID burden estimations in Ireland are patchy and unavailable. We set out to estimate the burden of Long COVID symptom clusters in Ireland from March 2020 to February 2022.

Methods: Data were obtained from the Central Statistics Office and the Health Protection and Surveillance Centre, Ireland. We modelled estimates of the proportion of individuals with Long COVID symptoms cluster (post-acute fatigue syndrome, respiratory and cognitive symptoms) based on the Global Burden of Disease (GBD) Long COVID Study framework. Years Lived with Disability (YLDs) due to Long COVID symptom clusters were estimated by age and gender.

Results: An estimated 1.2 million symptomatic SAR-CoV-2 infection was reported in Ireland between March 2020 and February 2022. Among COVID-19 survivors 11.8% (95% UI 1.5 – 35.5%) corresponding to a total of 136,575 persons (95% UI 16,818 – 404,829) who had symptomatic SARS-CoV-2 experienced Long COVID symptom clusters at 3 months after the acute phase of the viral infection. 24,199 (95% UI 3,384 – 69,210) individuals [females: 16,063 (95% UI 2,316 – 45,542); males: 8,135 (95% UI 1,068 – 23,668)] experienced Long COVID symptom clusters in the first year, and 112,376 (95% UI 13,434 – 335,442) in the second year of the pandemic [females: 78,172 (95% UI 9,811 – 230,281); males: 34,204 (95% UI 3,624 – 105,161)]. Long COVID symptom clusters occurred more in females (post-acute fatigue syndrome, 4,402 females per 100,000; Respiratory Symptoms, 4,971 females per 100,000; Cognitive Symptoms, 3,785 females per 100,000) than males (post-acute fatigue syndrome, 1,782 males per 100,000; Respiratory Symptoms, 2,560 males per 100,000; Cognitive Symptoms, 1,631 males per 100,000). The years lived with disability (YLD) due to

Long COVID symptom clusters was 4,332 YLDs (95% UI 417 – 17,565) for females [post-acute fatigue syndrome: 2,799 YLDs (95% UI 257 – 11,361); Respiratory Symptoms: 624 YLDs (95% UI 86 – 2382); Cognitive Symptoms: 908 YLDs (95% UI 75 – 3,822)] and 2,304 YLDs (95% UI 206 – 9,526) for males [post-acute fatigue syndrome: 1,275 YLDs (95% UI 102 – 5,410); Respiratory Symptoms: 496 YLDs (95% UI 64 – 1,784); Cognitive Symptoms: 533 YLDs (95% UI 40 – 2332)].

Conclusion: Long COVID estimates are crucially important for evidence-informed policymaking and developing a model of Long COVID care in Ireland. However, the full impact of Long COVID on population health and health care system will be clearer once a core set of health outcomes is developed internationally.

Maternal thyroid disease & the Neonatal outcomes: follow-up or let it go?

Warren McCue, David Sweet

Introduction: 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, but anecdotally from Consultants, complications are rare.

Aims: To study local incidence, practice and outcomes with regards neonatal thyroid follow-up, and compare against current evidence and standards.

Methods: A Pubmed search was performed, and guidelines acquired from other UK units. A database was created of mothers with thyroid disorders delivered in Belfast, and electronic care records of mums/babies reviewed to ascertain local practice, incidence and outcomes.

Results: 613 mothers with thyroid disorders delivered 661 live babies between 01/11/2017-29/02/2020. 120 to hyperthyroid mothers, 541 hypothyroid. Per protocol, 47 babies to hyperthyroid mothers warranted follow-up: 77 were reviewed (37 appropriately). 422 babies to hypothyroid mothers warranted reviews primarily due to unknown TSH-Ab status (505/541 mothers unknown): 29 were followed-up. Overall, 106 babies followed-up despite 469 warranting review. 63 babies had TFTs without abnormalities and there were no missed thyrotoxicosis cases. 3 had abnormal heel-pricks.

Recent literature shows negligible Hashimoto’s antibody transfer. No standard exists, but guideline review showed many units had ceased Hashimoto’s follow-up but maintained Grave’s follow-up.

Discussion: 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.

The Use of C5 in Cough Challenge is no Substitute for a Familiarisation Challenge: A Retrospective Analysis of 449 Capsaicin Cough Challenges for Reproducibility of C5 and the effect of the Startle Phenomenon.

Beswick W, Thrackray-Nocera S, Anders J, Caroline, Fowles H, Crooks M, Morice A.

Introduction: Whilst a wide range of medications are often prescribed or available over the counter for cough suppression, there is a startling paucity of evidence for efficacy. Trials of antitussive drugs rely on various forms of cough challenge to reproducibly induce cough. A recent randomized, placebo-controlled, investigator-blind, 6-way cross-over study that had been noted by the investigative team to have a higher attrition rate than predicted was retrospectively reviewed to assess if the previous evidence on capsaicin cough challenge reproducibility had led to failures in trial design.

Method: We performed a retrospective analysis of 449 baseline capsaicin challenges performed on 106 healthy volunteers as part of the drug trial in order to determine the reproducibility of C5 in healthy volunteers, the effect of the startle phenomenon, and seek any further information to aid future study design.

Results: Use of C5 did not negate the effect of the startle phenomenon, as was previously thought, with a significantly reduced rate of reproducibility to one doubling dose between screening and second vs subsequent pairs of challenges. After familiarisation 87% of challenges were within one doubling dose of the patients screening challenge C5, versus 68% between screening and second challenge, patients generally tending to become less sensitive.

Conclusions: A familiarisation challenge is an essential part of efficient study design rather than the use of C5 as previously thought, and that normal variation in C5 for healthy volunteers is likely to be approximately two doubling doses from their baseline. This calls into question all previous trials run using this instrument, given the inferences of our finding for calculating adequate trial power, suggesting that the current lack of evidence based antitussive therapies may be due to errors of investigation rather than lack of suitable pharmacological agents.

Local Experience of Steroid Free Treatment of Idiopathic Pulmonary Fibrosis.

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Introduction: Idiopathic pulmonary fibrosis is a terminal, progressive, scarring lung disease of unknown aetiology. Treatment has historically consisted of steroids, and a number of proposed antifibrotic drugs with varying degrees of efficacy. Recently however doubt has been cast upon the use of steroids in IPF, and interest has grown in steroid free treatment and the role of the eosinophil in the putative

pathophysiology.

Methods: We analysed a series of 165 steroid naïve patients treated in accordance with local practice without use of corticosteroids in exacerbation or steady state to examine for any correlation between serum eosinophil level and progression of disease. We also examined for any difference between the local population values for serum eosinophil count and our IPF population

Results: Wilcoxon rank-sum (Mann-Whitney) non-parametric tests of differences in the distribution suggested significant differences in the Eosinophil levels of the IPF and matched samples overall ($p=0.0002$), males ($p=0.0074$) female ($p=0.0081$), the IPF cohort having higher eosinophil counts than the control group. Using a Cox proportional hazard model on the 98 subjects with a full set of covariates, we model change in hazard of death in a given year following date of diagnosis. A one unit increase in Var%Eo increases the hazard of death in a given year by 13% ($p=0.024$) once we condition on relative annual change in %TICO (a one unit increase in which reduces the hazard by ~3%; $p<0.001$) and age at diagnosis (a one unit increase in which increases the hazard by 6%; $p=0.014$).

Conclusions: There may be a relationship between the serum eosinophil and disease activity in IPF, our data suggesting that lower average eosinophil counts are associated with increased mortality. Further work is required to confirm our results with a data set allowing for the exclusion of atopic individuals from the control group, but if confirmed this finding may shed further light on the pathophysiology of IPF and if validated could potentially provide a clinically convenient tool to aid prognostication.