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An Audit on Tracheostomy Need After Surgery for Oral Cancer in a Cohort of Oral Cancer Patients in a Dublin Hospital in 2012

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Introduction: Tracheostomy is commonly used to secure the airway during the immediate postoperative period after maxillofacial oncology operations. Tracheostomy is associated with appreciable morbidity. Controversy still exists about the optimal management of postoperative airways in oral cancer patients. Recently there has been move towards use of elective tracheostomy for oral and maxillofacial oncological operations to selected cases only.

Aims: (1) Audit the rates of elective tracheostomy in oral cancer patients following neck dissection. (2) Identify factors that determine elective tracheostomy needs in our cohort of patients requiring neck dissection.

Materials and method: This is a retrospective study on all cases of oral cancer patient with neck dissection done between Jan 2012 to Dec 2012 in the National Maxillofacial Unit, St James's hospital. Data will be collected for Site of tumour, Mandibulectomy status, Neck dissection unilateral or bilateral, Reconstruction means, whether tracheostomy was performed and pertinent patient demographic information. The tracheostomy scoring system will be applied on this cohort. Risk factor analysis for elective tracheostomy in this cohort of patients will be performed.

Results: Preliminary data suggests that elective tracheostomy rates are low and comparable with UK centres.

Conclusion: Oral cancer patients have a potential difficult airway. Our study showed that oral cancer patients can be managed safely without the routine use of a tracheostomy. Selective tracheostomy will greatly improve the time management in the theatre, reduce unnecessary need for surgical ICU prescription and length of stay.

References:

1. Cameron M (2009) Development of a tracheostomy scoring system to guide airway management after major head and neck surgery. *Int J Oral Maxillofac Surg* 38:846–849
2. Marsh M (2009) Early postoperative care for free flap head and neck reconstructive surgery—a national survey of practice. *Br J Oral Maxillofac Surg* 47:182–185

Inpatient HITTS

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Derangements in blood result post surgery must be properly investigated and appropriately managed or else one runs the risk of serious implications. HITTS is a rarity in patients being treated with heparin but it has a significant morbidity and mortality associated with it.

A 60-year-old right hand dominant lady with Klippel Feil Syndrome was admitted to A&E following a mechanical fall. She suffered the following injuries: fracture of right proximal femur and fracture of her right distal radius. She was a challenging intubation and underwent surgery for open reduction and internal fixation of her right forearm fracture and long gamma nail insertion of her right femur fracture.

Her post operative course was complicated by slow rehabilitation and on day 8 post surgery she developed a swollen right thigh and her routine

daily bloods showed a drop in platelets of greater than 60 %. Her thigh was tender, swollen and erythematous on examination. The impression was that she had a DVT and she was being treated with LMWH since her admission. An emergency Doppler examination of that limb showed a clot extending from the common femoral vein to the popliteal vein. Further investigation of her FBC, showed a further drop in platelets. A Heparin induced thrombocytopenia T score analysis was performed for risk analysis ahead of a HITS screen being sent. This lady's risk was calculated as being 8 on the T score; very high risk. A HITS screen was sent and treatment with an Argatroban infusion was commenced at a ward level. Subsequently slow titration of warfarin was commenced.

Although this is a rare complication of heparin therapy, this syndromes recognition is critical to the appropriate introduction of appropriate therapy so that its complications are avoided.

An Audit on the Length of Stay of Traumatic Brain Injury Patients Received in an Orthopaedic Unit in a Dublin Hospital in 2013

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Introduction: Traumatic brain injury is a leading cause of death and disability. A reliable prediction of outcome on admission is of great clinical significance. Patients with decreased GCS scores on admission with associated orthopaedic injuries including maxillofacial injuries are at risk of traumatic brain injury.

Aims: (1) Audit the rates of associated injuries with patients being admitted for traumatic brain injury. (2) Validate the performance of available scoring systems predicting the length of stay.

Materials and method: This is a retrospective study on all cases of traumatic brain injury patients admitted under the care of orthopaedic unit between Jan 2013 and September 2013 inclusive at the St James's Hospital. Data will be collected for initial GCS, type of brain injury, mechanism of injury, associated injury and length of stay. Three scoring system will be applied to this cohort. The performance of each system will be compared.

Results: Our preliminary data suggests that traumatic brain injury is often associated with other orthopaedic injuries including maxillofacial. The initial GCS scores and Prognostic models are good predictors of length of stay after traumatic brain injury.

Conclusion: Our study showed that traumatic brain injury with associated orthopaedic injury increase length of stay. Both Core and Basic model predicts length of stay in our cohort. More prospective studies can validate our present findings.

References:

1. Rajandram RK et al (2013) Maxillofacial injuries and traumatic brain injury—a pilot study. *Dent Traumatol* (epub ahead of print)
2. Roozenbeek B et al (2012) Prediction of outcome after moderate and severe traumatic brain injury: external validation of the IMPACT and CRASH prognostic models. *Crit Care Med* 40:1609–1617
3. Teasdale GM, Jennett B (1974) Assessment of coma and impaired consciousness. *Lancet* 2:81–84

A Case of Haemobilia Post Percutaneous Liver Biopsy

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Introduction: Percutaneous Liver Biopsy is commonly performed as an outpatient procedure. Complications can often present subtly and may only become apparent several days post procedure.

Case description: A 70-year-old man presented with a 4 h history of hematemesis and severe epigastric pain radiating to the on a background of having had a percutaneous Liver Biopsy 4 days previously. Pale stools and dark urine were also reported. On Exam the patient was jaundiced and displayed marked epigastric tenderness, Murphy's sign negative. Admission blood work showed obstructive Liver Profile with raised Urea on the Renal Panel. Chest radiograph showed no consolidation with no free air. Abdominal Ultrasound demonstrated echogenic material within the Gallbladder, confirming a diagnosis of haemobilia. Conservative treatment was initiated with blood transfusion, monitoring and Iv Fluids and the patient was discharged on day seven post admission. The patient represented 5 days later with a significant drop in haemoglobin. Conservative treatment was deemed to have failed. The patient was transferred to St Vincent's University hospital and underwent successful hepatic artery embolization.

Discussion: Haemobilia presents as a triad of Right Upper Quadrant pain, Upper Gastrointestinal Bleed and Jaundice. (1) It is a rare (<0.1 %) but recognised, (2) complication of Liver Biopsy. Other causes include gallstones, vascular malformations and tumours, (3) treatment is initially conservative with Hepatic Angiographic Embolization as second Line and partial hepatectomy as third line.

References:

1. Green MHA, Duell RM, Johnson CD, Jamieson NV Haemobilia health policy and practice: United Kingdom National Audit. Br J Surg
2. Howlett DC, Drinkwater KJ, Lawrence D, Barter S, Nicholson T National audit evaluating image-guided or image-assisted liver biopsy
3. Merrett ND, Cosman P, Biankin AV Hepatobiliary and pancreatic: iatrogenic hemobilia. J Gastroenterol Hepatol

An Evaluation of the Outcome of Contact Tracing of all Sporadic Cases of TB Notified in Cork Over a 6-Month Period

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Between 2001 and 2010 an average of 440 cases of Tuberculosis (TB) were notified annually in Ireland. In 2010, 83 cases (19.4 % of the national total) were notified from Cork. Contact Tracing is an essential component of TB control.

Aim: To evaluate outcomes of contact tracing of sporadic cases of TB notified in Cork January 1st–June 30th 2011.

Objectives: To determine the number of contacts identified, screened, diagnosed with Latent TB Infection (LTBI)/active TB disease. To investigate outcomes of those identified with LTBI.

Methods: Data was entered on an excel database, newly established for TB contact tracing. Index case details were extracted from the 39 index case files. Case contacts for contact tracing were identified from the index case notes and from nursing tracer sheets. Each contacts medical chart was then reviewed for screening results. The dataset was imported into SPSS for analysis.

Results: 701 contacts were identified. 585 (83 %) completed screening in Cork. 1 new TB case was notified. 76 cases of LTBI were diagnosed of which 46 were offered chemoprophylaxis, with 15 completing treatment.

Discussion and conclusions: Outcome evaluation of TB Contact tracing is not done systematically across Ireland as recommended in the "National TB Control Guidelines 2010". Contact tracing identifies many cases of LTBI. LTBI if untreated could develop into active disease with associated morbidity and mortality. Contacts who fail to attend or complete screening are a concern. This study underscores the necessity for contact tracing outcome evaluation.

A Case of Pancreatic Neuroendocrine Tumour (NET) Metastatic to a Spinal Haemangioblastoma in a Patient with VHL Disease

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Introduction: We report the case of a 46-year-old gentleman with a history of Von Hippel Lindau disease. At presentation, the patient has a history of multiple central nervous system haemangioblastomas disseminated along the cranio-spinal axis.

He presented with rapidly progressive cervical myelopathy over the space of 3 days. He underwent cervical laminectomy, lesionectomy and posterior cervical fusion, after which, his myelopathic symptoms resolved incompletely.

Histopathology: Intraoperative frozen section was sent which confirmed a diagnosis of haemangioblastoma tissue (with mural nodule). However, upon processing the permanent histology there was noted to be tissue staining positively for neuroendocrine markers, consistent with a pancreatic neuroendocrine tumour (NET) metastatic to a spinal haemangioblastoma. To our knowledge, this entity has only been reported in one patient previously [1].

Reference:

1. Lubensky IA et al (1998) Multiple neuroendocrine tumors of the pancreas in von Hippel-Lindau disease patients, histopathological and molecular genetic analysis. Am J Pathol 153(1):223–231

Recurrent Oesophageal Perforation—3rd Time Lucky?

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A 50-year-old man presented with severe epigastric pain following four episodes of vomiting induced by excessive alcohol ingestion. His background history was notable for a spontaneous left sided oesophageal rupture in 2010, for which he underwent an open surgical repair over a T-tube and a second presentation with Boerhaave's syndrome in 2011, for which a left-sided posterolateral thoracotomy and repair was required.

On admission, he was unstable haemodynamically with diffuse crepitations on lung auscultation. Given his extensive previous history, there was a concern that this may be a third oesophageal perforation. This was confirmed on CT and Gastrografin swallow and he was emergently transferred to St. James's Hospital.

He was transferred to the Intensive Care Unit and treated with an oesophageal stent and chest drain insertion. He had a prolonged intubation and required inotropic support. He returned to the ward

where he required TPN and pleural drain insertion for a persistent right-sided empyema. Our patient was eventually discharged well, 2 months post admission. He has been counselled on the importance of abstinence and is being seen regularly as an outpatient.

This case highlights the incredibly rare phenomenon of recurrent oesophageal rupture. It also demonstrates how a high index of suspicion, prompt diagnosis and timely management increase the likelihood of a good outcome in complicated upper GI surgical cases.

Reaudit of Overnight Blood Transfusion in the Mater Misericordiae University Hospital (MMUH)

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Introduction: Overnight blood transfusion increases the risk of transfusion hazards. There are usually fewer nursing staff to monitor the patients and fewer medical and laboratory staff to respond to complications during “out of hours” services. The aim of this audit is to determine the frequency of overnight blood transfusions and identify the delay in ordering and collecting red cells compared to the 2012 audit. Neither audit addresses indications for transfusion.

Method: A retrospective analysis of the blood bank records of red cells collected between 20:00 and 08:00 h in May 2013 was performed and compared with records obtained from May 2012.

Results: A total of 506 units were issued in May 2013. Of these 116 (23 %) were transfused overnight (20 % excluding massive transfusion). This has decreased from a rate of 29 % in May 2012. A total of 75 requests were received overnight. In 27 cases (36 %) there was a significant (>4 h) delay in red cell requisition following availability of haemoglobin results, a decrease from 77 % in May 2012. Time delays up to 24 h were noted in both audits. In 41 cases (55 %) there was a delay (>2 h) in collection compared to 40.5 % in 2012.

Conclusion: While the percentage of overnight transfusions has decreased, possibly reflecting a heightened awareness of the hazards associated with overnight transfusion and improvements have been observed in the reaction time to low haemoglobin results, delays continue to be identified in collection times following availability of red cell units. Procedures to try to minimise such delays should be introduced.

The Prevalence and Treatment of *Pseudomonas aeruginosa* in Children with Cystic Fibrosis in Cork University Hospital

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Introduction: *Pseudomonas aeruginosa* (*Pa*) is the most significant pathogen in Cystic Fibrosis (CF) and early detection and eradication is vital [1, 2]. However, no universal guidelines for eradication exist and multiple different regimens are in use.

Aims: Our main aim was to determine the prevalence of *Pa* in children with CF attending Cork University Hospital, and to evaluate success of eradication treatments used.

Methods: A retrospective chart review was carried out on all 85 children with CF attending CUH. Data collected included FEV1, age of *Pa* acquisition, eradication treatment, number of positive *Pa* isolates and use of long term nebulised antibiotics. Patients were then classified using the Leeds Criteria, based on positive *Pa* cultures [2].

Results: The median age of first *Pa* acquisition was 50 months. 57.6 % of patients had a positive isolate of *Pa* with initial eradication therapy successful in 63.3 %. 45.9 % of all patients are on long-term nebulised antibiotics. Patients were classified using the Leeds Criteria and there is a significant difference ($p = 0.046$) in the mean weight centile between those classified as Chronic or Intermittent (44.7th centile) and those as Free or Never (59th centile).

Conclusion: Determining the prevalence, and degree of *Pa* infection, is important both in the current management of *Pa*, and in efficient implementation and evaluation of future guidelines.

References:

1. Lee TWR, Brownlee KG, Denton M, Littlewood JM, Conway SP (2004) Reduction in prevalence of chronic *Pseudomonas aeruginosa* infection at a regional pediatric cystic fibrosis center. *Pediatr Pulmonol* 37(2):104–10
2. Douglas TA, Brennan S, Gard S, Berry L, Gangell C, Stick SM et al (2009) Acquisition and eradication of *P. aeruginosa* in young children with cystic fibrosis. *Eur Respir J* 33(2):305–11

An Audit of Post Radiological Procedure Monitoring in Sligo General Hospital

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Close monitoring of patient vital signs after interventional procedures is important as complications can often present insidiously. Objective findings of pain in the procedure site can be nonspecific. Given that many procedures are undertaken inside body cavities bleeding may go unnoticed for some time. Subtle changes in Blood Pressure and Pulse are often the only signs in patients who may be having catastrophic haemorrhages.

For this Audit we analysed the post procedure instructions given by the radiologists and the corresponding recorded vital signs by the nursing staff.

Inclusion criteria included having undergone interventional radiological procedures as inpatients in Sligo in 2013. The procedures included were: liver biopsy, Intra-abdominal biopsy and Intra thoracic biopsy. Minimally invasive and outpatient procedures were excluded.

In total we recorded information from 51 eligible cases. Of the 51 patients 37(73 %) had over 75 % of requested vitals measured.

% of Eligible Cases in which post procedure instructions were followed

We found that a discrepancy between instructions based on which radiologist had carried out the procedure. We also found that the instructions from the radiologists were handwritten and at times unclear.

Since the Audit has been completed we have recommended the implementation of standardised post procedure instruction stickers which are stuck into the chart to reduce errors and increase clarity and patient safety. We propose a re audit in 12 months to assess the impact of this measure.

Antiemetic Prescribing in Mayo General Hospital (MGH)

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Background: After Idiopathic Parkinson's disease, Drug induced Parkinsonism is the second most common cause of Parkinsonism [1]. A study of an elderly French population described a 3.2 fold increase of probable Parkinson's Disease after exposure to neuroleptics, suggesting the need of limiting the use of these drugs in the elderly [2]. Yet another study reported Parkinsonism in 0.28 % of patients receiving their first dose of prochlorperazine, 87.5 % of whom were >60 [3].

Aims: Examine prescribing practises of antiemetic's in MGH with particular attention to Prochlorperazine and its extrapyramidal side effects.

Methods: Hospital wide audit of drug kardex and patient notes. Compared prescribing practises with those recommended by the Irish Medicines Board (IMB) and British National Formulary (BNF).

Results: 156 patients. Average age 67. 5.39 % prescribed antiemetic. In general, most commonly prescribed antiemetics were Ondansetron (45.9 %), Metoclopramide (37.7 %) and Prochlorperazine (16.39 %). On surgical wards, ondansetron (54.76 %) most frequently prescribed. On medical wards, metoclopramide (57.89 %). Of the 16 % prescribed Prochlorperazine, 80 % were >80 years, of which nine were prescribed for GI related nausea and vomiting. 2 patients prescribed prochlorperazine had contraindications-patient 1 had hypothyroidism, heart failure; patient 2 was also taking verapamil and diltiazem. No adverse effects noted in patients charts.

Conclusions: Low rate of prochlorperazine prescription in MGH. No patient had an ECG performed prior to prescription. Lower doses not observed in elderly. Antiemetic's prescribed prophylactically on surgical wards.

Recommendations: Antiemetic's prescribed following identification of aetiology. ECG performed before prescription. Lower doses for elderly. Use the most suitable, cheapest option. Ondansetron ten times the price of Metoclopramide. Audit of other drugs that cause Parkinsonism.

References:

1. Thanvi B, Treadwell S (2009) Postgrad Med J85:322–326
2. Mena MA, de Yébenes JG (2006) Drug-induced Parkinsonism. PubMed 5(6):759
3. Bateman DN, Darling WM, Boys R et al QJM 71(1):307–311

Carcinoid—A Pain in the Chest

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This report concerns an unusual presentation of a carcinoid tumor. The term carcinoid most commonly refers to well differentiated neuroendocrine tumors typically originating from enterochromaffin cells of the aero digestive tract. Carcinoids are relatively rare, with

SEER reporting an annual age adjusted incidence of 4.7 per 100,000. In this report I will describe the case of a 49 year old Swedish male who presented to our emergency department with atypical chest pain. Following an extensive radiological work-up we eventually reached the diagnosis of a neuroendocrine tumor of the ileum. The aim of this report is to demonstrate an unusual presentation of a relatively rare disease and to convey the difficulties surrounding the imaging and surgical treatment of such cases.

Diabetic Ketoacidosis in Type 2 Diabetes

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A 45-year-old Irish farmer presented with increasing dyspnoea, abdominal pain and vomiting for 24 h and 4 weeks of polyuria, polydipsia and weight loss.

On examination he was dehydrated, tachypnoeic and had a large para-umbilical hernia. Laboratory investigation confirmed diabetic ketoacidosis (DKA) with a blood glucose of 34.9 mmol/L, blood ketone of 5 mmol/L, pH 7.0, bicarbonate 5.9 mmol/L, lactate 2 mmol/L and $p\text{CO}_2$ 1.21. Renal and liver function and amylase were normal.

He initially required large doses of intravenous insulin (100 units/day) to achieve euglycaemia. He had concomitant small bowel obstruction within the hernia, treated with laparoscopic mesh repair.

He was noted to have some features more consistent with type 2 than type 1 diabetes, including a body mass index of 44 kg m⁻² (severely obese), axillary and cervical acanthosis nigricans and skin tags, both markers of insulin resistance. There was a strong family history of type 2 diabetes. Furthermore, anti-GAD and anti-islet cell antibodies were negative.

The severity of his metabolic derangement mandated insulin therapy, which led to excellent glycaemic control within days. At OPD follow-up, we noted a persistent reduction in insulin requirements once good control was achieved. We started metformin 5 weeks after his initial presentation and 8 weeks later stopped insulin completely, while maintaining excellent glycaemic control with lifestyle modification and metformin.

Ketosis-prone or "Flatbush" diabetes is an atypical variant of type 2 diabetes which highlights the importance of careful phenotypic assessment of patients presenting with DKA [1].

Reference:

1. Umpierrez GE, Smiley D, Kitabchi AE (2006) Narrative review: ketosis-prone type 2 diabetes mellitus. Ann Intern Med 144(5):350

An Audit to Investigate Whether Patients Prescribed with Benzodiazepines Within the Past 2 Years (2010 2012/2013) Received Advice Regarding Drug Dependency

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Background: Benzodiazepines are widely prescribed with efficacy for a variety of conditions, particularly anxiety and insomnia. They are relatively safe and with overdose rarely results in death. However benzodiazepines have significant addictive potential. According to good

practice guidelines for clinicians available at <http://www.dohc.ie>, patients should be made aware of the association between chronic use and drug dependency.

Aim: To establish if patients on benzodiazepine medication in our practice (Navan Road) have received documented advice/patient information regarding chronic use of medication and drug dependency in their medical files in the previous 2 years.

Method: A register of patients prescribed with repeat prescriptions of benzodiazepines was compiled from the General Practice database of 7,281 patients. Patient selection was made by the following criteria:

1. Prescribed with the following benzodiazepines: Diazepam, Chlordiazepoxide, Alprazolam and Bromazepam.
2. Whether patients received prescription from a general practitioner or from a psychiatric institution.
3. Whether patients received or did not receive documented advice regarding chronic use and drug dependency.

Results: 38 patients fulfilled the above criteria. Patient age ranged from 27 to 96 years with a female–male ratio of 2.5:1. Of the 38 patients, 7 patients (18.4 %) received addiction advice within the 2 year period. Table A below illustrates this. In addition, Table B illustrates the cross-tabulation between drug advice and males vs females.

23 patients received their benzodiazepine prescription directly from their general practitioner and the remaining 15 from a psychiatric outpatient department. Of the 23 GP patients, 22 % received medication advice in comparison to 13 % of the psychiatric outpatient department subgroup; Table C and Bar Chart highlights this.

Conclusion: This study has demonstrated that only 1 in 5.5 patients received documented advice regarding chronic use of benzodiazepines and drug dependency. In addition, this study illustrates that patients who are prescribed directly from their general practitioner had a greater chance of receiving drug advice/patient information. Ideally every patient should receive documented benzodiazepine drug addiction advice from the prescribing physician.

Table A

benzodiazepine advice given					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	31	81.6	81.6	81.6
	yes	7	18.4	18.4	100.0
	Total	38	100.0	100.0	

Table B

benzodiazepine advice given * Males V Females Crosstabulation				
		Females V Males		Total
		F	M	
benzodiazepine advice given	no	24	7	31
	yes	3	4	7
Total		27	11	38

Table C

benzodiazepine advice given * Patient Type Crosstabulation				
		Patient Type		Total
		Gp	Psych	
benzodiazepine advice given	no	18	13	31
	yes	5	2	7
Total		23	15	38

Multi-Trauma RTA Illustrating Combined Efforts of Multiple Surgical Specialities

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Case: 28-year-old male pedestrian brought to the emergency department after being hit by a truck, with a crush injury to his right leg and groin. He was managed following ATLS protocol. Significant blood loss necessitated numerous transfusions; his condition remained critical. Examination and imaging demonstrated multiple fractures in the right superior and inferior rami, coccyx and an open contaminated comminuted fracture of the right femur. There was degloving of his right thigh and buttock, and anal sphincter disruption. He was taken emergently to theatre for right femoral vein repair and laparoscopic defunctioning colostomy by the Colorectal team. A right retrograde femoral nail was inserted by the Orthopaedic team. He underwent wound debridements of his right thigh and buttock and VAC dressings post-operatively. A split thickness graft was placed after several weeks along with prophylactic antimicrobials for 6 weeks. His condition gradually improved. Repeat Xrays confirmed good callus formation and progressive weight bearing was recommended. Intense MDT input facilitated home discharge 3 months later. Uncomplicated femoral intramedullary nail removal took place 1 year later. Attempted debridement and grafting of a presacral non-healing ulcer failed to take.

However with conservative management the wound healed slowly. Complete mobilization and stoma reversal will hopefully be achieved in the near future.

A multidisciplinary approach to the trauma patient remains the cornerstone of optimal care. A damage control approach to surgical procedures should guide management, including closure and stabilisation of pelvic ring disruptions, packing, embolisation and local haemostatic measures.

Reference:

1. Rossaint R, Bouillon B, Cerny V, et al (2010) Management of bleeding following major trauma: an updated European guideline. *Crit Care* 14(2):R52

Descending Stent, Ascending Cholangitis; Biliary Sepsis Secondary to Stent Migration

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Introduction: Endoscopic biliary stenting is used in the short-term management of irretrievable biliary calculi. This case highlights the importance of their timely removal to prevent complications, namely ascending cholangitis.

Case description: A 52-year-old man presented to the ED with a 1-week history of epigastric pain, nausea and vomiting. Background was notable for acute cholecystitis in 2007 with ERCP + stenting. Physical examination elicited a tender epigastrium and RUQ, Murphy's sign negative. Blood tests showed elevated WCC, CRP, bilirubin, and liver enzymes with obstructive pattern. Ultrasound abdomen demonstrated cholelithiasis and a dilated CBD at 14.5 mm with a distal filling defect. CT abdomen revealed a migrated biliary stent, mostly visualised within the duodenum. It had been in situ for 6 years, as the patient had been lost to follow up. The patient's clinical status deteriorated with pyrexia and Charcot's triad despite receiving piperacillin-tazobactam. Following consultation with microbiology, he was commenced on IV Meropenem for biliary sepsis. Once stable, he underwent ERCP and sphincterotomy to remove the stent along with a large calculus. Following the procedure, the patient's jaundice improved, he was discharged and scheduled for elective cholecystectomy.

Discussion: Stent migration is a late complication, occurring in approximately 5 % of plastic biliary stents [1]. While most migrated stents are passed spontaneously, duodenal perforation may rarely occur [1]. As demonstrated in this case, morbidity and mortality increase when stents remain long-term. It is advisable to remove stents after 3 months to reduce the risk of cholangitis [1].

Reference:

1. Dumonceau JM, Tringali A, Blero D, et al (2012) Biliary stenting: indications, choice of stents and results: European Society of Gastrointestinal Endoscopy (ESGE) clinical guideline. *Endoscopy* 44(3):277–298

A Different Type of Channel—Sinus Node Dysfunction in a Long Distance Swimmer

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A 63-year-old gentleman presented with a history of palpitations, chest pain and pre-syncope, on a background of left circumflex coronary artery stenting in 2004. ECG showed a short PR interval, Q waves in lead III, and a normal QT interval. Telemetry showed a HR

fluctuating from 45 to 180 bpm, with evidence of sinus arrest, and a narrow complex tachycardia. Troponin was negative.

Of note, the patient had a background of a very high level of fitness, being the first Irishman to complete a number of famous long distance swims. The fact this gentleman was highly conditioned meant that special care needed to be employed in interpreting the significance of his sinus bradycardia.

The patient was admitted, and initially treated with rate control using metoprolol 12.5 mg tds. However, he still had bursts of SVT on this regime and was switched to bisoprolol 5 mg od in order to achieve better control.

Alternating bradycardia and atrial tachyarrhythmias occur in over 50 % of cases of sick sinus syndrome. (1) The most common of these is atrial fibrillation and prolonged symptomatic pauses can occur after termination of AF. (2) The most common cause of the sick sinus syndrome itself is the replacement of sinus node tissue by fibrous tissue. (3) For those patients with tachy-brady syndrome associated with paroxysmal AF, radiofrequency ablation can avoid the need for pacemaker implantation.

References:

1. Ferrer MI (1968) The sick sinus syndrome in atrial disease. *JAMA* 206(3):645
2. Elvan A, Wylie K, Zipes DP (1996) Pacing-induced chronic atrial fibrillation impairs sinus node function in dogs. *Electrophysiological remodelling*. *Circulation* 94(11):2953
3. Kaplan BM, Langendorf R, Lev M, Pick A (1973) Tachycardia-bradycardia syndrome (so-called "sick sinus syndrome"). *Pathology, mechanisms and treatment*. *Am J Cardiol* 31(4):497

Diabetic Ketoacidosis at University Hospital Limerick; an Audit of the Last 20 Years

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Aim: This audit analyses the incidence of DKA and associated demographics over a 20-year period from 1993 to 2012.

Methods: Using the HIPE database, all T1DM patients coded for Diabetic Ketoacidosis from 1993 to 2012 inclusive were identified. Glycemic control was assessed, using HbA1c as an indicator, for a subset of the population.

Results: 648 admissions were identified consuming a total of 3,853 bed days; 51 % female and 49 % male. The median age was 27 years and median length of hospital stay 4 days. The maximum number of admissions occurred in 1999 (n = 49). The peak incidence of DKA was among the 11–20 years age group. 485 patients experienced a single episode of DKA while 30 patients experienced 5 or more episodes, 3 patients experienced 11 episodes. HbA1c was 17 mmol/mol higher in those experiencing >2 episodes of DKA over those experiencing one episode. Two deaths were directly attributed to DKA (subarachnoid haemorrhage and coma). Ten further patients experiencing DKA during their admission died from infection, cardiac arrest or renal failure. In a sample of 50 patients, infection was a contributing factor to DKA in over 60 %. In recent years, DKA incidence has remained stable at approximately 40 admissions per annum.

Conclusion: DKA is responsible for significant morbidity, mortality and economic cost. The incidence of DKA has not decreased despite advances in diabetes care. The high level of DKA secondary to infection affords an opportunity for diabetes educators to educate

patients on sick-day rules at clinic reviews, potentially decreasing DKA incidence in the future.

Locally Advanced Rectal Cancer—A Cooperative Surgical Approach to a Complex Operative Procedure

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Introduction: Single stage en bloc abdomino-perineal resection (APR) and sacrectomy, with myocutaneous flap closure for primary treatment of locally invasive rectal adenocarcinoma is a relatively uncommon procedure. A multi-disciplinary approach makes this case distinct, with orthopaedic, colorectal, plastics and urology specialties involved during a single operative period.

Case description: A 77-year-old man presented to surgical outpatients with intermittent constipation and perianal discomfort. Colonoscopy visualised a rectal mass 5 cm from the anal verge. Staging investigations classified the lesion as a T4 N2 M0 rectal adenocarcinoma with sacral involvement.

Neoadjuvant chemoradiotherapy was followed by operative management. Bilateral prophylactic ureteric stents were initially sited by the urologist. The colon was transected at mid-sigmoid level via a midline laparotomy with formation of an end stoma by the colorectal surgeons. Orthopaedic intervention included an initial osteotomy at mid S3 level before abdominal wound closure and a change to the prone position. Subsequently, mid-sacral osteotomy was completed and the sacrum mobilised en bloc with the rectum and colon. Bilateral S4, S5 and right S3 nerve roots were sacrificed. The resulting perineal defect was repaired by plastic surgeons using a gluteal transposition flap.

Discussion: Primary locally advanced rectal tumours account for up to 10 % of rectal cancers. Abdominosacral resection is the only curative option [1]. It is technically challenging with a high risk of complications. 5-year-survival rates are estimated to be less than 30 % [1] with higher rates associated with primary rather than recurrent tumours. A higher level of sacrectomy correlates with an increased incidence of post operative complications [2].

References:

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Infarction of the Facial Nerve Nucleus—An Uncommon Cause of a Lower Motor Neuron Facial Nerve Palsy

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A 68-year-old man presented after awakening with left sided facial-droop and dysarthria. He denied any dysphagia or limb weakness. On examination he had a left sided CNVI and CNVII palsy with frontalis involvement indicating a lower motor neuron lesion. Limb examination was normal with down going plantars. Initial CT brain was normal. He was commenced on aspirin 300 mg and was admitted to the stroke unit for full workup. ECG, ECHO and carotid Doppler's revealed no source of embolus.

The following day the CNVI palsy had resolved. Repeat CT brain showed a possible hyperdensity in the middle cerebral artery and MRI was recommended to clarify. On MRI after discussion with radiology there was noted to be an area of increased signal intensity in the pons, consistent with infarction. The stroke team in GUH assessed the patient and his scans and he was diagnosed with an infarction of the left facial nerve nucleus. He was managed with input from the multidisciplinary team.

The facial nerve is a mixed cranial nerve with a predominant motor component, which supplies all muscles concerned with unilateral facial expression. Bell's palsy accounts for around 72 % of facial palsies [1], however symptoms can also be caused by pontine infarction or tumours. Pontine infarcts form around 7 % of all ischaemic strokes, and isolated pontine strokes contribute to around 15 % of all posterior circulation infarcts [2]. They are most commonly lacunar infarcts and hypertension is a major risk factor [3]. MRI is superior to CT for identification. Presentation as an isolated facial nerve palsy is a rare occurrence.

References:

1. Holland NJ, Weiner GM (2004) Recent developments in Bell's palsy. *BMJ* 329:553–557
2. Saia V, Pantoni L (2009) Progressive stroke in pontine infarction. *Acta Neurol Scand* 120:213–215
3. Bassetti C, Barth A, Regli F (1996) Isolated infarcts of the pons. *Neurology* 46:165–175

A Comparison of Performance of a Situational Judgement Test by Pre- and Post-Internship Doctors in Ireland

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Background: From 2013, all newly graduated medical students applying to a foundation programmes in the UK must also complete a Situational Judgement Tests (SJT) [1]. SJTs are a type of assessment instrument designed for use during personnel selection to screen candidates for specific attributes. SJTs typically involve the presentation of written scenarios which require respondents to analyse the presented situation and to identify the most appropriate response.

Aims: To examine whether the experience of internship has a significant effect on the score obtained on a UK Foundation Programme SJT.

Methods: The 70 item practice UK Foundation Programme SJT was completed by 30 newly graduated medical students, and 30 interns at the end of their internship. The participants were matched based upon gender and whether they were born within, or outside, the European Union. The SJT consisted of two parts. In the first, the participant must rank in order the five responses to the situation. In the second part they must choose three from eight possible response.

Results: No significant differences were found between the scores of the newly graduates students or interns on part one ($t(58) = -1.07$, $p = 0.29$), or part two ($t(58) = -1.07$, $p = 0.29$) of the SJT.

Conclusion: Assessments of scenarios presented in the SJT are unaffected by the experience of actually making situation judgement as part of internship. Therefore, is the test actually a valid measure of situational judgement in the hospital?

Reference:

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Stop the Clot! An Analysis of Venous Thromboembolism Prophylaxis in General Surgical Patients in Sligo Regional Hospital

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Background:

- Deep Venous Thrombosis (DVT) and pulmonary embolism (PE) are manifestations of venous thromboembolism (VTE).
- VTE events are the most common cause of death in the inpatient setting [1].
- It is estimated that the use of low molecular weight and unfractionated heparins in “at risk” patients can reduce symptomatic VTE disease by up to 50 % and fatal PE by 66 % [2].
- Optimised prophylaxis would result in better patient outcomes, shorter lengths of hospital stay and reduced overall cost [2, 3].

Objectives:

- The aim of this study was to determine the portion of surgical patients at risk of VTE in Sligo Regional Hospital and to assess whether these patients were in receipt of appropriate thromboprophylaxis.
- We aimed to compare current practices employed in this hospital to the recommendations outlined in the latest NICE clinical guidelines.
- We wish to recommend methods of improving doctor compliance with prescription of prophylactic therapies.

Methodology:

- All general surgical inpatients in Sligo Regional Hospital were assessed on the basis of a hospital chart, drug kardex and clinical review on a single date in November 2013.
- A pro forma based on NICE Clinical Guidelines 92, “Venous thromboembolism; reducing the risk”, Jan 2010, was used as the auditing tool.
- Risk factors for VTE and bleeding, outlined in Table 1, were included. The date of initiation of pharmacological and/or mechanical treatment was noted as well as the dose of pharmacological VTE prophylaxis.

Results:

- The average age of the 33 patients included in this study was 66-years-old; with ages ranging from 35 to 92 years.
- All patients were assessed for VTE/bleeding risk. 30 % of patients had at least one risk factor for bleeding and 100 % had at least one risk factor for VTE.

- 38 % of patients were classified as high risk for VTE, with the remainder being of moderate risk.
- VTE prophylaxis was given appropriately to 72 % of patients.
- Of the patients provided with appropriate thromboprophylaxis, 38 % had no prophylactic cover for 24 h or more due to delayed prescription.
- The dosing was not always appropriate.
- 28 % of patients were in receipt of inappropriate prophylaxis, with almost half of this cohort receiving no prophylactic therapy whatsoever.

Conclusion:

- Despite long-standing recognition of the risk of VTE in surgical patients, venous thromboprophylaxis remains underutilized.
- Passive dissemination of guidelines alone is unlikely to improve VTE prophylaxis practice.
- A number of active strategies are required, such as a specialised segment on the drug kardex, clinician education workshops and frequent auditing.
- We suggest that all drug kardexes remain invalid until a VTE risk assessment has been conducted and appropriate prophylactic cover prescribed by the relevant member of the treating team.
- These strategies would ensure that at-risk patients receive appropriate care with the added benefits of shorter hospital stays and reduced overall cost to Sligo Regional Hospital [4].

References:

1. White RH, Zhou H, Romano PS (2003) Incidence of symptomatic venous thromboembolism after different elective or urgent surgical procedures. *Thromb Haemost* 90:446
2. Kent et al. (2011) Improving venous thromboembolic disease prophylaxis in medical inpatients; a role for education and audit. *Ir J Med Sci* 180:163–166
3. Cohen et al (2008) Venous thromboembolism risk and prophylaxis in the acute hospital care setting (ENDORSE study); a multinational cross-sectional study. *Lancet* 371(2):387–394
4. Boddi M, Barbani F, Abbate R, et al (2010) Reduction in deep vein thrombosis incidence in intensive care after a clinician education program. *J Thromb Haemost* 8:121

Are New Interns Ready and Able to Perform Basic Procedural Skills?

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Background: Newly graduated medical students are expected to perform a range of basic procedural skills from their first day of internship. Poor performance of these skills has implications for patient safety and quality of care.

Aims: To identify the level of training, frequency of performance, success rate, and ease of performance of ten basic procedural skills during the first 6 weeks of internship.

Methods: Prior to commencing internship a survey of interns was carried out on the level of training that had been received as undergraduates in a range of skills. Six weeks after commencing internship, interns completed another task audit in which they were asked how many times they had carried out these clinical skills during internship, the success rate, ease of performance, and whether additional training was required.

Results: A total of 95 interns completed the training survey, and 57 completed the task audit questionnaire. Most of the tasks had been carried out on a simulator prior to commencing internship. Unsurprisingly, those tasks that were rated as difficult or very difficult (e.g. catheterising a male, inserting a nasogastric tube) were not performed very frequently during the first 6 weeks of internship, and also had a low success rate.

Conclusion: Interns are not competent to carry out all of the basic procedural skills they are expected to perform during internship. In medical school there is a need to focus training on specific skills that interns find to be challenging.

An Audit of Interventional Radiological Post Procedure Guidelines at Sligo Regional Hospital

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Monitoring of patients after interventional procedures is important as complications often present insidiously. Subjective findings of pain at the procedure site are common and do not indicate more significant complications. Give that many procedures transverse cavities, bleeding may go unnoticed. Subtle variations in BP and Pulse are early signs of haemorrhage. Therefore clear post-procedure observation instructions from radiologists to the ward nurses are essential for safe patient care.

We analysed post interventional procedure instructions in Sligo Regional Hospital between January and July 2013. Recruitment criteria included having undergone radiological procedures as inpatients in Sligo in the first half of 2013. The procedures included were: liver biopsy, Intra-abdominal biopsy and Intra thoracic biopsy, along with more complex procedures such as nephrostomy and ureteric stenting, PTC and biliary stenting, gastrostomy and enteric stenting among others. Day-case and outpatient procedures were excluded.

N	Instruction	Frequency
1	Q30 by 2 h, q60 by 2 h	8
2	Q15 by 1 h, q30 by 2 h	8
3	Q30 by 2 h	8
4	Q15 by 1 h, q30 by 3 h, q60 by 2 h	5
5	Q30 by 1 h, q60 by 2 h	5
6	Q30 by 2 h, q60 by 1 h	4
7	Q15 by 2 h, q 30 by 2 h	2
8	Q20 by 2 h,	1
9	Q15 by 1 h, q30 by 1 h, 1 60 by 2	1
10	Q30 by 2 h, q60 by 2 h	1
11	Q30 by 1 h	1
12	Q30 by 1 h, q60 by 3 h	1

In 51 eligible cases performed by five different radiologists we found 12 different handwritten guidelines. There was a large variation between radiologists for the same procedure. Being handwritten, they were open to misinterpretation. We felt that this may be confusing

and lead to vitals being missed or extra unnecessary work for the nursing staff. A study from Adelaide found that this leads to uncertainty in monitoring and recommended uniform policy development [2]. International best practice recommends using a structure that contains similar information given in the same order every time [1].

We have implemented standardised post procedure instruction stickers which are fixed to patient's notes. These simplify the instructions into three sets;

- Major Procedure
- Moderate Procedure
- Low Risk Procedure

By standardising instructions across the department we will eliminate miscommunication that can occur with hand-written instructions. We propose a re audit in 12 months to assess impact on early detection of complications.

References:

1. Development of a post-operative order format. Victoria Surgical Consultative Council, 2008, Section 4
2. Post operative observation; ritualised or vital in the detection of post operative complications, ZeitzK, University of Adelaide, 2003

The Impact of the Letterkenny Flood on Sligo Regional Hospital

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Aims and objectives:

- To examine the effects of reduced services in Letterkenny General Hospital on Sligo Regional Hospital following the summer flooding.
- Determine the increase in patient attendances and admissions during July and August compared to previous monthly averages.
- Ascertain whether or not patient outcomes deteriorated during this same timeframe.

Methods: A retrospective study of patient attendances, admissions and mortality rates in Sligo Regional Hospital for the months April–August 2013 was conducted. Figures were obtained via iPatient manager database. The figures were scrutinised with particular emphasis on the period during which Letterkenny General Hospital had reduced services due to flood damage.

Results: Attendances at the emergency department rose by an average 242 patients a month. The percentage of patients admitted rose from 25 to 30 %. Surgical admissions jumped 23 % above average while medical admissions increased 14 %. Despite this influx, patient mortality rates remained the same.

Conclusion: Patient volume increased substantially in Sligo Regional Hospital following the flooding in Letterkenny. Despite no reciprocal increase in the staffing of doctors, patient mortality rates remained in keeping with average figures. This supports the assertion that a surge in admissions has minimal impact on patient outcomes [1] and that increasing the number of healthcare workers is unlikely to raise the quality of health services [2]. However, this would not be sustainable over a prolonged period as doctor fatigue and stress predispose to errors in the long term [3]. While the performance of SRH staff was commendable, it is undoubtedly in the best interest of patient welfare that LGH returns to full service as soon as possible and receives appropriate funding to do same.

References:

1. Evans WN, Kim B (2006) Patient outcomes when hospitals experience a surge in admissions. *J Health Econ* 25(2):365–388
2. Maestad O, Torsvik G, Aakvik A (2010) Overworked? On the relationship between workload and health worker performance. *J Health Econ* 29(5):686–698
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Rate of Compliance with HSE Recommended Practices for Healthcare Record Management by Medical Doctors at St Columcilles Hospital

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Background and Aims: In May 2011, the HSE published Standards and Recommended Practices for Healthcare Records (HCR) Management. The objective of this audit is to determine the rate of compliance with specific criteria from the current HSE Standards and Recommended Practices for Healthcare Records Management.

Standard: The standard used to measure is the HSE Standards and Recommended Practices for Healthcare Records Management (QPSD-D-006-3 V3.0) 2011.

Methods: One hundred and twenty-five medical records were audited. This cohort was retrospectively selected from the medical admissions during September 2013. For each case; the medical notes including emergency department notes and the drug charts were reviewed. The following (specific) criteria were audited (I) Labelling, (II) Legibility, (III) Date and time, (IV) Author identification, (V) Documenting evidence of care—documentation of the name of the consultant, (VI) Medications, (VII) Prescribed medicines and blood products—entries in this section are clearly dated with complete author identification. (VIII) Medication allergies, (IX) Estimated length of stay (ELOS). For each criterion listed above; the percentiles and compliance rates were defined as complete documentation (all IX sections are correctly completed), partially documented (any I–IX is correctly completed) or not documented (none of I–IX is clearly or fully documented).

Results: Of the 125 cases; correct patient identification and complete medical note labelling was carried out in 83.2 %. The compliance rate for legibility was 68 %. All medical note entries (100 %) were made in black ink. The compliance rate with regard to the date and time of the medical note entry was 98.4 and 69.6 %, respectively. Clear documentation of doctor's name and signature, bleep number and identification number (IMCN) was 28, 54.4 and 48.8 %, respectively. Documentation rate of the name of the consultant clinician at the time of admission was 58.4 %. The compliance rate for documentation of medications' generic names, date of prescribing, and prescriber's identification in the health care records was 32.8, 98.4 and 98.4 % respectively. Compliance with documenting patient's medication allergy status was 93.6 %. Documentation and compliance with the recording of the patient's ELOS was 12 %.

Conclusion: The findings from this audit indicate that compliance rates with the selected criteria from standard 3 of the HSE Standards and Recommended Practices for Health Care Record Management are suboptimal at our site. Various sections of patients' medical records

including medical notes and medication charts are not being systematically documented.

Reference:

1. HSE standards and recommended practices for healthcare records management, QPSD-D-006-3 V3.0

Cumulative Diagnostic Radiation Exposure in Testicular Cancer Surveillance in Young Patients

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Background & Aim: Cumulative effective dose (CED) of radiation and the associated risks are higher when computed tomography (CT) is performed on younger patients [1, 2]. This study aims to quantify CED of diagnostic radiation in a cohort of testicular cancer patients under post-diagnosis surveillance, between 18 and 39 years of age, diagnosed with testicular cancer in two tertiary care centres, between 2001 and 2011.

Methods: Radiological dose reports of patients in the above cohort were examined. Patient age at diagnosis, dose-length product (DLP), imaging frequency, imaging type and surveillance duration were recorded. CED was calculated from DLP using conversion factors.

Results: 120 patients were included. Mean (SD) age at diagnosis was 30.7 (5.2) years. Median (IQR) surveillance was 4.37 (2.0–5.5) years. Median (IQR) CED was 125.1 (81.3–177.5) mSv. CT accounted for 65.3 % of investigations and 98.3 % of total CED. 77.5 % of patients received high CED (>75 mSv). Surveillance time was associated with high CED (OR 2.063, CI 1.497–2.844).

Conclusions: Patients in this cohort are at risk of exposure to high CED from diagnostic imaging. Strategies to monitor CED and low-dose protocols maintaining image quality should be used by specialist centres for surveillance.

References:

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2. Sodickson A, Baeyens PF, Andriole KP et al (2009) Recurrent CT, cumulative radiation exposure, and associated radiation-induced cancer risks from CT of adults. *Radiology* 251(1):175–184

An Audit to Compare Patient Complication and Outcome Post-Whipples—Pancreaticogastrostomy Versus Pancreaticojejunostomy

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Reconstruction following pancreaticoduodenectomy using a pancreaticogastrostomy (PG) has emerged as a potential safe and beneficial alternative to the traditional pancreaticojejunostomy (PJ) [1]

specifically by reducing incidence of post-operative pancreatic fistula (POPF). This retrospective audit compared complications, weight change, length of stay and use of pancreatic enzyme replacement therapy (PERT) in patients who underwent a pancreaticoduodenectomy carried out by two surgeons at this centre who recently introduced this approach.

The last 20 patients referred to the pancreatic dietitian were reviewed, and data collected regarding baseline nutritional status, preoperative symptoms, procedure type, post operative complications and weight change. SPSS version 19 was used for statistical comparison and analysis.

Patient Characteristics (n = 20, 9 PG and 11 PJ)

	Mean (SD)
Age (years)	63.8 (10.6)
BMI (kg/m ²)	24.5 (4.3)
Pre op weight loss (%)	2.57 % (4.2)
POD light diet attempted	3.5 (0.761)
Post op LOS (day)	23.15 (20)
Post op weight loss (%)	5.5 % (5.52)

There were no significant difference in complications, length of stay or weight change according to reconstruction type. 60 % of patients commenced PERT whilst inpatient, however all patients required PERT on OPD attendance. Positive correlation was found between POPF and wound infection ($p < 0.05$), and with BMI at surgery and post-operative weight loss ($p < 0.05$).

These results are limited given the small sample size, but show no difference in patient outcome in terms of reconstruction methods. They do highlight the need for service improvement irrespective of anastomosis type: specifically adopting an ERAS approach to avoid delay in resuming oral intake, and timely initiation of PERT.

Reference:

1. Topal B, Fievs S, Aerts R, Weerts J, Feryn T, Roeyn G, Bertrand C, Hubert C, Janssens M, Closset J (2013) Pancreaticojejunostomy versus pancreaticogastrostomy reconstruction after pancreaticoduodenectomy for pancreatic and periampullary tumours: a multicentre randomised trial. *Lancet Oncol* 14:655–662

Conflict of interest: None.

Disclosures: None.

An Audit of the “Great Ormond Street Hospital Aide Memoire Surgical Checklist,” an Adaption of the WHO Surgical Checklist

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The WHO *Safe Surgery Saves Lives* campaign, launched in 2007, developed the *Surgical Checklist* to improve global perioperative safety. Great Ormond Street Hospital developed an adapted version of this checklist to suit their specific requirements. We conducted this

audit to quantify how thoroughly and appropriately this checklist was being applied.

We created a checklist that encompassed each of the tasks to be performed as listed on the GOSH Aide Memoire, and whether the timing of each step was appropriate. We assessed if the checklist sheet was actually picked up and/or looked at. We observed 21 surgical cases in theatre over a 2 week period.

Not one team completed an entire checklist. The Aide Memoire was picked up and/or looked at on 8 occasions out of a possible 63. Across the board, there was a discrepancy between particular tasks that were nearly always performed, such as consent, surgical site and drug allergies, and those that were rarely done so, such as the review of imaging and confirming warming measures. Time Out was not carried out on one occasion. A swab/instrument count was performed during all 15 Sign Outs.

Across the board there were certain tasks there were nearly always performed as opposed to those that were regularly over-looked. We believe that this could be improved if team members picked up/looked at the Aide Memoire at each relevant stage. It is clear that the shortcomings highlighted should be addressed/corrected before being re-audited at a later date.

Conflicts of interest: None.

Disclosures: None.

An Audit on Insulin Pump Therapy Use at an Irish Teaching Hospital

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Background: There were 33 adult patients on insulin pump therapy at Galway University Hospital's (GUH) Diabetes Centre at the time of this audit. The NICE Guidelines recommend pump therapy as a treatment option for adults with type 1 diabetes (T1DM) provided their glycosylated haemoglobin (HbA1c) has remained high (≥ 69 mmol/L) on Multiple Daily Insulin (MDI) therapy. Local protocol generally requires 6 months of Diet Adjusted For Normal Eating (DAFNE) participation before consideration of pump therapy.

Objectives: Identify adults with T1DM on MDI therapy with HbA1c ≥ 69 mmol/L and assess if insulin pump therapy has been considered as a treatment option.

Methods: A retrospective review of medical records was conducted on the DIAMOND Clinical Information System of adult patients with T1DM who have attended the Diabetes Centre from June 2011 to June 2013. Patients on MDI and with HbA1c ≥ 69 mmol/L were identified. Their records were then examined along with the current pump waiting list.

Results: 797 patients were eligible for inclusion. 377/797 (47 %) patients had HbA1c ≥ 69 mmol/L. Of these, 15 were already on pump therapy while a further 15 were on premixed or modified regimens, resulting in 347/797 (43.5 %) eligible candidates. 33/347 (10 %) of these candidates had reference to insulin pump therapy in notes or were on the waiting list. Of the 314/347 candidates who had no documentation, 84/314 (27 %) had documentation of over 6 months of DAFNE.

Conclusion: There was limited compliance with the NICE guidelines—it is likely that this reflects resource constraints. This problem has resulted in a highly selective pump usage strategy with device availability only for those who were likely to benefit maximally. This audit highlights the importance of continued investment in insulin pump therapy.

Reference:

1. NICE Guidelines: Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (TA151)—NICE technology appraisal guidance 57

The Need for Mental Health Triage in the ED Following Self-Harm

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Introduction: Currently the Manchester Triage Scale (MTS) is used in Irish Accident and Emergency Departments. This focuses on medical and surgical presentations to the Emergency Department (ED), but fails to provide guidance on triaging psychiatric presentations [1]. More than 12,000 people presented to emergency departments in Ireland following an episode of self-harm in 2011 [2]. 1 in 5 such individuals repeat self-harm within 3 months, with up to 15 % of patients leaving the ED without a psychosocial assessment [2]. The National Institute of Clinical Excellence (NICE) guidelines and The HSE's National Emergency Medicine Programme Report (June 2012) recommend the introduction of a Mental Health Triage (MHT) scale.

Aim: To examine the effectiveness of a MHT Scale in assessing patients presenting with self-harm.

Methods: Ten vignettes were created using details from case files of 10 patients who had presented to Cork University Hospital ED, with deliberate self-harm. Nurses ($n = 49$) were given five vignettes (with a range of presentations) and asked to assign each vignette to a triage category, using MTS. Each nurse was subsequently asked to re-evaluate the same vignettes using the MHT Scale. MTS and MHT both have scales of one-five which are directly comparable. Triage with each method was deemed safe or unsafe, using the triage score from two expert consultant opinions (Psychiatrist and Emergency Medicine) as the gold standard. Familiarity with the concept of MHT and education provided to nurses was also assessed.

Results: In total the study examined 245 triaged cases. There was a significant change in the categories assigned when the MHT scale was in use, $p < 0.001$. The triage categories assigned using the MHT scale were significantly safer than under the MTS scale (79 vs. 60 % safe respectively, $p < 0.001$).

Conclusion: The use of a MHT Scale appears to reduce the number of patients that would be under-triaged by the currently used Manchester Triage Scale.

References:

1. Broadbent M (2006) Improving emergency mental health triage. *Aust Nurs J* 14(6):35 (Epub 21/12/2006)
2. National Suicide Research Foundation (2012) The National Registry of Deliberate Self Harm annual report 2011. National Suicide Research Foundation, Cork

Appropriateness of Usage of Computerised Tomography Pulmonary Angiography for Investigation of Suspected Pulmonary Embolism

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Background: The Royal College of Radiologists, RCR, have established guideline regarding the appropriate usage of Computerised Tomography Pulmonary Angiograms, CTPA, and the desired outcomes. A large number of CTPA's were ordered on a regular basis in a busy radiology department. A significant morbidity and mortality is associated with pulmonary embolism, PE [1]. A normal CTPA result alone has been shown to safely exclude PE in all patients in whom CTPA was requested to rule out this disease [2]. Patients with a good quality negative CTPA do not require further investigation or treatment for PE [3].

Aims: To assess whether or not the outcomes of CTPA's ordered in a busy radiology department of a regional hospital comply with the recommended standards as set out by the RCR.

Methods: Prospective analysis of 50 consecutive CTPA requests and their results, including preceding chest X-ray report, referral information, and pre CTPA D-dimer value if available, from September to October of 2013. None of the medical or surgical teams were informed of the audit so as not to alter their requesting habits and alter results.

Results: Pulmonary embolus, PE, was diagnosed in 8 % of CTPA's, and alternative diagnosis to explain the symptoms was diagnosed in a further 26 % of CTPA's, and the remaining 66 % of CTPA's reported no PE or alternative diagnosis which could account for the symptoms indicated on the request.

Conclusions: The rate of both PE and alternative diagnosis explaining symptoms findings fell well below the set standard, 8 % compared to 15 % and 26 % compared to 50 % respectively. 24 % of the requests had sub-standard clinical indications.

References:

1. Making best use of a Department of Clinical Radiology (2007) In: Guidelines for doctors, 6th edn. The Royal College of Radiologists, London
2. Mos IC, Klok FA, Kroft LJ et al. (2009) Safety of ruling out acute pulmonary embolism by normal computed tomography pulmonary angiography in patients with an indication for computed tomography: systematic review and meta-analysis. *J Thromb Haemost* 7(9):1491–1498 (epub 22 Jun 2009)
3. NICE Quality Standards (2013) Quality standard for diagnosis and management of venous thromboembolic diseases. QS29

Schwannoma Through a Tiny Hole-A

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A 55-year-old lady with significantly elevated BMI presented to her GP with a 2 month history of left sided posterior pleuritic pain. Chest X-Ray showed a 'bulky appearance of the left hilum'. She was referred into the rapid access lung clinic in SVUH and a CT thorax was performed. This revealed 'an oval hypodense lesion posteromedially in the left upper zone, measuring 5.3 cm on maximum dimension and contiguous with the neural foramen at T5/T6'. The suspicious lesion was biopsied under CT guidance and was consistent with a thoracic wall schwannoma.

Her background history was significant for pulmonary embolus, asthma and diabetes mellitus. Her medication included rivaroxaban.

Following surgical assessment she underwent a left VAT's excision of the mass, she spent 7 days in hospital. Excisional biopsy

revealed spindle cells and verocay bodies staining S-100 positive consistent with the pre operative diagnosis of schwannoma. She has returned to clinic subsequently and her pleuritic pain has resolved.

Schwannoma is a benign tumour with a very low metastatic potential. As such, morbidity associated with surgical resection is a big issue. Traditionally resection has been performed open via a lateral thoracotomy. This is associated with significant co morbidity. The benefit of VAT's excision is a reduction in factors such as pain, scarring, length of stay and pulmonary complications.

Calcium Conundrum

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We present a case of a 63-year-old woman who presented with a 3 week history of vomiting, polydipsia, polyuria and constipation. She had no history of renal stones, osteoporosis or low mood. Clinical examination revealed mild confusion and an otherwise normal physical examination. A 12-lead ECG was normal.

On admission, serum calcium was elevated at 4.48 mmol/L, phosphate was low at 0.71 mmol/L, creatinine measured 70 μ mol/L and eGFR was 62 mL/min. Parathyroid hormone was elevated at 1,084 ng/L suggesting a diagnosis of primary hyperparathyroidism. A raised 24-h urinary calcium at 21.78 mmol/24 h supported the diagnosis.

The patient was treated with aggressive intravenous fluid resuscitation and cardiac monitoring over 24 h. Adjusted calcium remained elevated at 3.98 mmol/L and intravenous bisphosphonate therapy was administered. On day 5 post admission, the serum calcium had improved to 2.73 mmol/L. Subsequent parathyroid ultrasound and scintigraphy failed to localise an abnormality. The patient proceeded to have a surgical neck exploration. Intraoperatively, the right superior parathyroid was noted to be grossly enlarged and it was excised. Although the level of hypercalcaemia raised clinical suspicion for malignancy, the gland weighed 3.7 g and was consistent with an adenoma on pathological examination.

At 1 month post-surgery, corrected calcium was 2.28 mmol/L, phosphate 0.78 mmol/L and PTH 135.3 ng/L. The latter value is likely explained by an undetectable vitamin D level and intramuscular replacement has taken place.

Hypercalcaemic hyperparathyroid crisis is a dangerous life threatening manifestation of parathyroid disease and this case highlights the importance of accurate identification and treatment of this condition.

Do Doctors Adequately Document Informed Consent in Elective Surgery?

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Background: Consent is the giving of permission or agreement for an intervention following a process of communication about a proposed

intervention. The task of providing information and seeking consent can only be carried out by someone who is suitably trained and qualified. It is essential that the patient's agreement to the procedure and the discussion that led up to the agreement are clearly documented [1].

Aims: The purpose of this study was to conduct a chart audit to identify who is obtaining informed consent from patients, and the level of detail with which informed consent is being recorded in the patients' records.

Methods: An audit of 88 patient charts for elective surgical cases was carried out in order to collect information on the recording of informed consent. For 39.8 % of the cases consent was obtained by interns, for 54.5 % consent was obtained by Non-Consultant Hospital Doctors (NCHDs), and 4.5 % of the time consent was obtained by a Consultant. In either the charts or the consent form the following information was recorded: risks disclosed (39.8 % of the time), risks itemised (34.1 % of the time), risk percentages (4.5 % of the time), risk of death noted (6.8 % of the time).

Conclusion: It is important that doctors ensure that the consent process has been adequately recorded to avoid the potential for litigation. This audit has shown that the documentation of consent in patient records could be improved. The need to properly document consent needs to be emphasised across all levels of seniority.

Reference:

1. Health Services Executive (2013) National Consent Policy Dublin

Thrombolysis for Strongyloides Induced Venous-Thromboembolism (VTE)

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A 24-year-old professional runner from Ethiopia, training in Ireland for 6 weeks, presented with a 4 day history of right groin pain. Physical exam revealed right inguinal tenderness only. His labs were normal apart from peripheral eosinophilia of 4.9, CRP of 125.6 and IgE of 179. CT pulmonary angiogram and formal angiography of his right lower limb confirmed asymptomatic bilateral pulmonary emboli, a right iliofemoral (IF) and popliteal deep vein thrombosis (DVT).

A Cook Celect inferior vena cava (IVC) filter was inserted and our patient was thrombolysed via a Cragg-McNamara popliteal catheter for 26 h followed by complete pharmacomechanical thrombectomy with a Trellis system. The IVC filter was removed 5 days later. Serology confirmed strong positivity for strongyloides. He was treated with ivermectin 200 mcg/kg for 2 days and his eosinophilia experienced a sharp decline to normality.

Peripheral eosinophilia has been previously shown to induce both arterial and venous thrombosis, due to its effect on platelet and coagulation cascade activation, and the inhibition of the fibrinolytic pathway. Nevertheless, there have been no previous case reports of strongyloides induced VTE. We present this first report, involving a young athlete, who required catheter-directed thrombolysis for the treatment of symptomatic IF-DVT and the prevention of post-thrombotic syndrome.

Reference:

1. National Institute for Health and Care Excellence (2012) Venous thromboembolic diseases: the management of venous

thromboembolic diseases and the role of thrombophilia testing (CG144). National Institute for Health and Care Excellence, London

“Why Can’t I Climb the Stairs?” Progressive Motor Neuron Dysfunction in a Young Man

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Motor Neuron Disease (MND) is a devastating neurological diagnosis. In Ireland, the average time to diagnosis is 15 months with up to one-third of patients receiving an initially wrong diagnosis [1]. We describe the first Irish case of late onset Tay-Sachs Disease, a partial Hexominadase A deficiency disease, presenting as apparent MND.

A 29-year-old, right-hand dominant Irish male presented with a 2 year history of progressive weakness and stiffness in all four limbs, manifesting as difficulty in climbing the stairs. Neurological examination was significant for a spastic paraparesis. Fundoscopy was normal.

All routine blood tests were normal. Paraneoplastic, vasculitic, anti-glutamic acid decarboxylase (GAD) and anti-GM1ganglioside antibodies were all negative. Serum creatine kinase was elevated. Cerebrospinal fluid examination was unremarkable. Radiological investigations were normal. Muscle biopsies showed random fibre atrophy consistent with denervation and reinnervation.

Electromyography revealed fasciculations, repetitive discharges and myokymia. Sensory nerve conduction studies revealed a reduced right superficial radial nerve action potential (SNAP). This subclinical finding broadened the differential to include causes of a peripheral sensory axonopathy. An adrenoleucodystrophy screen and phytanic and pristanic acid levels were normal. Plasma beta Hexominadase A activity was significantly reduced indicating late onset Tay-Sachs Disease.

Examination and investigations favoured a diagnosis of MND however the patient’s age and presence of a subclinical sensory nerve conduction axonopathy raised uncertainty.

We highlight the importance of considering Tay-Sachs Disease in the differential of motor neuropathies especially in young patients with atypical features.

Reference:

1. Donaghy C, Dick A, Hardiman O, Patterson V (2008) Timeliness of diagnosis in MND; a population based study. *Ulster Med J* 77:18–21

The Professional/Ethical Dilemmas Faced by Medical Students when Learning Digital Rectal Examinations

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Background: This study explored whether medical students have faced an ethical or professional dilemma when learning to perform digital rectal examinations (DREs).

Summary of work: All 3rd and 4th year medical students were invited to participate by their class representatives (not the researcher) in an opt-in online survey. A total of 112 students responded, providing a response rate of 27 %. This study received Student Union support and Research Ethics Committee ethical approval.

Summary of results: 38/112 students (34 %) of respondents had performed a DRE on a patient. 50 % of students said that more than one student performed a DRE on the same patient on the same occasion. In 34 % of cases, the student reported that patient consent was not obtained. No student directly obtained prior patient consent in cases involving DREs performed by medical students on unconscious patients.

Discussion: Section 15 of the Irish Medical Council’s Guide to Professional Conduct and Ethics for Registered Medical Practitioner states that ‘Where an intimate examination is necessary, you should explain to the patient why it is needed and what it will entail...’ In section 17 it states that ‘...Students must get permission from patients before they interview or examine them.’ Despite this in 34 % of cases where students performed DREs on patients, patient consent had not been obtained. No written consent was obtained by the student to perform the DRE regardless of the level of consciousness of the patient. 50 % (19 students) of students who performed a DRE on a patient said that more than one student performed a DRE on same patient on that same occasion.

Conclusion: The results of this study suggest that medical students are not always following best practice when learning how to perform DREs. In many cases, students have performed DREs without adequate patient consent. Note: This study was previously presented as a poster at the INMED conference in February 2012.

Analysis of Trib Genes in Leukaemia

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Introduction: Tribbles are a set of genes that include Trib1, 2 and 3. The Trib2 protein is believed to play a role in the pathogenesis of certain acute myelogenous leukaemia (AML) subtypes, via the degradation of the transcription factor, C/EBP α . (1) Previous research has shown increased Trib2 mRNA expression in samples from a single AML patient, (2) However, it is still unknown whether this mRNA is transcribed fully, as Trib2 protein levels have never been reported in human AML samples.

Aims: Firstly, to develop Western Blot techniques for Trib1–3 and C/EBP α proteins. To then determine presence/absence of these proteins in human AML samples and to quantify them if present. Lastly, to evaluate these protein levels with respect to patient’s clinical status.

Methods: Blood samples were collected from an AML patient undergoing palliative care. Western blotting protocols were then developed to measure Trib1–3 and C/EBP α . Using these novel techniques, protein levels in patient samples were measured. Levels in healthy patient samples and AML cell lines were also measured, for negative and positive controls respectively.

Results: Trib2 protein was successfully detected in human AML blood samples. Levels were found to be almost four times higher than in healthy control samples. Trib3 levels were not detected in patient samples. With regard to the remaining two proteins, C/EBP α and Trib1, further method development is required.

Conclusions: Trib2 protein levels are raised in human AML samples. There is no obvious quantitative correlation between Trib2 levels and clinical status. Trib3 does not appear to be involved in AML pathology. Techniques for C/EBP α and Trib1 need further development before a definitive answer can be given.

Discharge Advice and Patient Education for Discharge Patients in the Emergency Department

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Title of Audit	Discharge advice and patient education for discharge patients in the emergency department	Clinical audit number (on letter of approval)
Date of report	1st of March 2013	
Date of audit	Start: From 23rd of February	Finish: 1 st of March
Department/Speciality	Emergency department (ED)	Re-audit date

Audit lead/author	Kieran Crowley and Shane O'Briain (students)	Job title: students
Sponsor	Dr. Nigel Salter	Job title: Consultant ED
Key Stakeholders	Names: Patients and doctors of the emergency department	Department/Speciality: Emergency Department

Background and Aim: Say why the audit was done	To assess emergency Department's adherence to JCI standards regarding written discharge advice in light of upcoming JCI survey in March
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Standard to which you measured your practice	Joint Commission International standards. This is a global body which helps improve patient safety and quality by evaluating practices in healthcare organisations
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Methodology:

Include

- START and FINISH dates
- Chosen population
- How sample selected
- Retrospective or prospective
- Sample size
- Describe tool used

We decided to look at a cohort of patients who were admitted to the emergency department in a particular 24 h period. This date was chosen at random with the sole inclusion criteria of being a week day in the month of January. We chose a week day because we felt that this would reflect more accurately on the day to day activity in the Emergency Department. For the purpose of a re-audit we chose the month of January which is the start of a new rotation for personnel in the ED. This would allow for a re-audit of the practices of the same group of doctors in the future. The chosen date was the 22nd of January 2013

The sample size initially was 123 patients. However any patient who was admitted into the hospital was excluded from the final audit. This reduced the sample size to 96 patients who were eligible for the purpose of our audit

This was a post-discharge retrospective audit to evaluate whether the ED is meeting the JCI standards of care

Gaye Moffat the administrative co-ordinator for the ED provided a list of patient names and MRNs who were admitted to the ED on the 22nd of January 2013 in Microsoft Excel. Using MAXIMS we accessed the patients' case notes to determine whether or not discharge advice was documented, and if so, whether this advice was verbal or written

Results: (State the results. Start with total number (n =). Data may be presented visually (graphs, tables)

Our initial 'n' number was 123 patients. 27 patients were excluded from the analysis because they were admitted as in-patients with 96 patients who fulfilled the criteria. Of the 96 patients 3 were classified as "did not wait" (DNW). These patients were included in our final results because, though it is difficult to give discharge advice to a DNW patient, these are the patients who need it most

27 patients out of the total 96 patients (28 %) were documented as having received discharge advice. 24 of these patients received verbal advice alone. 2 patients received written advice alone. 1 patient was documented as having received both verbal and written advice

Conclusion: (List key points that flow from results)

The standards for discharge advice are quite similar in both the JCI and HIQA guidelines. As per the *Joint Commission International Accreditation Standards for Hospitals 3rd Edition* Section A.C.C 3.3 “Patients and, as appropriate, their families are be given understandable follow-up instructions at referral or discharge”

The National Standard for Patient Discharge Summary Information Health Information and Quality Authority state in Section 5.6 ‘Future Management’ “The Information, both verbal, written or in any other form which has been provided to the patient, relatives or carer”. The only method of proof of this discharge advice is documentation of it. Although it is likely many discharges from the ED occur with undocumented advice, the documented discharge advice in SVUH, and thus adherence to JCI standards, ED is low at 28.1 %. By highlighting the need to document this discharge advice, the documented adherence to JCI standards could raise dramatically

Epigastric Pain...It's Not Always Alcohol!

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Intussusception occurs when a proximal segment of the gastrointestinal tract called the intussusceptum telescopes into the lumen of an adjacent segment, known as the intussusciptens. This is a serious disorder which, if left undiagnosed can progress to bowel ischemia, obstruction or perforation.

Intussusception is the most common cause of intestinal obstruction in the paediatric population between 6 and 36 months of age [1]. However intussusception is rare in the adult population accounting for only 5 % of the total cases of intussusception and is responsible for only 1 % of all cases of adult bowel obstruction [2] out of which caecal intussusception is perhaps the rarest.

Our patient is a 19-year-old male who presented to the Emergency Department after consuming 50–60 units of alcohol over the weekend. He presented with a 2 day history of right upper quadrant and epigastric pain radiating to the back. On examination the patient was haemodynamically stable and afebrile. Abdomen was soft with minimal tenderness in the right upper quadrant, epigastric and right iliac fossa area. Laboratory results on admission showed a slightly raised ESR. Amylase, LFTS and WCC were normal. Ultrasound was done with no evidence of gallstones, however an unusual possibility of intussusception was raised. CT was recommended and confirmed the presence of an intussusception extending from the caecum to the mid transverse colon. Once diagnosis was established, the patient had an emergency laparotomy and limited right hemicolectomy, with per-operative findings consistent with the CT findings.

This case illustrates the importance of keeping an open approach to all differentials while considering a diagnosis. What could have been initially just been gastroscoped and labelled as a gastritis and a missed diagnosis, was instead sent for an ultrasound because of pain radiating to the back and biliary colic had to be out-ruled. Also although intussusception was still a lucky diagnosis, and is a rare disorder in the adult population; it is important to recognise it when it occurs as complications such as bowel obstruction, necrosis and perforation each represent a cause of mortality on their own.

References:

1. Mandeville K, Chien M, Willyerd FA et al (2012) Intussusception: clinical presentations and imaging characteristics. *Pediatr Emerg Care* 28:842
2. Demirkan A, Yagmurlu A, Kepenecki I et al (2009) Intussusception in adult and pediatric patients: two different entities. *Surg Today* 39:861–865

How Can the Informed Consent Process be Improved?

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Background: Adequate informed consent is an ethical necessity to ensure the patient understands the procedure and the associated risks. Failure to obtain, and document, informed consent also places doctors at risk of litigation should something go wrong with the procedure.

Aims: The purpose of this study was to conduct interviews in order to obtain information from healthcare professionals and patients about the informed consent process.

Methods: A total of 23 semi-structured interviews (4 consultant doctors, 5 nurses, 10 non-consultant hospital doctors, and 4 elective surgery patients) were conducted.

Results: There was a general consensus by all participants that the purpose of obtaining informed consent was to ensure that the patient understood the type of surgery and any major risks associated with the procedure. It was also recognised that avoiding litigation was a major purpose of the consent process. Barriers to consent identified by the doctors and nurses were poor consent forms, lack of time, and patients' lack of understanding. It was universally agreed by both doctors and nurses that there was considerable variation in how patients were consented. Patients, doctors, and nurses proposed that clear information leaflets, videos, and pro-forma consent forms designed for specific procedures would be beneficial to the consent process. It was suggested this would improve both patient understanding, standardise the consent process, and protect doctors from litigation.

Conclusion: Healthcare professionals believe that more explicit procedures and documentation would improve the quality and standardisation of the consent process from doctor to doctor.

Audit of Appropriate Use and Documentation of Urinary Catheterisation on Medical Wards

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Department of aging and therapeutics UL Intern Training Network

Background: Urinary catheters are associated with many complications, therefore should only be used for defined clinical indications.

Aims: Assess appropriate indications and documentation as recommended by HSE/Health Protection Surveillance Centre (HSPC) for urinary catheterisation [1].

Methods: All medical wards at University Hospital Limerick excluding the ICU/HDU were included in audit. For every patient with catheter in situ the medical notes were checked to see if:

1. the indication for urinary catheter insertion was recorded
2. details of the procedure were documented including catheter size, if consent was obtained, who inserted catheter and other relevant data as recommended by HSPC.

Results: Of 105 patients included in audit, 15 (14.3 %) patients were catheterised. 1 patient had catheter in situ prior to admission. Of the remaining 14 patients, 4 (26.6 %) patients had catheter inserted in accident and emergency, 5 (33.3 %) patients had catheter inserted on ward, and 4 (26.6 %) patients had catheter inserted in unknown location.

4 (26.6 %) patients had appropriate clinical indication for catheter insertion which included acute urinary retention and monitoring urinary output.

2 (13.3 %) patients had inappropriate indication of urosepsis recorded for reason of catheter insertion and 1 (6.6 %) patient the reason was biliary sepsis without indicating was reason for monitoring urinary output. The remaining 8 (53.3 %) had no reason for urinary catheter documented in notes.

The procedure was documented in medical notes in only two patients, and patient consent was documented in only one case.

Conclusion: Large deficiencies in recording the indication for catheter insertion, documentation of the procedure itself and recording of patient consent obtained are evident. In this study, 42.8 % of documented reasons for catheterisation were inappropriate.

The use of a standardised form that includes clinical indication that could be filled and added to medical notes each time a urinary catheterisation is performed by medical or nursing staff could address many of these issues.

Reference:

1. Guidelines for the prevention of catheter-associated urinary tract infection (internet) (2011) <http://www.hpsc.ie/hpsc/A-Z/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,12913,en.pdf>

Post-Operative Airway Complications

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Background: Post-operative airway problems are the second most common complications following nausea and vomiting [1].

Airway problems may develop in the post-operative period requiring immediate intervention to ensure patient safety as they are an immediate threat to patient safety [2]. Causes of difficulty may include laryngospasm, persisting relaxation of airway muscles, soft tissue edema, haematoma, vocal cord dysfunction, or foreign body. Strict and continuous monitoring during the post-anaesthesia period is important firstly to identify airway problems and secondarily to initiate effective management [1].

Previous studies have documented airway problems in up to 7 % of patients with complications rates relative to intubation method. Most interventions were simple, involving manual support of the jaw or insertion of an oral or nasal airway [3].

Aims: To determine if the standard of care in a post-operative recovery ward of a busy regional hospital meets international standards.

1. <5 % post-operative patients in the recovery room should require airway support by the recovery nurse
2. <1 % patients should require re-intubation.

Methods: All patients admitted to the recovery ward between 21st November 2013 and 23rd December inclusive were monitored by staff for signs of airway problems. The oxygen saturations of all patients were monitored closely by the recovery area staff for desaturations that required airway intervention or medication, including O₂ with reservoir. Data recorded for each case requiring intervention included;

- ASA
- Type of operation
- Anaesthesia used
- Airway problem
- Intervention
- Outcome

Results: This audit is currently underway as a prospective study.

Conclusions: To be presented at RAMI Intern Section Study Day, 18th January 2014.

References:

1. Hines R, Barash PG, Watrous G, O'Connor T (1992) Complications occurring in the postanesthesia care unit: a survey. *Anesth Analg* 74:503–509
2. Miller KA, Harkin CP, Bailey PL (1995) Postoperative tracheal extubation. *Anesth Analg* 80:149–72
3. Abdy S (1999) An audit of airway problems in the recovery room. *Anaesthesia* 54:372–92

Capillaritis Giving Rise to Elevated Troponin T Levels: A Case Report

Har CSY

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Introduction: Troponin T is routinely used to diagnose conditions where there is cardiac ischaemia or infarction. There are however many other conditions that can cause elevation in Troponin T levels.

Case history: A 24-year-old Brazilian gentleman presented with 1 day history of chest discomfort associated with 5 day history of pruritic bilateral lower limb rash and malaise. Troponin T on admission was markedly raised. Initial differential diagnosis included myopericarditis. Electrocardiography and echocardiogram were normal. Patient was eventually diagnosed with having Pigmented Purpuric Dermatitis (Schamberg's Disease). Patient was treated with non-steroidal anti-inflammatory and made an uneventful recovery.

Discussion: Troponin T (cardiac type) levels are raised in conditions where there is damage to cardiac myocytes. Troponin levels can also be falsely raised in certain autoimmune diseases and conditions that cause reduced troponin excretion. It is very important to correlate with clinical findings in order to establish an accurate diagnosis.

An Audit of GI Endoscopic Follow Up in Sligo Regional Hospital

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Upper and Lower GI endoscopy is an important diagnostic and interventional procedure. These procedures allow direct access to body cavities for assessing and treating disease. Many diseases, particularly malignancies, can be picked up early allowing for early intervention before disease has spread.

As part of the Colonoscopy Unit Surveillance Group, we carried out an audit of GI Endoscopy Follow up in line with the recommendations of the Joint Advisory Group in GI Endoscopy [1].

Selection criteria included (a) having undergone upper and lower Endoscopy from a member of the Department of Gastroenterology at Sligo Regional Hospital during the first 6 months of 2013 and (b) the clinician stating that a follow up Endoscopy is indicated for that patient. Patients were selected for follow up in accordance with the British and Irish Surveillance criteria [2].

We recorded the length of time requested for surveillance by the clinician. We also recorded if and when follow up Endoscopy was carried out. Reasons for non-completion of follow up were also collated.

Of the 11 cases we analysed we found that 7 (64 %) were scheduled and carried out within 4 weeks of the requested time.

We found this to be in line with national levels. We would recommend that this Audit be repeated next year with a larger sample size to ensure that we are meeting the national guidelines [3].

References:

1. Joint Advisory Group on GI Endoscopy, in association with of the Academy of Medical Royal Colleges (AMRC)
2. Cairns et al. Guidelines for colorectal cancer screening and surveillance in moderate and high risk groups. The British Society of Gastroenterology with the Association of Coloproctology for Great Britain and Ireland
3. O'Reilly et al. Guidelines of quality assurance in colorectal screening. National Cancer Screening Service

A Review of Spinal Infections Presenting to Cork University Hospital 2005–2011

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Background: Spinal infections are a spectrum of distinct, contiguous diseases: disc space infection (discitis); vertebral osteomyelitis; and epidural abscess. They are difficult to diagnose and treat, and incur significant mortality [1].

Current literature reaches some consensus regarding the presentation and management of spinal infections. Only one Irish study [2], which narrowed inclusion criteria to pyogenic causes, has been published, and reported some characteristic differences when compared to foreign studies. No available literature explores the possibility of the early identification of patients who are likely to have longer stays or poorer outcomes.

This study aims to determine the demographics, risk factors, microbiology, investigations, management, and their correlation with outcome.

Methods: A retrospective chart review of patients admitted to Cork University Hospital with spinal infections was conducted. Sixty-three charts met the inclusion criteria. Data was analysed using SPSS 20.0.

Results: Ages ranged from 15 to 89 years (mean 59.3, SD 17.6) with 60 % males. Risk factors included: history of spinal trauma or surgery (n = 21, 33 %); CKD (n = 8, 13 %); UTI (n = 8, 13 %); diabetes (n = 7, 11 %); malignant disease (n = 6, 10 %). No risk factors were present in 16 patients. Identified infections were pyogenic (n = 30), and tubercular (n = 2). Spinal surgery was performed on 22 (35 %) patients. Length of stay correlated with age (rs = 0.59, p < 0.001), and initial CRP (rs = 0.49, p = 0.002). A 92 % cure rate was recorded.

Conclusion: Spinal infection is more common in males. Risk factors are not always present. Most patients do not require surgery. Moderate correlation of statistical significance was found between age, CRP on admission, and patients' lengths of stay.

References:

1. Richard Winn H (2011) Youmans neurological surgery: expert consult (online and print), vol 4 (Winn, Neurological Surgery), 6 edn, Saunders
2. Butler JS, Shelly MJ, Timlin M, Powderly WG, O'Byrne JM (2006) Nontuberculous pyogenic spinal infection in adults: a 12-year experience from a tertiary referral center. *Spine* 31(23):2695–2700

Is Heart Failure Managed Appropriately in Roscommon County Hospital

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Background: Heart failure is a very common medical condition and affects approximately 4.5–7.2/1,000 cases for people over 45-years-old [1]. The 5 year survival rate is typically between 25 and 38 % [1]. It is important that heart failure is managed well in order to improve patients' outcomes.

Aims: I looked into whether heart failure is managed appropriately in our main population of patients according to the NICE guidelines.

Method: I looked into the medical records of all 45 medical patients in St Coman's ward on 9th November 2013 looking at symptoms of heart failure based on the Framingham criteria, brain natriuretic peptide (BNP) levels and echocardiogram results available from the Roscommon Hospital records and diagnosed them with heart failure according to the NICE guidelines [2]. I also looked at the patient's list of medications as well as vitals at current admission. I excluded patients with symptoms of heart failure but without both BNP and echocardiogram reports.

Results: Out of 45 medical inpatients, eight patients had symptoms of heart failure with both echocardiogram reports and raised BNP. Based on the NICE guidelines, only one patient had an ejection fraction of <40 %, while seven others had preserved ejection fraction. Our lone patient with decreased ejection fraction should be on an angiotensin-converting-enzyme inhibitor or angiotensin receptor blockers as well as beta-blockers with diuretics used as symptomatic relief [2]. As for the rest of our patients with preserved heart function heart failure, the guidelines recommend that the patient's co-morbidities be managed accordingly with diuretics given for symptomatic control [2]. Four out of seven of those patients had atrial fibrillation, three of them had hypertension and none had diabetes mellitus or a previous myocardial infarction. As recommended by the NICE guidelines, patients with atrial fibrillation should be rate controlled below 90 bpm [3]; 75 %

were rate controlled below 90 bpm while 25 % had a rate of 100–110 bpm. One patient had uncontrolled hypertension.

Discussion: Based on this audit, patients were mostly well managed in terms of heart failure management. However risk factors management for heart failure could be better managed. This study was limited in the small sample size and patients without echocardiography and BNP levels despite having heart failure symptoms.

References:

1. Ho KK, Pinsky JL, Kannel WB, Levy D (1993) The epidemiology of heart failure: the Framingham study. *J Am Coll Cardiol* 22(4 Suppl A):6A
2. National Institute for Health and Care Excellence (2010) Chronic heart failure. CG108. National Institute for Health and Care Excellence
3. National Institute for Health and Care Excellence (2006) Atrial fibrillation. CG36. National Institute for Health and Care Excellence

Relapsed Hairy Cell Leukaemia Management in a Patient Intolerant to Rituximab

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34-year-old gentleman with a history of worsening fatigue, profound atraumatic bruising and an episode of epistaxis presented to Sligo Regional Hospital without significant medical history. He denied recent infections and B cell symptoms. On examination, he had splenomegaly, measuring 6 cm, with no palpable lymphadenopathy or hepatomegaly. A bone marrow biopsy confirmed the diagnosis of HCL. He was commenced on Cladribine, in accordance with the British Committee of Haematology Standards (BCHS) guidelines. He remained asymptomatic for 4 years before relapsing. His progressive symptoms warranted with Cladribine and Rituximab, adhering to the BCHS guidelines for relapsed HCL. Following his first dose of Rituximab, the patient became hypotensive, tachypneic, tachycardic and started de-saturating. Believing that he developed cytokine release syndrome, Rituximab was withheld. Two further episodes of being acutely unwell after infusions of Rituximab ensued, rendering the patient unsuitable for the medication. Rituximab has been reported to elicit a reaction similar to graft-versus-host disease, given its chimeric nature. Hence, Rituximab was substituted for Ofatumumab, a human monoclonal antibody that targets an epitope of CD20 molecule, different to that targeted by Rituximab. After six cycles of chemotherapy with Ofatumumab, a repeat bone marrow biopsy showed no evidence of HCL. He has since been followed up in outpatients and remains symptom-free. Though a single isolated case, Ofatumumab may be interchangeable with Rituximab in terms of efficacy in some haematological conditions; with possibly reduced adverse reactions given it is a fully human product.

Myocardial Infarction in a Thrombocytopenic Patient

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Platelets play a crucial role in the pathogenesis of acute coronary syndrome (ACS), with incidence of thrombocytosis-induced Acute Myocardial Infarction (AMI) being reported at 9.4 %.

However, thrombocytopenia is not protective against AMI. In fact, ACS is reported to occur in 39 % of patients with both thrombocytopenia and carcinoma and is a risk factor for AMI in Kawasaki's disease. Though the cause of AMI in thrombocytopenic patients is debatable, the development and effect of occlusive thrombus in these patients is similar to atherosclerotic patients.

Our patient is a 72-year-old gentleman initially treated for Chronic Lymphocytic Leukaemia with a Fludarabine, Cyclophosphamide and Rituximab combination therapy, which led to secondary myelodysplastic syndrome. He has had multiple admissions for neutropenic sepsis and is on Azacitidine chemotherapy, while remaining transfusion-dependent. During an admission (with a haemoglobin level of 6.8, white cell count of 0.38 and platelet count of 4), he developed an AMI, which was confirmed with cardiac biomarkers, electrocardiography and echocardiography. No further management was carried out, respecting his wishes.

Postulated theories for AMI in thrombocytopenic patients include; increased mean platelet volume despite low platelet count, accounting for higher thrombotic potential; and elevated levels of platelet micro-particles (PMPs) that play a thrombogenic role.

Though bleeding is the main adverse effect of all ACS interventions, typically withheld from patients with thrombocytopenia, as they are nine times more likely to develop a haematoma, case studies have shown that percutaneous coronary intervention (PCI) and treatment with anti-platelet agents such as aspirin is feasible in this population.

Clot or not?: A Retrospective Audit Comparing Wells' Criteria to CTPA Result in Sligo General Hospital

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Pulmonary embolism (PE) is a significant cause of mortality and important differential diagnosis to exclude in patients with acute shortness of breath. In the UK, 25,000 people die annually of preventable, hospital-acquired venous thromboembolic events (VTE), the majority of which are PEs [1]. Unfortunately comparative data are not readily available for the Irish context, a dearth which provided motivation for this audit.

Several clinical scoring criteria are available for use alongside haematological markers to aid in the diagnosis of PE. These criteria (Wells' Criteria, Geneva Criteria and Modified Geneva Criteria) are similarly valid but not always decisive [2]. When these scores provide positive or inconclusive results patients will often progress to computed tomography pulmonary angiography (CTPA) for definitive diagnosis.

We conducted a retrospective audit generating a list of the 75 most recent CTPAs performed at our site (Sligo Regional Hospital). From this list we reviewed the patients' details to retroactively calculate a Wells' Score, determine if a D-dimer was performed and investigate for any risk factors of PEs which were recorded [3]. With this information we then ascertained if a CTPA was indicated, performed and whether the result was positive or negative for PE.

Our findings demonstrate that the majority of CTPAs performed at our site were done so with a Wells' score result of two or less and often with minimal associated risk factors. Such findings highlight the need for ongoing appraisal of our clinical practice.

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An Analysis of Lapses in Professionalism as Experienced by Interns in Clinical Practice

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Background: Professional competence is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served [1].

Aims: This research aims to explore interns' experiences of lapses in professionalism that they have witnessed during clinical practice.

Methods: A total of 19 critical Incident Technique (CIT) interviews were carried out with ten interns. The interns were asked to recount a situation they had witnessed in which there had been a lapse in professionalism.

Results: The most common professionalism lapses experienced by interns relate to issues of patient care (e.g. a lack of personal responsibility for patient care, a lack of communication and cooperation between medical professionals, lack of patient centered care; culture of 'cover-up' and a lack of willingness to report errors or learn from errors). The interviews highlighted that interns often feel isolated in their role, and lack confidence in their abilities to handle many situations. They face dilemmas such as whether to report errors, how to communicate with patients' families, and how to get the support they need to ensure good patient care.

Conclusions: This research highlights a need for review of hospital professional practice at all levels. Training interns in the skills associated with professional practice is necessary but insufficient in promoting their professional development. What is needed is an understanding of the areas of professionalism that have degraded and system wide approaches to tackling such failures.

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Is Diabetic Screening in Patients with Known Cardiovascular Disease in a General Practice in Line with the Recommendations of the European Cardiology Society (ESC)?

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Background: Glucose intolerance is often asymptomatic in its early stages. However, the microvascular changes associated with diabetes may already be present [2]. Screening high-risk groups enables identification of asymptomatic glucose intolerance, and hence intervention. The method of screening is important for accurate detection. Epidemiological studies have shown that people who do not meet the criteria for abnormal glucose tolerance based on fasting plasma glucose values will satisfy criteria based on OGTT (oral glucose tolerance test). Since patients with cardiovascular disease (CVD) are considered high-risk, the ESC recommends: "Patients without known diabetes but with established CVD should be investigated with an OGTT" [1].

Aims: This audit was carried out to determine to what extent patients with CVD in a general practice are being screened for diabetes and pre-diabetes.

Methods: Using the Socrates database, 122 patients with known CVD were identified and 50 were randomly selected. A retrospective audit was performed to determine: (1) the number of patients screened for diabetes in a 1 year period, (2) method of screening: (a) serum glucose, (b) HbA1c, (c) OGTT, (3) the number of patients who received OGTT, initially or as follow-up.

Results: From a sample size of 50 patients, we found that 56 % were screened for diabetes. Of those screened, only 2 (7 %) were screened correctly i.e. OGTT as initial test. A further 4 (14 %) had an OGTT following initial screening with serum glucose.

Conclusions: Patients with established CVD are not being screened for diabetes and its pre-states in accordance with guidelines.

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Abdominal Pain and Weight Loss: An Unusual Presentation of Tuberculosis

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A previously fit independent 78-year-old lady was referred into surgical outpatients with a 12 month history of abdominal pain and weight loss of 10 kg on a background of Gastritis. Associated symptoms included intermittent vomiting, mild cough and occasional night sweats. Background history included appendectomy in 1996 and an admission for pneumonia 6 months previously. On Examination the patient was mildly cachectic with an otherwise normal examination. Initial blood work showed Anaemia of Chronic Disease and an ESR of 88.

Mrs P was initially investigated with Colonoscopy and Upper GI endoscopy which were normal. A CT of the Abdomen revealed no intra-abdominal abnormalities however some incidental lung slices were included. This showed areas of opacification in the right lower zone with an enlarged infrahilar node.

The patient subsequently underwent CXR and CT Thorax which showed multiple speculated masses with diffuse hilar lymphadenopathy. A bronchoscopy was undertaken and acid fast bacilli were isolated. On subsequent history it was revealed that she had suffered from a very severe lung infection at the age of five for which she had spent a number of months in bed.

Given her age and physical condition this lady was admitted for initial treatment to monitor for side effects [1, 2].

This case highlights the importance of thorough history and examination in patients with weight loss. It also highlights the value of common investigations such as Sputum Culture in Pneumonia, and CXR in the initial work up of any patient with weight loss.

References:

1. NICE TB: Clinical diagnosis and management of tuberculosis, and measures for its prevention and control
2. BTS Guidelines: Chemotherapy and management of tuberculosis in the United Kingdom: recommendation

Spinal Abscess Secondary to *Mycobacterium tuberculosis*

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Background: 178 (42.4 %) of all cases of *Mycobacterium tuberculosis* (MTB) reported in Ireland in 2010 had an extrapulmonary component and of these six involved the spine [1]. A risk factor for the development of MTB is coming from a highly endemic country [2].

Case report: A 67-year-old woman, originally from Pakistan, living in Ireland for 5 years presented with a 3 week history of lower back pain associated with localised midline swelling over the lumbar region. She also complained of poor appetite, but no fevers or night sweats. She had no pulmonary, abdominal or neurological symptoms. Her son had been treated for pulmonary multidrug resistant TB 17 years previously. On examination, there was a well-circumscribed, tender fluctuant lesion in the thoraco-lumbar region of the spine. She had no neurological deficits of the lower-limbs. Radiological studies revealed a subcutaneous abscess centred on the posterior aspect of L2. Incision and drainage of the abscess were performed. One day later low level MTB complex DNA was detected via Gene Xpert on samples taken intraoperatively; no resistance to Rifampicin was reported. The patient was commenced on Rifampicin, Isoniazid, Pyrazinamide and Ethambutol. Culture confirmed a pan-sensitive MTB isolate 3 weeks later.

Conclusion: Spinal TB can present insidiously as back pain, with or without neurological or systemic symptoms, which leads to a wide differential diagnosis. A high degree of suspicion is needed in patients from endemic regions presenting in this way as the consequences of spinal TB can lead to long-term disability.

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Twin Evils—Rare Pathology & Variant Anatomy

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Superior mesenteric artery aneurysms are rare and life threatening entity with an Incidence of approximately one in nineteen thousand and mortality ranging anywhere from 30 to 90 % with rupture. A 60-year-old patient presented with abdominal pain in the Right iliac fossa and epigastrium on a background history of gradual onset for 4 days. Pain was progressively getting worse and radiating to the back. Clinical findings included tenderness of the abdomen with follow up CT scan showing SMAA. Due to the non mycotic nature of this case a decision was made to surgically manage the patient; SMA aneurysmectomy with interposition graft (vein of SMA) and reconstruction of aberrant right hepatic artery was performed. The post operative course was successful with no signs of bowel ischemia or pancreatitis. Patient discharged from hospital. This case represents good outcomes that can be demonstrated with prompt diagnosis and intervention before secondary complications set in.

Assessing the Prevalence of Chronic Kidney Disease (CKD) in a Socio-Economically Deprived Community & the Management of Identified Patients—CKD Audit in Rialto Medical Centre, Dublin 8

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Background: International literature shows that CKD is a largely underdiagnosed disease, particularly in its earlier stages, with sub-optimal management of clinical measurements such as blood pressure and proteinuria. The only previous study carried out in Ireland from a general practice perspective showed a prevalence rate of 16.7 % for patients over 50 years of age screened in three practices in Galway in 2008, with only 13 % of these patients having a documented diagnosis of CKD recorded.

Aims: To assess the prevalence and management of CKD patients in a socio-economically deprived area of Dublin’s inner city. Secondary aim was to identify and develop a register of patients with CKD in Rialto Medical Centre.

Methods: The Irish Primary Care Research Network tool on Socrates general practice software was used to identify all patients with an eGFR <60 mL/min. All patients identified were then coded using ICPC/ICD-10 codes to identify them as having CKD, for the purpose of creating a practice register. These patients’ charts were then examined and documentation of age, comorbidities, CVS risk management, nephrotoxic drugs, vaccinations and whether or not they had received a specialist referral were analysed. Measurements were scrutinised for adherence to the Irish Nephrology Society’s guidelines for management of CKD in primary care, in order to assess the quality of care given.

Results: The overall prevalence of CKD was 14.5 % in our practice population, the vast majority of whom were aged over 55 years and had comorbid diabetes mellitus, hypertension or CVS disease. Of these patients, only 14 % were coded in Socrates as having been diagnosed with CKD, highlighting the underdiagnosis of this major morbidity. Adherence to treatment with RAS blockade, lipid-lowering therapy and aspirin were generally good (all >90 %) but documentation of urinalysis results & microalbumin testing were poor, with <20 % documentation rates for these two variables. 6 % of patients with CKD were concerningly prescribed nephrotoxic drugs. All patients with stage 4 CKD had received a specialist referral to nephrology but referral rates were much lower for stage 3a/3B.

Conclusion: CKD is an underdiagnosed and underdocumented medical morbidity, as evidenced by the low levels of coding of CKD amongst our practice population. The prevalence varied only minimally between our urban population and the predominantly rural population studied previously in Galway in 2008, and is in line with international prevalence rates quoted in large epidemiological studies. Urinalysis and microalbumin need to be tested and documented more frequently in order to improve adherence to internationally agreed guidelines for CKD management. Generally, however, medical therapies to slow progression and limit complications of CKD were seen to be used appropriately and almost universally in these patients.

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Lemierre's Syndrome—Resurgence of a Deadly Disease: A Case Report

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Introduction: Lemierre's Syndrome (LS), historically described as postanginal sepsis, is an extremely rare complication of oropharyngeal infections in the era of widespread antibiotic use. The syndrome primarily affects adolescents and young adults. It is an infectious thrombophlebitis of the internal jugular vein (IJV) characterised by a constellation of signs and symptoms ranging from fever and localised neck swelling, to arthritic pain, neurological signs and sudden thoracic pain. *Fusobacterium Necrophorum*, a gram-negative, anaerobic bacillus with strong biologically destructive properties, is the usual causative agent. A coloniser of the oropharynx, gastrointestinal and female genital tract, *F. Necrophorum* exerts its highly pathogenic effects via a number of virulence factors including polysaccharide endotoxin, leukocidin, haemolysin and haemagglutinin which potentiate platelet aggregation and septic thrombus formation. IJV thrombosis is typically initiated within 10 days of onset of oropharyngeal infections, leading to septic thrombus formation and potential metastases of septic microemboli. The reported incidence of LS is one per million per year, with a mortality rate of between 5 and 20 %.

Background/method: We present the case of a 28-year-old male who was admitted to the emergency department with an acute onset right-sided neck mass, fever, and lethargy whilst being treated with antibiotics for tonsillopharyngitis. We explore the pathophysiological mechanisms of this syndrome, and outline our diagnostic and therapeutic approach to his case.

Conclusion: The current trend of judicious management of tonsillopharyngitis without antibiotics has led to a recent resurgence of this forgotten, deadly disease. The rarity of the condition means that a paucity of treatment guidelines exists, and therefore management depends strongly on a multidisciplinary team approach. This case delineates the importance of maintaining LS on one's clinical radar, as delayed diagnosis can lead to catastrophic complications.

Neonatal Thyrotoxicosis: A Case Series

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Background: Neonatal thyrotoxicosis is a rare and life-threatening condition caused by transplacental transfer of maternal thyroid stimulating immunoglobulins in mothers with autoimmune thyroid disease [1]. Clinical features of neonatal thyrotoxicosis include tachycardia, goitre, prominent eyes and poor weight gain but presenting symptoms may be non-specific, particularly in the premature or intrauterine growth retarded infant and clinical features may mimic other conditions such as neonatal sepsis [2]. Early diagnosis and treatment of affected infants is critical [3].

Objective: We report a case series of infants with neonatal thyrotoxicosis from two tertiary paediatric hospitals.

Design/methods: We performed a retrospective chart review of neonates with thyrotoxicosis seen by our endocrinology service over a 5 year period. Information on maternal thyroid disease, perinatal history, clinical features, diagnostic testing and management of infants was recorded.

Results: All infants were born to mothers with known Graves' disease, with three out of five having elevated maternal thyroid-stimulating immunoglobulin titres during the third trimester of pregnancy and identified as high-risk prior to delivery. Average birth weight was 2.89 kg and mean gestational age was 36 weeks. Mean age at diagnosis was 7 days (range 2–13 days). Mean serum thyroxine at diagnosis was 48.6 pmol/L (range 29–77 pmol/L). Mean duration of treatment was 10 weeks. 3 infants were treated with carbimazole alone, one infant was treated with propylthiouracil alone, and one infant received a combination of carbimazole, iodine and propranolol. There were no deaths in our cohort.

Conclusions: This case series of five infants illustrates the importance of antenatal risk assessment, early recognition, prompt treatment and close follow up of infants with neonatal thyrotoxicosis

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Subscapularis Dysfunction Due to an Osteochondroma at the Lesser Tuberosity of the Humerus

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Subscapularis muscle is one of the four rotator cuff muscles that play a major role in the medial rotation of the arm and stabilization of the glenohumeral joint. Dysfunction of this muscle usually occurs secondary to trauma and may lead to weakness, loss of internal rotation and decreased motion and stability of the joint.

We have encountered a case of subscapularis dysfunction in a young aspiring boxer due to the presence of an osteochondroma. This is a very rare cause and there has only been one previous case reported in literature [1]. This benign bone tumor generally occurs at the end of the growth plates of long bones [2].

A 15-year-old Irish male presented to clinic with a 6 month history of right shoulder weakness and pain which was affecting his boxing training. On clinical examination, a palpable, non-tender swelling was detected on the medial aspect of his arm. He had a positive belly press test but a negative apprehension test. MRI shoulder arthrogram revealed a bone formation on the lesser tuberosity with chronic avulsion of the superior bundle of the subscapularis tendon. The patient was successfully treated with an open resection of the osteochondroma via the delto-pectoral approach with the reattachment of the subscapularis tendon with suture anchors. The histopathology specimen sent showed a benign nodule consisting of fibrocartilaginous tissue and lamellar bone, consistent with osteochondroma.

Our case demonstrates that when faced with painful shoulder dysfunction without prior trauma, osteochondroma should not be missed as a cause.

References:

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Descriptive Analyses of Eating Disorder Patients in Linn Dara Inpatient Unit, 2001–2012

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Background: Eating disorders (ED) are severe chronic mental health disorders associated with negative outcomes and with the highest mortality among psychiatric disorders [1]. There has been disputed evidence regarding the incidence of EDs in the last number of years with some studies showing an increase and others citing a decline [2]. In 2011, there were 432 child and adolescent in-patient psychiatric admissions nationally [3]. EDs accounted for 10 % of these admissions of which 85 % were female.

Aims: The aim of our study was to identify all ED patients in the Linn Dara Inpatient Unit in Dublin from 2001 to 2012 and provide descriptive analyses of this patient cohort.

Methods: ED patients were identified via review of 2001–2009 submissions to the National Psychiatric In-Patient Reporting System (NPIRS) and 2010–2012 patient charts available in the unit. Discharge letters were used to validate the dataset. Archived charts were obtained and variables extracted including demographic data, length of admission, admission/discharge BMI, family psychiatric history, comorbid conditions.

Results: EDs were cited in 37 (9.4 %) admissions during the 12 year period.

- 73.3 % of ED admissions were female.
- Mean BMI at admission was 16.5 and 18.2 kg/m² on discharge.
- 75.0 % males and 54.5 % females required hospitalisation for medical stabilisation during/prior to psychiatric admission.
- 50.0 % cited a family history of ED.

Conclusions: Eating disorders account for a substantial proportion of admissions to the Linn Dara unit. These data require further future analysis across ED treatment facilities nationally to enable optimal treatment provision for this patient cohort.

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The Rare Case of Thrombotic Thrombocytopenic Purpura/MAHA Precipitated by Post ERCP Acute Pancreatitis

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History: A 27-year-old female, was electively admitted for an ERCP on 9/7/13. On a background history of cholelithiasis and choledolithiasis diagnosed in April 2013 with abdominal US and MRCP. A few hours Post ERCP, she developed epigastric pain, nausea and vomiting. Bloods showed an elevated amylase and CRP (728 and 22 respectively), with a normal FBC and U&E. She was treated for mild acute pancreatitis (NPO/analgesia/IV Fluids).

48 h after, her amylase was on a downward trend and she was discharged home on 12/7/13.

She re-presented to A&E on 15/07/13, clinically jaundiced and symptomatically anaemic with a low grade fever. Bloods done showed a marked decrease in her platelets and haemoglobin (22 and 4.3 respectively). She was admitted under the haematology team, and diagnosed with pancreatitis associated thrombotic thrombocytopenic purpura and micro-angiopathic haemolytic anaemia.

She was treated with five of plasma exchanges and corticosteroids, achieving resolution within 9 days of admissions. She was discharged home on day 10 and is being followed up in the haematology outpatients.

Acute pancreatitis is one of the most common complications of ERCP, with a reported incidence of 1–5 %. It ranges from mild to severe. Associated with substantial morbidity if not picked up and treated early.

TTP/MAHA is rare with a reported incidence of six cases per one million per year in the UK. It is an important diagnosis because if untreated mortality is 90 %. Pathogenesis of TTP is due to congenital deficiency of the von Willebrand factor cleaving protease ADAMTS13. It is sub-divided into a congenital deficiency, an acquired deficiency as a result of antibodies produced against the ADAMTS13 or an acquired deficiency secondary to other conditions. TTP/MAHA as a result of pancreatitis is very rare, but a few cases have been reported. These have been successfully treated with plasma exchange and corticosteroids.

“An Injection of Reality”—The Successful Management of Catatonia

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Introduction: Catatonia is a neuropsychiatric condition that can occur due to medical or psychiatric disorders. It is characterized by mutism, stupor, refusal to eat/drink, posturing and excitement or hypokinesia [1]. The prevalence of catatonia is unknown and is possibly under-diagnosed by psychiatrists and physicians [2]. It occurs most often in patients with an underlying mood disorder [3]. We report a case of catatonia and Cotard’s Syndrome in a 61-year-old Irish male. We also highlight the misdiagnosis of catatonia as a behavioural disorder, the rapid response of a catatonic patient to intramuscular Lorazepam and the effectiveness of ECT and Nortriptyline in the treatment of psychotic depression.

Case report: Our team was asked to provide a second opinion on the case of Mr. RC, a retired 61-year-old, Irish, male with a 6-month history of mutism, hypokinesia and stupor. Our opinion was that he was suffering from a depressive disorder with psychotic symptoms and that he was possibly catatonic.

To check for organicity, we ordered haematological and radiological investigations. The results of all the investigations would eventually turn out to be normal but in order to complete the investigations, our senior house officer had to administer 4 mg of Lorazepam intramuscularly because the patient was resistant. Within 30 min, Mr. RC was walking again and manipulating the TV remote control on the ward, much to the annoyance of the other clients!

He was commenced on Amisulpride 50 mg daily, Biperiden 2 mg nightly, and Nortriptyline 25 mg nightly. After 24 h, he began talking to the team. He stated that he had no brain, no lungs, no hands and no chest, suggesting a diagnosis of Cotard’s Syndrome in addition to catatonia. Following a course of ECT, Mr. RC made an uneventful recovery, became euthymic and lost all psychotic features. He continues to do well.

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Effect of Cytochalasin D on 7-Beta-Hydroxycholesterol-Stimulated Calcium Signals in the U937 Monocytic Cell Line

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Background: Oxysterols are 27-carbon atom oxygenated derivatives of cholesterol formed either by autooxidation or enzymatic oxidation of cholesterol. Oxysterols such as 7 β -hydroxycholesterol have long been implicated in atherogenesis through a number of mechanisms,

including cytotoxicity to endothelial cells, inhibition of nitric oxide synthesis, induction of apoptosis and expression of adhesion molecules such as VCAM-1. One of the earliest cellular responses to oxysterols is an increase in intracellular calcium concentration. Previous studies in U937 cells of the monocytic/macrophage cell line have demonstrated a slow, sustained rise in intracellular calcium in response to 7 β -hydroxycholesterol through mechanisms that have yet to be elucidated [1].

Aim: To investigate the hypothesis that increased trafficking of calcium influx channels occurs via the actin cytoskeleton and accounts for the slow, sustained rise in intracellular calcium concentration.

Methods: Cells of the human U937 histiocytic lymphoma cell line were used in these experiments. Calcium responses in differentiated U937 cells were recorded using epi-fluorescence videomicroscopy using the ratiometric dye, fura-2. Fura-2 loaded cells were treated by addition of 30 μ M 7 β -OH-cholesterol. Cells were pretreated with either cytochalasin D, a potent inhibitor of the actin cytoskeleton; Bay K-8644, an L-type calcium channel agonist or nifedipine, a calcium channel blocker.

Results: Over a period of 12 min, differentiated U937 cells demonstrated a slow but significant increase in intracellular calcium in the presence of β -OH-cholesterol. In response to Bay K8644, differentiated U937 cells demonstrated an increase in intracellular calcium. This response was abolished when U937 cells were pretreated with the calcium channel antagonist nifedipine. Paradoxically, pretreatment of cells with cytochalasin D resulted in a greater increase in intracellular calcium concentration compared with untreated cells.

Conclusion: Our results indicate that the slow sustained rise in intracellular calcium concentration in response to oxysterols is not accounted for by the insertion of calcium influx channels into membrane systems by the actin cytoskeleton. In contrast, the actin cytoskeleton may be involved in the anterograde transport of negative regulators of calcium influx channels to membrane systems.

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Anti-NMDA Receptor Encephalitis is an Antibody-Mediated Disease Which was Initially Described in 2007 and is Becoming Increasingly Recognised

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Introduction: Anti-NMDA receptor encephalitis is an antibody-mediated disease which was initially described in 2007 and is becoming increasingly recognised.

Case description: A 73-year-old lady presented with tonic-clonic seizures, on a background of emergent laparotomy for perforated duodenal ulcer and resection of incidental ovarian teratoma 3 weeks previously. On examination, she was disorientated and cortically blind with no awareness of her visual deficit (Anton’s syndrome). She was commenced on anti-epileptic drugs, however developed phenytoin-induced Stevens–Johnson syndrome.

The constituents of her cerebrospinal fluid were normal. MRI brain showed bilateral cortical T2 hyperintensity in the parieto-occipital regions and bilateral posterior thalamic hyperintensities. Electroencephalogram showed periodic lateralised epileptiform discharges in

the right hemisphere posteriorly. She developed septic shock requiring ICU admission where she received antibiotics and a course of intravenous immunoglobulin but unfortunately continued to deteriorate and died.

Serum anti-NMDA-R antibodies were positive and histopathological examination of the resected teratoma revealed neural tissue. At brain autopsy there was severe gliosis in the occipital cortex bilaterally extending to the thalami symmetrically. We postulate that antibodies formed against teratoma brain tissue cross-reacted with native NMDA receptors.

Discussion: Anti-NMDA-R encephalitis classically affects young women who present with psychiatric, neurological and autonomic symptoms. Ovarian teratomas are detected in 62 % of affected women [1]. CSF, brain imaging and electroencephalogram findings can be non-specific so a high index of suspicion is required. Early empiric treatment with IVIg, intravenous corticosteroids and/or plasma exchange may reverse the disease process. The overall prognosis is good, particularly in younger patients, with 75 % of cases recovering with minimal deficits [1].

Reference:

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Audit of the Transition of Care of 16–18-Year Old School Leavers Referred to Community Mental Health Teams in Dundee, Scotland

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Background: Once adolescents who have attended CAMHS (child and adolescent mental health-service) turn 18 or having already left school, turn 16, they are referred to adult mental health services in the NHS.

Aims: During this crucial transfer period a number of young patients become lost to follow up, which obviously is something we hope to avoid. The aim of the audit is to assess the fluidity of the referral process from child to adult mental health services. The audit aims to improve future handovers and continued patient care.

Methods: A retrospective casenote analysis was performed. Patients included in the audit are those with dates of birth ranging from 1994 to 1996. Data was sourced from electronic records as well as from referrals made to the clinic over the last 12 months.

Results: Using the above criteria, 34 patients were identified. Of these, clinical data was available for 21 patients. The sample size consisted of seven females and fourteen male patients. 50 % of patients had been referred by their GP. A number of these had been referred to their GP following cessation of care with CAMHS. A number of patients were re-referrals following discharge from our service for previous non-attendance. 41 % of referrals came from CAMHS. The remaining referrals were from learning disability service, police, or social workers. Non-attendance is a huge issue in this population; over half of patients had failed to attend on at least one occasion.

Conclusions: Recommendations were made in the following areas: In relation to the rate of non-attendance, it was suggested that a text-message reminder service could be introduced. It was recommended that follow-up appointments could be made with CMHT directly on

an ‘as needed’ basis. This would cut down on a lot of unnecessary correspondence between CMHT and GPs with respect to discharge letters and re-referrals. CAMHS referral protocol should be explored, it was suggested that CAMHS be encouraged to refer patients directly to CMHT when they no longer meet their criteria. These ideas aim to save time and resources as well as improving services directed towards this age group of patients.

Hypopituitarism Due to Pituitary Metastases from Primary Breast Cancer

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Metastases to the pituitary are a rare phenomenon contributing to 1 % of all resected pituitary tumours and occurring in 1–3.6 % of patients with malignant tumours [1]. A 54-year-old lady with a history of metastatic breast cancer, presented to St James’s hospital complaining of fatigue with a 2 week history of polyuria and polydipsia. Examination revealed a left sided ptosis on a background of a 2 month history of increasingly blurred vision. Radiological investigation in the form of MR Brain denoted metastatic brain lesions and also evidence of a large pituitary mass compressing the optic chiasm. An anterior pituitary profile demonstrated panhypopituitarism. The Hypothalamic–Pituitary axis could not be assessed as the patient was on high dose steroids as part of her management for brain metastases but there was evidence of hypothyroidism, hypogonadotrophic hypogonadism and growth hormone deficiency. In view of her history of polyuria and polydipsia, Diabetes Insipidus was suspected and a water deprivation test was organised. A diagnosis of partial diabetes insipidus was established. Hormone replacement for hypopituitarism in the form of steroid and eltroxin was initiated.

This case highlights an occurrence of metastases to the pituitary which is relatively rare and often misdiagnosed. Many of the symptoms (fatigue, weight loss) may be put down to the primary cancer itself. Appropriate treatment with hormone replacement therapy, radiation treatment and chemotherapy may lead to a significant improvement in clinical condition.

Reference:

1. Fassett DR, Couldwell WT (2004) Metastases to the pituitary gland. *Neurosurg Focus* 1516:E8

Population-Based Epidemiological Study of Myasthenia Gravis in the Republic of Ireland

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Background: Myasthenia Gravis (MG) is a disease of the neuromuscular junction with increasing incidence and prevalence rates, according to European epidemiological studies from the 1980s.

Aims: The aim of this study was to determine the incidence and prevalence of MG in the Republic of Ireland.

Methods: Sources of data included consultant Neurologists Ophthalmologists and Ophthalmic surgeons, the Oxford neuroimmunology laboratory, general practitioners and the

Myasthenia Gravis Association database. Consenting patients were sent a study-specific questionnaire by post.

Results: A total of 1,674 cases were identified from the various sources, of which 690 definite, probable and possible autoimmune and congenital MG cases were included.

The overall prevalence rate for the Republic of Ireland from the data obtained is 15.03/100,000. The study demonstrated a female predominance (female:male 1.3:1) and geographical variation within Ireland, with Leinster having a prevalence rate twice that of Connacht or Ulster.

The average incidence rate for the years 2000–2009 was 11.3/year while the rate for the current decade is 18/year. The increasing number of diagnoses may be due to advancing diagnostic investigations and improved recognition of the clinical manifestations.

Conclusions: Multi-centre site study and further collaboration is required in order to obtain exact numbers of Myasthenic patients living in the Republic of Ireland. The establishment of MG clinics at Neurology departments throughout the country may improve disease recognition and management.

Stroking the Family Tree of Migraine

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A 74-year-old right-handed lady presented to hospital with an evolving history over 6 days of sensory disturbance affecting the left face and arm. She also had a 6-month history of worsening memory. Her daughter and sister had suffered strokes, and her son suffered with migraine. Examination revealed a left-sided hemisensory impairment of pinprick, soft touch, and temperature discrimination of the face, arm, trunk, and lower limb, which suggested a right-sided thalamic lesion localisation. Bilateral extensor plantar response suggested a more diffuse pyramidal tract involvement. Cognitive assessment supported a mild sub-cortical dementia.

Magnetic resonance imaging (MRI) of the brain demonstrated a diffuse and patchy leucoencephalopathy involving both hemispheres with notable involvement of both temporal poles, and diffusion weighted imaging suggested a sub-acute right thalamic stroke.

Genetic testing revealed a mutation in the *NOTCH 3* gene, confirming diagnosis of CADASIL, which is the acronym for Cerebral Autosomal Dominant Arteriopathy with Subcortical Ischaemic Leucoencephalopathy.

CADASIL was possibly first described in 1955 [1] and causative mutations in *NOTCH 3* were first published in 1996 [2]. CADASIL has been reported in more than 500 families worldwide, and has a phenotypic spectrum encompassing migraine with aura, subcortical strokes, mood disturbance, apathy, and progressive cognitive impairment. Characteristically, there are lacunar strokes and temporal pole leukoariosis on MRI. *NOTCH 3* is a cell surface heterodimer with an extracellular domain (*NOTCH3^{ECD}*) tethered to intracellular domain (*NOTCH3T^{MIC}*), and CADASIL mutations are associated with microscopic *NOTCH3^{ECD}* collections around vascular smooth-muscle cells of small brain arteries.

References:

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2. Joutel A, Corprecht C, Ducros A, et al (1996) Notch 3 mutations in CADASIL, a hereditary adult-onset condition causing stroke and dementia. *Nature* 383(6602):707–710

Case: Targeted Therapy—Vismodegib in the Management of Recurrent Basal Cell Carcinoma in Gorlin Syndrome

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Basal cell carcinoma (BCC) is a nonmelanoma skin cancer that is usually amenable to treatment with local measures, such as surgical excision. Untreated, it can progress to a locally advanced state, or rarely metastasize. Until recently, no effective treatment existed for such advanced disease. Dysregulation of the hedgehog signalling pathway is implicated in its pathogenesis. Nevoid Basal Cell Carcinoma syndrome (NBCCS, Gorlin syndrome) is an autosomal dominant condition associated with early onset multiple BCCs, skeletal anomalies and distinct facial features. It is caused by *PTCH1* tumour suppressor gene mutations, leading to aberrant hedgehog signalling.

S.B., a 69-year-old lady, was diagnosed with NBCCS in 1980. Regular surgical excisions of her BCCs have resulted in significant cosmetic disfigurement and psychological distress. In April 2013, she was enrolled on a phase II clinical trial of a novel agent, Vismodegib. The trial's primary objective is to assess safety in the treatment of metastatic BCC or locally advanced disease not amenable to surgery. She was eligible due to two lesions on her face and scalp that had recurred despite surgical resection (target lesions). She also had multiple lesions on the face, buttocks, legs and trunk. When examined in November 2013, both target lesions had resolved and she had had a complete response to treatment.

Vismodegib inhibits the SMO receptor, a component of the hedgehog pathway. It has shown encouraging results in a number of phase I and II trials in patients with advanced BCC, leading to accelerated FDA and EMEA approval.

Vismodegib represents an exciting new treatment option for patients with advanced BCC. Moreover, it illustrates the way in which many important advances are being made in cancer drug development: improved understanding of the molecular pathogenesis of malignancies allows for the development of targeted therapies, with greater efficacy and less toxicity than traditional cytotoxic chemotherapies [1].

Reference:

1. La Thangue NB, Kerr DJ (2011) Predictive biomarkers: a paradigm shift towards personalized cancer medicine. *Nat Rev Clin Oncol* 8:587–596

The Influence of a Stroke Unit on Carotid Surgery

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Background: Stroke units provide immediate care, close monitoring of and appropriate intervention in the evolving stroke. Prompt treatment reduces mortality from acute stroke.

Aims: The aim of this study was to review the practice of carotid endarterectomy (CEA) over the 5 year period since the stroke unit

was established and to compare results to the 5 year period prior to this.

Methods: Data was collected from a prospectively held vascular database and patient demographics, indications for surgery and 30 day outcomes were analysed.

Results: Our results are presented in Table 1.

	Stroke unit era (08 Nov–13 Nov)	Pre stroke unit era (03 Nov–08 Oct)
Number of CEA's	229	263
Male:female ratio	168:61 (73 % male)	191:72 (73 % male)
Number of patients <65 years	69	83
Number of patients >80 years	28	24
Number of symptomatic patients	179/229 (78 %)	139/263 (53 %)
Mortality rate	3/229 (1.3 %)	1/263 (<1 %)
Stroke rate	2/229 (<1 %)	5/263 (1.9 %)
Number of cranial nerve injuries	4/229 (1.75 %)	8/263 (3 %)
Number of MI's	2/229 (<1 %)	2/263 (<1 %)

Conclusions: Since the introduction of the Stroke Unit, there has been a slight decrease in the overall number of CEA's performed with a 25 % increase in the proportion of endarterectomies performed for symptomatic disease. The overall 30-day stroke and death rate remains excellent at 2 %.

With the publication of further randomized control trials our practice in carotid surgery may evolve further over the next 5 years in keeping with current best practice guidelines.

An Unusual Case of Amyloidosis

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Case description: A 62-year-old gentleman presented to the Emergency Department with a 3-month history of presyncopal symptoms upon standing with associated anorexia, weight loss, dry mouth and new-onset erectile dysfunction. He also described a 10-month history of numbness, tingling and temperature change from his ankles to thighs bilaterally.

On examination, he had a postural drop in blood pressure of 46/41 mmHg. Nerve conduction studies demonstrated a sensorimotor large fibre peripheral neuropathy with additional autonomic involvement. An echocardiogram revealed "significant septal hypertrophy". Abdominal fat pad biopsy stained positive for Congo red. The unusual aspect of this case is that bone marrow aspirate did not demonstrate clonal plasma cells and Congo red staining of the aspirate was negative. Serum free light chains were normal and there were no Bence-Jones protein in his urine.

He was discharged home on fludrocortisone and midodrine for symptomatic postural hypotension. Immunohistochemistry of the abdominal fat pad biopsy demonstrated a TTR mutation.

Discussion: This case highlights the importance of diagnosing amyloid type, particularly as there are potential new treatments emerging for transthyretin amyloid. Small interfering RNAs are a novel targeted therapy blocking the transfer of genetic information from DNA to protein, particularly in the liver, the major site of transthyretin production. ALN-TTR02 was found to cause a reduction in transthyretin levels of 56.6–67.1 % at 28 days [1].

In the past, rectal biopsy was the diagnostic procedure of choice, however abdominal fat biopsy has a sensitivity of 90 % (compared to 73–84 % for rectal mucosa) [2]. This case also highlights the autonomic symptoms associated with amyloidosis, which may severely impact on patient quality of life.

References:

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Incidence of and Recovery from Acute Kidney Injury in the Irish Population

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Background: Acute Kidney Injury (AKI) is a complex disease process that occurs in at least one in five hospitalised adults. Emerging evidence suggests that AKI is under-recognised in clinical practice, and predicts an accelerated risk of chronic kidney disease (CKD) and end stage kidney disease (ESKD). The epidemiology of AKI in the Irish Health System is poorly characterised with limited data on the frequency and clinical impact.

Aim: To determine the incidence of, recovery rates from and outcomes of AKI in the Irish population.

Methods: We determined incidence rates and recovery rates from AKI in 207, 336 adults, age 18 and over, within the Irish health system from 2005 to 2011. The diagnosis and severity of AKI was based on standardised creatinine measurements using the Kidney Disease Improving Global Outcomes (KDIGO) AKI classification. A 'baseline median creatinine' was determined within 3 months prior to the AKI episode. Incidence rates were calculated as the number of AKI events per 1,000 person-years and were determined for each age and sex-specific group. Recovery was defined as complete (return of function to within 1.10 times baseline); partial (between 1.10 and 1.50 times baseline), or failure to recover (serum creatinine >1.50 times baseline or need for dialysis) within a 28-day time frame of initial creatinine rise. The Northwest population was derived from the 2006 and 2011 census data and projected estimates were computed for the intervening years based on a constant rate of growth. All analyses were conducted using SAS v 9.3. Ethical approval was granted by participating acute hospitals in the region.

Results: Overall incidence of AKI was 15.0 events per 1,000 population per year (2.1 per 1,000 in 18–39 year olds to 155.5 >80 years). From 2005 to 2011, 25, 744 individual AKI episodes were detected. Of these, 82.1 % were classified as Stage 1, 7.6 % as Stage 2, and 9.2 % as stage 3. Overall, 40.6 % of AKI patients had evidence of

complete recovery, 5.5 % partial, and 12.4 % non-recovery. Level of kidney function declined significantly from baseline to 12 months post AKI event [from 57.9 (± 32.6) to 55.0 (± 30.4) mL/min/1.73 m², $P < 0.001$]. In total, 282 patients (1.1 %) developed immediate ESKD and these contributed to between 12 and 45 % of the incident dialysis population from 2008 to 2011.

Conclusion: This is the first study in Ireland to describe the frequency and outcomes of AKI in the Irish population. It demonstrates that AKI is common and contributes substantially to the incidence of ESKD. Our findings suggest that greater efforts be afforded to the detection, prevention, and follow-up of patients with AKI in order to reduce avoidable complications.

References:

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3. Chawla LS, Amdur RL, Amodeo S, Kimmel PL, Palant CE (2011) The severity of acute kidney injury predicts progression to chronic kidney disease. *Kidney Int* 79:1361–1369

Clinical Audit: Documentation of Target Immunosuppressant Levels in Renal Transplant Patients Attending an Irish Tertiary Centre

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Background: Renal transplant recipients require long term immunosuppressant therapy to protect the transplanted graft from rejection. For patients taking a calcineurin inhibitor or cyclosporine, to ensure adequate immunosuppression and avoid toxicity, the serum trough level is monitored. The target level changes over time depending on the desired level of immunosuppression, influenced by a variety of factors. Documentation of the current target in the patient's medical record enables interpretation of future results and aids in safe dose adjustment.

Aims: To audit the documentation of target trough immunosuppressant levels in the electronic medical record of renal transplant recipients attending our centre.

Methods: We reviewed the electronic medical record (EmedRenal) for all active renal transplant recipients attending UCHG in September 2013, recording demographic information, immunosuppressant medications, and the presence of a documented target trough immunosuppressant level.

Results: 143 of the 146 transplant recipients followed primarily at UCHG were recorded as currently taking immunosuppressant medications requiring serum monitoring. 37 of these (26 %) had a target trough level documented, all of which were located in the note from a previous clinic attendance.

Conclusions: Our audit demonstrates a low level of recording of target immunosuppressant levels in renal transplant recipients followed at our centre. Furthermore, where these targets are currently documented, they are not automatically added to the patient's summary page. Based on these findings we recommend measures to improve the documentation of target levels, and the adaptation of the electronic medical record system to highlight and prompt updating of this important piece of clinical information.

Is There Something in the AIRE?

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APECED (Auto-Immune Poly-Endocrinopathy with Candidiasis and Ectodermal Dystrophy) is a multiorgan autoimmune condition which classically manifests with adrenal insufficiency, hypoparathyroidism and mucocutaneous candidiasis.

We present the case of a 26-year old patient with autoimmune hepatitis, hyposplenism and hypoplastic enamel in addition to the classical triad listed above. He initially presented age 11 years with jaundice and was diagnosed with an autoimmune hepatitis. He subsequently presented on a number of occasions with "panic attack" like symptoms. Work-up revealed hypocalcaemia and low parathyroid hormone concentrations indicative of hypoparathyroidism. He developed primary adrenal insufficiency age 12 years and was commenced on glucocorticoid replacement. Genetic Analysis revealed he was homozygous for a 13 bp deletion in Exon 8 of the AIRE-1 gene.

He transitioned from paediatric to adult care age 16 years and subsequently defaulted from care. Since re-engaging with MDT services at MMUH he has been diagnosed with cirrhosis, portal hypertension and has had an oesophageal variceal bleed. Hyposplenism has been complicated by streptococcal sepsis as well as *C. difficile* colitis. He is currently awaiting a TIPPS procedure and is listed for a liver transplant. Several family members have been shown to be homozygous for the AIRE gene mutation, one of whom is known to have established adrenal insufficiency.

This case highlights the multifaceted nature of this rare disease as well as the associated morbidity and need for a multidisciplinary approach to a complex multi-organ condition.

A Clinical Audit of the Management of Hereditary Haemochromatosis in Bedford Medical Centre, Navan

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Background: Hereditary Haemochromatosis (HFeHC) is the most common genetic condition among Caucasians [1]. It is defined as "an inherited disorder of inborn iron metabolism, which leads to progressive iron loading of parenchymal cells in the liver, pancreas and heart" [2]. Ireland has the highest reported prevalence in the world with a carrier frequency of one in five.

Aims: ICGP Guidelines were used to audit the management of HFeHC in a G.P. setting in Navan, Co. Meath with an aim to optimise patient management

Method: Retrospective review of the 30 patients with a confirmed diagnosis of HFeHC using the 'Health One' patient manager system. Using ICGP Guidelines, eight criteria for analysis were identified and data collection tools were constructed. The data was recorded using Microsoft Excel Spreadsheets. The data was analysed and interpreted via comparison with each identified target. One new patient was recruited to the audit during the re-audit process as they joined the practice during the 12-month re-audit stage. Initial data collection results were then modified to include this patient.

Results:

- 63.33 % were C282Y homozygous
- 80 % were male
- 83.33 % had sufficient ferritin depletion (<20–50 ng/mL) following diagnosis with transferrin saturation <30 %
- 90 % had annual ferritin levels measured. 76.67 % had fasting glucose/HbA1c measurements and 63.33 % had TFTs measured

Conclusions: HFeHC is the most common genetic mutation in Ireland. Long-term sequelae from prolonged iron deposition leads to irreversible hypogonadism and liver cirrhosis with potential for Hepatocellular Carcinoma transformation. Therefore it is pertinent that the disease is managed appropriately in the general practice setting.

References:

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2. Adams P, Brissot P, Powell LW (2000) EASL international consensus conference on haemochromatosis. *J Hepatol* 33(3):485–504

Attitudes of GPs Towards the Scope for MBSR as One of a Range of Strategies Used to Maintain Their Own Mental Health

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Introduction: International studies have shown that compared to the general population doctors have higher levels of stress and anxiety [1]. General Practice is undoubtedly a stressful job. Strategies should be employed to enhance and maintain mental health in order to prevent psychological distress. One such strategy is Mindfulness based practices.

Aim: To explore where Mindfulness Based Stress Reduction practices might fit within a range of strategies used by General Practitioners in order to maintain their mental health.

Methods: A cross-sectional, descriptive study was carried out using a self-complete questionnaire, which was piloted prior to distribution. 200 GPs from the HSE South region were selected at random using a random number generator.

Results:

- 128 GPs responded yielding a response rate of 64 %
- 20 % (n = 26) of respondents attended a Mindfulness course or seminar.
- GPs in Urban practices were significantly more likely to have attended a Mindfulness course than those in rural or mixed practices respectively (42.1 vs. 9.8 vs. 20.6 %, p = 0.015).
- 9 % (n = 11) of the GPs stated that they use Mindfulness meditation as their most frequent strategy to maintain their mental health.
- 77 % (n = 99) of GPs expressed an interest in attending a Mindfulness course, of which 15 % (n = 20) were “very interested”.
- Females were significantly more aware of the meaning of Mindfulness than males (79.5 vs. 49.4 %, p = 0.003).

Conclusions: As a stress relieving technique, Mindfulness Based practices are not currently utilised by the majority of GPs. However, there is scope for Mindfulness as a significant percentage of GPs expressed an interest in attending a Mindfulness course or seminar.

Reference:

1. Shannon J (2010) Caring for those who care for others. *Med Indep*

Sarcoidosis, Calcium & Primum Non Nocere

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Introduction: The prevalence of sarcoidosis in the Republic of Ireland is one of the highest in the world, approaching 30 cases per 100,000 [1]. The available treatment options are few and not without side effects. Steroids are the mainstay of treatment; however their use is complicated by many adverse effects, including bone loss and osteoporosis [2]. Calcium and Vitamin D3 supplementation is an acceptable method of osteoporosis prevention in patients on long-term glucocorticosteroids [2]. However, patients with sarcoidosis are at risk of hypercalcaemia and hypercalciuria due to increased activity of one-alpha hydroxylase in sarcoid granulomas.

Purpose: To determine the safety of oral Calcium and Vitamin D for bone protection in normocalcaemic patients with sarcoidosis on long term glucocorticoids.

Methods: Eligible patients (n = 9) included normocalcaemic adults on prednisolone, without active malignancy, primary hyperparathyroidism and previous calcium derangements. Serum Calcium was measured before initiation of steroid and calcium therapy. Those with normal calcium levels were started on an oral Calcium and VitD3 combination. A follow up blood test was performed 6 months later. Mean calcium values pre and post-treatment were compared.

Results: The mean corrected calcium level pre-treatment was 2.27 (CI 0.05), whereas mean post-treatment corrected calcium level was 2.2 (CI 0.05). Non-significant calcium rise was noted in three patients (30 %). Post-treatment calcium levels did not exceed accepted calcium range in any of the patients.

Conclusion: These results may help to reassure clinicians regarding safety of oral calcium and vitamin D3 use in patients with sarcoidosis on long-term prednisolone and thus reduce the complications associated with other methods of bone protection.

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Barriers to Discharge During a General Surgical Take

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Introduction: Most established surgical services will pride themselves in efficient and streamlined and uncomplicated surgical admissions in both elective and emergent formats. This stems from a cost effective ethos underlying healthcare systems strapped for funds and stretched for resources. The nature of elective admissions; planning and funding the norm, allows for

optimisation of efficiency. This level of efficiency from admission to discharge is more difficult to attain when dealing with surgical emergency lists. Delayed hospital discharges potentially cost the state over €500,000 per night [1]. The cause of such delayed discharges seem to generally hover around five core issues of communication, teamwork, discharge co-ordination, resources and time management [2] with further local and team specific problems also applying. Implications of untimely discharges, either premature or delayed, may also have adverse effect on the patients well being. I was interested to know the most common reason for delays amongst my surgical service and initiate attempts to tackle these.

Aim: To undertake an audit to identify the *barriers to discharge* amongst emergent surgical patients. I will also strive to explore causes of preventable barriers and to explore convenient methods of tackling these to improve the service.

Objectives:

- Audit patients admitted in terms of admission dates, dates deemed suitable for discharge from the service and actual dates discharged.
- Identifying individual reasons for untimely discharges.
- Review audit results and carry out intervention.
- Undertake a re-audit testing implemented strategy.

Method: The audit was a retrospective study based on patients admitted to the surgical service on an emergency basis throughout a 7-day week in October/2013. All documents on the patients were retained for analysis and the patients were followed up daily until their discharge to determine pitfalls in the ideally seamless road to recovery and timely discharge.

Surgical team members, nursing staff, administration staff, paramedical services and family members were all involved in highlighting, determining and reviewing the individual's reason for remaining in hospital. The production of a shortlist of causes was imperative for the implementation of preventative procedures in the future for re-auditing.

Results: The initial patient intake totalled 38 emergent admissions of which 13 were not applicable to this study as they were subject to immediate team take-overs and pre-admission Emergency Department discharges with outpatient follow-up. 25 patients were admitted for varying general surgical presentations under a fully staffed vascular surgical team at a medium sized University Hospital over a period of 7 days. Patient admission dates were noted, procedure dates noted and the period from both patient specific recovery and dates deemed fit to discharge dates were assessed. Confidential spreadsheets were used to record the retrospective data along with advances/progressions in surgical and medical treatment. Many of the patients had multifactorial barriers to discharge.

General results:

Data	Number	%	Estimated excess cost ^a
Total	25	–	
Operated	11	44	
Discharged on time	8	32	
Minor delay discharge (1–5 days)	11	44	€36,960
Moderate delay discharge (6–10 days)	3	12	€42,000
Prolonged delay discharge (>10 days)	2	8	€42,000
Average length of stay	9.08 days	–	–

^a Accumulative figure based on the hospitals pricing for one public surgical bed per night

Discussion: The audit revealed approximately 68 % of patients experienced a delay in discharge.

Results were discussed with members of the surgical team including Specialist Registrar, Registrars, Senior House Officers, Interns and Nursing. Discussions were aimed at short listing the major contributors to delayed discharges with anticipation of implementing a change of practice to accommodate for this and hence reduce the level of delayed discharges in the future.

Although contributory, delays such as unavoidable resource shortages or medical management were not deemed preventable at the clinical service level. However when prioritising barriers into preventable vs non preventable causes, the major preventable barriers tended to stem from lack of information attained on admission or delayed implementation of management. This characteristic is a stereotypical and often perceived as an unfair assessment of the surgeon's inability to take a thorough medical history involving medications, social history and full medical background. A template admission note/Performa was recognised as the best method of attaining the adequate information using prompting cues on the form.

The audits had a number of limitations. It dealt with a small snapshot of patients on a general take week in a retrospective manner and therefore is in need of a larger contingency spanning a number of surgical take weeks to provide a more in depth picture of this subject. Although managing the general intake, the vascular surgical team studied also took over care of a number of vascular emergent cases further adding to the patient intake and the doctors' workload. Further audits are required to assess a varied span of specialities on take and to assess the implementation of methods to tackle the problem.

References:

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Sonography in Thoraco-Abdominal Junctional Zone Injuries. Glisson's Capsule and the IVC Sign Indicating Infra-Diaphragmatic Prior

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Background: Focussed assessment with sonography in trauma (FAST) is a critical investigation utilized by Emergency Physicians to target life saving interventions. In the context of abdominal trauma, black anechoic collections represent intra-peritoneal fluid. Parenchymal injuries can be suggested by heterogeneous echogenicity, however recognition of these subtleties is widely recognised to be challenging. Despite these difficulties, the ability to detect these injuries can significantly impact on clinical decision making in time critical situations. This case report illustrates these issues.

Methods: A case report of penetrating injury to the thoraco-abdominal junctional zone

Results: A 56-year-old gentleman presented to the Emergency Department with a penetrating injury to the right lateral inferior chest wall. Resuscitative efforts included chest drain insertion for an open pneumothorax, and femoral line placement to address refractory

hypotension. FAST imaging demonstrated small anechoic peri-hepatic and peri-splenic collections. In particular the small collection around Glisson's capsule was considered to be an unlikely explanation for this patient's profound refractory hypotension. Emergency thoracotomy was expedited for a clinical massive haemothorax. Intra-operatively, right diaphragmatic and intra-abdominal inferior vena caval (IVC) lacerations were visualised, prompting rapid follow-on laparotomy. Despite these measures this gentleman succumbed to his injuries. In retrospect the Glisson's capsule fluid and echogenicity surrounding the IVC represent the definite sonographic hallmarks of this rare injury pattern.

Conclusion: Thoraco-abdominal junctional injuries, by their nature, present significant management challenges. However awareness of the imaging nuances of the supra- and infra-diaphragmatic injury patterns allows more focussed clinical decision making in such cases.

Focussed Assessment with Sonography in Trauma (FAST) Appearance of Splenic Haematoma. A Not So FAST Diagnosis

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Background: Management of splenic injuries has progressed considerably from the radical approach of near-automatic splenectomy for victims of splenic trauma in the era of Hamilton Bailey. Nowadays the emphasis has shifted to more conservative non-operative management if possible. However even in this era of advanced diagnostics and increasing excellence in trauma care, splenic trauma remains challenging. There is also an increasing recognition that traditional binary decisions in FAST need to evolve towards more nuanced recognition of organ architectural disruption and sonographic injury pattern.

Methods: A case report of blunt left-upper quadrant trauma with a contained splenic haematoma.

Results: A 35-year-old gentleman presented electively to participate in a FAST education session. While undergoing sonography of left upper quadrant, an obvious well-circumscribed infra-diaphragmatic cystic area was identified. The immediate differential was that of a splenic cyst or even an abnormality of the gastric fundus, encroaching into the splenic area.

Further questioning elucidated a history of blunt trauma, which occurred a number of years prior to presentation. He recollected considerable discomfort at the time but did not seek emergency medical attention.

Formal follow-up departmental imaging confirmed the large splenic haematoma.

Conclusion: A contained splenic haematoma would not trigger the traditional binary decision of extreme urgency on FAST. This largely derives from the lack of intra-peritoneal blood and the knowledge of the exact sonographic appearance of such an injury. It is hoped that with an increasing appreciation of these discrete injury patterns the immediate golden hour emergent management of trauma will continue to improve.

An Audit of Compliance with Empirical Antibiotic Guidelines in Suspected Cases of Lower Respiratory Tract Infection

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Introduction: Lower respiratory tract infections (LRTI) comprise a frequent presentation in clinical practice. This audit was performed in the Midlands Regional Hospital Tullamore (MRHT) to evaluate compliance with local guidelines for empirical antibiotic usage.

Method: Data was collected retrospectively from inpatient medical charts of those admitted with LRTI or suspected LRTI across three medical wards in MRHT for one calendar month. The choice of empirical antibiotic was compared to the local antibiotic guidelines (based on the BTS guidelines, 2009).

Results: 45 patients were identified with suspected LRTI. These patients included males and females, varying in age from 41 to 92 years. Clinical parameters of patients are presented in Table 1.

Table 1 Clinical parameters

	IE COPD	CAP	HAP
N (%)	20 (44 %)	27 (47 %)	4 (9 %)
Pyrexia	2 (10 %)	3 (11 %)	3 (75 %)
Leukocytosis	10 (50 %)	17 (63 %)	2 (50 %)
Elevated CRP	19 (95 %)	18 (67 %)	4 (100 %)
CXR—consolidation/new infiltrate	3 (15 %)	6 (22 %)	0 (0 %)
Compliant with guideline	5 (25 %)	5 (20 %)	2 (50 %)

Discussion: Compliance with hospital guidelines for antimicrobial coverage is suboptimal (26.7 %). These results perhaps point towards a need for increased antibiotic stewardship.

Additionally the presence of LRTI symptoms (71 %) and elevated serum biomarkers (98 %) are common, and seem not to correlate with positive radiographic findings (20 %). This may indicate that those with LRTI in MRHT fall on the less severe end of the spectrum or that potentially higher numbers of atypical pneumonias are present in this population.

Turning a Blind Eye to Ovarian Cancer

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Background: Ovarian cancer is the most common fatal gynaecological cancer, worldwide. Due to the position of the ovaries within the pelvis, disease tends to present late, and often only palliative measures can be offered. Disease is resected through total

abdominal hysterectomy and bilateral salpingo-oophorectomy. Preoperative imaging is crucial, allowing the gynaecologist to assess any invasion of local structures. Involvement of the bowel or abdominal wall immediately increases the complexity of the surgery and may warrant the participation of a specialist general surgeon.

Case report: We report the case of a 52-year-old lady who underwent an elective TAH/BSO for resection of a large abdominal mass, following referral from a regional hospital. She had presented with a 6 month history of abdominal swelling, confirmed as a mass on CT scanning. Preoperative scans reported no clear plane between the sigmoid colon and the mass. On laparotomy there was extensive distortion of the anatomy with widespread involvement of the uterus, ovaries, bowel, and abdominal wall. Restricted resection of the tumour with partial cystectomy was performed. Follow up urogram revealed no fistula or leak. Histology showed endometrial adenocarcinoma, though it was not possible to confirm the primary site. The patient was referred for follow-up chemotherapy, and is currently on her first cycle.

Conclusion: Ovarian cancer is a common gynaecological pathology, one which presents late and often at a palliative stage. Preoperative imaging is essential in establishing concurrent involvement of surrounding structures. Co-operation with other specialists may be needed and should be sought early to avoid complications.

Hospital Acquired Anaemia Due to Phlebotomy in Patients with Acute Myocardial Infarction and Angina Pectoris in a Cork Hospital

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Introduction/background: Diagnostic blood loss (DBL) from phlebotomy has been shown to cause a clinically significant hospital acquired anaemia (HAA) associated with a higher mortality and poorer outcomes [1]. HAA may be a preventable process.

Aims: The aims of this study are to (1) quantify the amount of DBL from phlebotomy, (2) observe any changes in haemoglobin levels, (3) examine whether changes in Haemoglobin and DBL are related and (4) examine if HAA is occurring in Mercy University Hospital (MUH).

Methods: This retrospective cohort study included 72 patients who presented with acute myocardial infarction or angina pectoris to the MUH in 2011. The volume of DBL per patient was calculated using the number and volume per blood bottle used. Haemoglobin on admission and the nadir haemoglobin were compared to determine if any changes took place.

Results: The median (IQR) volume of DBL was 52.55 (44.4–76.44) ml. One patient developed severe anaemia and 18 (75 %) developed moderate anaemia (Beutler and Waalen's criteria [2]). Nineteen patients anaemic on admission had a further decrease in haemoglobin.

Discussion: DBL is associated with a clinically significant decrease in haemoglobin in a proportion of patients. Modifying the practices of phlebotomy to minimise excessive DBL may improve outcomes.

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Sjögren's Syndrome: A Multisystemic Disease

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Introduction: Sjögren's syndrome is an autoimmune disease causing inflammation of the exocrine glands resulting in xerostomia and keratoconjunctivitis sicca, although other major organ systems can also be involved.

Description: A 27-year-old lady was referred by ophthalmology to the rheumatology clinic with anterior uveitis, positive Ro and La antibodies and positive ANA. ESR and CRP were raised. On systems review, she reported a 6 month history of weight loss, night sweats and a non-productive cough. However, she had no risk factors for tuberculosis. Examination revealed dry eyes, dry mouth, cervical lymphadenopathy and a painful erythematous rash on her shins. It was felt that her condition was secondary to Sjögren's syndrome but tuberculosis, sarcoidosis and lymphoma were also a possibility.

Chest X-ray revealed bi hilar lymphadenopathy and CT thorax, abdomen and pelvis revealed left upper lobe airspace opacity with generalised lymphadenopathy. Mantoux and Quantiferon were positive. The rash, originally thought to be erythema nodosum was actually erythema induratum. Cervical lymph node biopsy showed granulomas with no malignant cells and Bronchoalveolar lavage showed acid fast bacilli, thus confirming a diagnosis of tuberculosis.

Conclusion: Patients with Sjögren's syndrome can present with multisystemic features including lymphadenopathy, weight loss and a rash-symptoms which can overlap with that of tuberculosis, sarcoidosis and lymphoma. The risk of lymphoma is significantly higher in those with Sjögren's syndrome and needed to be out ruled. It was also imperative to out rule tuberculosis in these patients who often require immunosuppressive therapy. The case highlights the coexistence of an infectious and an autoimmune disease which can present in a similar manner.

Habit Polydipsia with Cordials in the Paediatric Population

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Background: Primary or habit polydipsia, with excessive ingestion of diluted juices, is a common problem in paediatrics [1, 2] and commonly leads to polyuria, nocturia, bloating, flatulence and toddlers' diarrhoea [2]. History, examination and basic laboratory testing assist the clinician in excluding possible organic causes of polyuria and polydipsia such as diabetes mellitus and diabetes insipidus.

Aim: To describe the clinical presentation, laboratory evaluation and management of three children with habit polydipsia and excessive cordial intake.

Methods: A retrospective review of three cases of primary polydipsia presenting to the Adelaide and Meath Hospital Dublin, incorporating the National Children's Hospital was performed. Data pertaining to

patient details, growth parameters, presenting symptoms, laboratory studies, treatment and outcome was gathered.

Results: Our cohort included two male and one female patient. Age ranged from 11 months to 3 years. Average cordial intake was 2.3 L per day. Common presenting features included polyuria (3/3), polydipsia (3/3), reduced appetite (2/3) and disturbed sleep (2/3) secondary to thirst. Additionally, diurnal enuresis (1/3) and elevated BMI (1/3) were also reported. Initial investigations showed normal serum sodium, low urine osmolality (mean 127 mOsm/kg, range 79–202 mOsm/kg) and normal serum osmolality (mean 288 mOsm/kg) in all cases. There was raised creatinine in two cases (mean elevation 5.5 $\mu\text{mol/L}$). In two cases, replacement of cordials with free water for 24 h resulted in appropriate urinary concentration (urine osmolality >600 mOsm/kg). In one case, a water deprivation test was used to exclude diabetes insipidus (urine osmolality was 752 mOsm/kg after 16 h). Regarding management, reduction or complete omission of cordials resulted in complete resolution of polyuria, and polydipsia.

Conclusion: Habit drinking with excessive intake of cordials is a common cause of polyuria and polydipsia in the paediatric population and has predictable negative health effects. Basic laboratory evaluation should include serum urea, creatinine, electrolytes, glucose and urine and blood osmolality in order to exclude organic causes. Once diagnosed, habit drinking is usually managed successfully with reduction or complete omission of cordials from the diet.

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Chicken or Egg? Appendicitis and a Tubo-Ovarian Abscess

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Background: A tubo-ovarian abscess is an inflammatory mass involving the fallopian tube and ovary. Here we report a case of a tubo-ovarian abscess occurring with appendicitis.

Case: A 36-year-old lady was admitted with right iliac fossa pain, on a background of a recently diagnosed left sided 18 cm ovarian cyst. Her inflammatory markers were elevated. She underwent a CT abdomen/pelvis which revealed in addition to the left sided cyst, an inflammatory mass in the right adnexal region, which appeared to contain a faecolith. A multi-disciplinary approach was taken and she underwent laparoscopy with gynaecology and general surgery present. Following aspiration of the left sided ovarian cyst, a right sided tubo-ovarian abscess was visible with the appendix entering the mass. Following conversion to open, she underwent drainage of the abscess, appendectomy, retrieval of the faecolith and washout. She made a good post-operative recovery.

Discussion: In this case, it is unclear whether appendicitis occurred secondary to the tubo-ovarian abscess, or whether appendicitis caused inflammation of the tube and ovary. According to the literature however tubo-ovarian abscess are more commonly caused by an acute

appendicitis rather than the other way around. There have been several reports of tubo-ovarian abscess secondary to appendicitis [1, 2].

Conclusion: This unusual case highlights the possibility for multiple co-existing pathologies and the importance of a multidisciplinary approach.

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Abdominal Aortitis on PET CT: A Case Report and Review of the Literature

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Aortitis is inflammation of the aortic wall, often occurring in the context of systemic vasculitis. Here we present a case of a 73-year-old gentleman who presented with abdominal pain and weight loss. Initial investigations revealed pancreatic abnormalities and a raised CA 19.9. PET-CT was performed to investigate these pancreatic findings, but resulted in a diagnosis of aortitis. This case highlights the utility of PET-CT in the diagnosis of abdominal aortitis and the need to consider aortitis as a differential in patients with abdominal pain with a history of vasculitis.

A Retrospective Analysis of Radiation Exposure in Patients Undergoing Radial Versus Femoral Diagnostic Coronary Angiography

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Aims: The aim of this study was to compare radiation exposure between radial and femoral access during elective diagnostic coronary angiography, as measured in DAP uGym2.

Background: Previous studies have demonstrated that during coronary angiography, despite a lower complication rate, higher radiation doses have been associated with Trans-Radial Access (TRA) versus Trans-Femoral access (TFA) [1, 2]. There is however, an associated operator learning curve with TRA and more recent studies have indicated a reduction in radiation dose when the procedure is carried out by experienced operators in high volume centres [3].

Methods: We retrospectively analysed 350 patients who underwent elective diagnostic coronary angiography from January 2013 until April 2013 at Limerick University Hospital. The procedures were carried out by five experienced operators. Patient baseline characteristics and operator involvement was recorded from available nursing and radiological procedure notes. Patients who underwent percutaneous coronary intervention (PCI) or any additional procedures were excluded from the study. Of the 350 patients, the radiation

dose was unavailable for 79 patients. The primary outcome of interest was the dose area product (DAP) uGym2.

Results: Of the 350 patients, 191 (56.4 %) were performed via TFA, with the remaining 153 (43.7 %) undergoing TRA coronary angiography. A non-parametric test (Mann–Whitney) was used for comparing median DAP for the trans radial [1,961 (140–8,172)] and trans femoral groups [2,069 (255–6,483)] uGym2. There was no significant difference between the medians. ($p = 0.56$)

Conclusion: In our cohort of patients, DAP was not significantly higher in TRA vs TFA during diagnostic coronary angiography when carried out by experienced operators.

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A Non Resolving Rash in General Practice—A Case Report

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A 26-year-old female presented to her GP with a skin rash. She had a history of presternal skin eruption when aged 9 years, treated as seborrheic dermatitis with a course of canesten/steroid combined cream. Examination revealed scaly lesions were present on her scalp, neck, trunk and limbs with a provisional diagnosis of psoriasis.

However, it worsened on sun exposure. Despite treatment with standard anti-psoriatic medications it failed to respond as expected.

She was referred to a dermatologist and suspected to have psoriasis, tinea pedis and pitted keratolysis with numerous vesicles of pompholyx eczema occurring as a reaction to the fungus. She was commenced on Lotriderm, Dovonex, Diprosalic and Polytar shampoo and 1 week's course of Erythromycin.

Two months following treatment, there was no improvement.

A skin biopsy was taken from some atypical lesions, which confirmed a rare chronic skin disorder, called Darier's disease.

Darier's disease is an autosomal dominant skin disorder characterised by hyper-keratosis of seborrheic areas with nail abnormalities and mucous membranes changes.

Its severity varies from person to person.

For some it can be exacerbated by sun exposure. Secondary opportunistic bacterial and fungal skin infections can occur.

It is not curable but is very treatable.

First line treatment is Acitretin (Neo-tigasson) but due to its teratogenic effect, which would remain for 2 years post treatment, extreme caution is advised with appropriate contraceptive advice in female patients.

Other treatments include isotretinoin with similar restrictions and caution particularly in females.

Cholecystocolonic Fistula: A Curious Case of Bowel Obstruction

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Introduction: Cholecystocolonic fistulae are the second most common cholecystoenteric fistulae [1]. Management of this rare complication of cholelithiasis still poses a dilemma to the surgeon. Herein, we present the case of an 84-year-old woman, MC, with a cholecystocolonic fistula.

Case description: MC presented to the Emergency Department (ED) with right sided abdominal pain for 5 days. The pain was constant, with fever and rigors. Her abdomen was soft but tender in the right upper quadrant, with a palpable mass. Blood tests showed a leucocytosis and raised inflammatory markers. CT abdomen on this admission revealed a “transverse colon fistula with three intra-colonic gallstones, the largest measuring approximately 5 cm at the junction of the descending and sigmoid colon” causing large bowel obstruction. An attempt was made to extract the gallstones via colonoscopy, but failed. The patient was transferred to a tertiary centre for laparoscopic enterotomy with removal of the obstructing gallstones. Postoperative course was uneventful.

Case discussion: Gallstones causing large bowel obstruction are a rare complication of cholelithiasis. The inflammation and formation of adhesions, usually in repeated cholecystitis causes erosion of a gallstone through the gallbladder wall to the small/large bowel creating a fistula [2]. Management consists of a trial of conservative therapy if this fails, surgery may be necessary. As this elderly lady had significant co-morbidities it was felt best to avoid closing the fistula and perform an enterotomy and remove the gallstones. In highly selected cases cholecystectomy and closure of the fistula may be performed.

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Multisystem Erdheim-Chester Disease: A Case Report

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Introduction: Erdheim-Chester Disease (ECD) is a rare inflammatory disorder involving infiltration of the organs by non-Langerhans

histiocytes. First described in 1930, fewer than 500 cases have been reported [1]. The manner of presentation depends on the organs infiltrated however the most common sites are long bones (95 %), maxillary sinus (59 %), large vessels (59 %), retroperitoneum (59 %), heart (57 %), lungs (46 %), central nervous system (41 %), skin (27 %), pituitary gland (22 %) and orbit (22 %) [2]. Here we describe the case of a gentleman presenting with gradual involvement of many of these sites despite recommended treatment.

Case description: A 53-year-old gentleman, initially diagnosed with diabetes insipidus and hypogonadism, was found to have ECD after developing debilitating bone pain and multiple skin lesions which proved to be histiocytomas. Extensive workup under the care of the leading expert in ECD revealed that in addition to bony and hypothalamic pituitary involvement, there was evidence of retroperitoneal fibrosis. Treatment with pegylated interferon was initiated with some success as bone pain decreased however symptoms indicating possible involvement of the sinuses and the nervous system developed. Molecular analysis revealed that the patient was positive for the B-RAF V600F mutation opening up the possibility for systemic chemotherapy with the BRAF inhibitor vemurafenib as previously reported in three patients with refractory multi-system ECD [3].

Discussion: The aetiology of ECD remains unknown. Its rarity and extremely heterogenous clinical presentation ensures that it remains a difficult diagnosis for the variety of physicians and surgeons that these complicated patients may present to.

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Hepatocellular Carcinoma: A Profile of a Rural Cohort of Patients with HCC

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Introduction: Hepatocellular carcinoma (HCC) is a rare form of cancer, but a significant cause of cancer mortality. It often develops on a background of hepatic cirrhosis. Limited data is available about patient characteristics and survival from a rural Irish perspective. This study assessed the baseline characteristics, distribution of staging and underlying aetiology of a cohort of patients from the West of Ireland, and its effect on overall survival.

Methods: A retrospective database was created from review of histopathology database and patient correspondence archive. Data were extracted from medical chart review. Descriptive statistics were used. Survival was estimated with Kaplan–Meier methods.

Results: Between 2009 and 2013, 36 patients with HCC were identified. 33 (91 %) were male and median age at diagnosis was

69-years-old, (range 36–85). 20 (56 %) of cases had histologic confirmation while the remaining 16 (44 %) were diagnosed radiologically. The majority of patients were diagnosed at an early stage, with 44.4 % (n = 16) of patients' being AJCC Stage I. The remaining distribution was 13.9 % (n = 5) at Stage II, 13.9 % (n = 5) at Stage IIIA, 9.1 % (n = 8.3) at Stage IIIB, 5.6 % (n = 2) at Stage IVA, and 13.9 % (n = 5) at Stage IVB. Using the CLIP scoring system shows a distribution of 33.3 % (n = 12) with a CLIP score of 0, 33.3 % (n = 12) with CLIP score 1, 25.0 % (n = 9) with CLIP score 2, 2.8 % (n = 1) with CLIP score 3, and 5.6 % (n = 2) with CLIP score of 4. Median alpha-fetoprotein at diagnosis was 20.1 (range 1.2–206,869.0) with 9/36 (34.6 %) over 200 at presentation. The distribution of aetiology was as follows: Alcoholic liver disease was the most common in nine patients studied (26 %), followed by haemochromatosis in eight patients (23 %), hepatitis C infection in seven patients (20 %), cryptogenic cirrhosis in seven patients (20 %), non-alcoholic steatohepatitis in two patients (6 %) and primary biliary cirrhosis in one patient (3 %). 4 patients had no cirrhotic liver disease (11 %). Of the 36 patients in the cohort, four had multiple aetiological factors. With median follow-up of 10.3 months, 15 pts (41.7 %) have died. Overall survival was 18.4 months.

Conclusion: Our study provides an important insight into the population of Irish patients with hepatocellular carcinoma. It shows the significance aetiological impact of many common diseases such as alcoholic liver disease and haemochromatosis, especially prevalent in the West of Ireland. Finally, it shows the significant mortality impact and relevance of this important disease.

Neuroendocrine Lung Tumour Presenting as Superior Vena Cava Obstruction

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Superior vena cava syndrome is caused by obstruction of the blood flow through the superior vena cava. It is usually associated with malignant disease, such as lung, breast, or mediastinal tumours. The most frequent presentation is facial and neck swelling, followed by shortness of breath and dilated neck veins.

A 58-year-old man presented with a 1 week history of unilateral facial swelling, multiple episodes of visual loss, and one incident of loss of consciousness. His past medical history was significant for ischemic heart disease and contact dermatitis. He was a smoker with a 40 pack year history. On examination, it was noted that in addition to right sided facial swelling, he also had palpable right sided supraclavicular and axillary lymph nodes. Chest X-ray showed a rounded opacity adjacent to the right upper mediastinum.

The patient was immediately managed with dexamethasone, furosemide, and prophylactic low molecular weight heparin as well as stenting of the superior vena cava and left brachiocephalic vein. Lymph node biopsies revealed that the mass was a high grade metastatic neuroendocrine tumour.

The patient was subsequently transferred to UCHG for radiotherapy. He has since returned to Sligo Regional Hospital for chemotherapy and palliative care.

This case highlights the importance of urgent investigation for underlying malignancy in patients who present with symptoms of SVCS. Unfortunately it is associated with a poor prognosis, with a median life expectancy of 6 months.

Missed Paracetamol Overdose with Fatal Outcome

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Background: Paracetamol overdose is the commonest aetiology of acute hepatic failure in Western world and USA, despite introduction of restricted packaging law for paracetamol sale in many countries [1]. Paracetamol toxicity accounts for 18 % cases among subjects with indeterminate cause of acute liver failure [2].

Aim: To highlight fatal consequence of not checking paracetamol levels in patients with relevant clinical features of its toxicity.

Case report: We describe a case of 54-years-old Irish female, who was had multiple medical admissions with intentional drug over dosages. She was a smoker, misused alcohol and was taking sodium valproate for Bipolar disorder. She presented with 4 day history of right upper quadrant discomfort and nausea. There was no history of liver problems. She was alert, jaundiced and coagulopathic. She had upper GI bleed requiring massive blood products transfusion. The patient rapidly developed severe transaminitis, encephalopathy, profound coagulopathy and deep jaundice, features fulfilling O'Grady's criteria of hyper acute hepatic failure [3] she was accepted for emergency liver transplantation but died of circulatory failure despite maximum intensive care support a day after admission.

Paracetamol level was 37 more than 15 h after admission. We assume she did not disclose excess paracetamol consumption. Post mortem liver biopsy showed centrilobular hepatic necrosis, consistent with paracetamol toxicity.

	1 month before	At admission	12 h later	24 h later
PH/lactate	–	–	7.25/4.8	7.3/8
LFTs Bil (µmol/L)	9	73	57	81
AKP(IU/L)	102	144	100	86
GGT(IU/L)	113	843	412	326
AST(IU/L)	27	Asked to repeat	>7,000	>7,000
ALT(IU/L)	29	Asked to repeat	8,080	5,480
FBC Hb	14.7	13	8.3	6.9
Plt	293	8	10	10
Coag INR	0.9	8.4	7.8	4.8
Fibrinogen	3.5	0.6	1	0.8

Conclusion: Surreptitious paracetamol overdose should be considered and treated in timely manner with *N*-acetylcysteine in patients with deranged liver function tests and features of paracetamol toxicity to improve outcome.

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A Retrospective Audit of Screening Practices to Detect Abnormal Glucose Regulation in Patients with Acute Myocardial Infarction

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Background: Hyperglycaemia in acute myocardial infarction (AMI) is associated with increased morbidity and mortality [1]. Many patients presenting with AMI have previously undiagnosed diabetes [2]. The European Society of Cardiology recommends routine screening of patients admitted with AMI.

Aim: To investigate the screening practices of patients presenting with AMI to Cork University Hospital (CUH) for abnormal glycaemic status, on admission and within 12 months.

Method: A retrospective clinical audit was performed, involving the review of medical notes and laboratory investigations of 469 patients admitted with AMI over 2 years, from January 2010 to December 2011.

Results: On admission, 48.8 % had fasting glucose (FG) measured, 38.4 % had only random glucose (RG) measured, and 12.8 % had no glucose measurement.

Of all admissions, 16 % were known diabetics, 5.3 % were newly diagnosed with diabetes, and 5.1 % were found to have impaired fasting glucose (IFG). 10.9 % were discharged with unknown diabetic status.

Within 12 months follow-up, 53.7 % had no glucose measurement, 10.2 % had HbA1c measured, 21.3 % had FG measured, and 14.7 % had only RG measured.

Only 25 % of those with IFG on admission had FG or HbA1c measurement on follow up.

Conclusion: Assessment of glycaemic status in AMI is inconsistent. Follow-up of screening for diabetes is inadequate, especially of those with IFG. A protocol for screening of glycaemic status in AMI should be adopted. More research regarding the use of HbA1c in AMI is required.

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Study of the Drinking Habit and Alcohol-Related Problems in Medical Students in TCD

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The excessive consumption of alcohol, especially marked among the student population, is a major health problem globally and represents

a great economic cost to the society. Alcohol intake has been linked to fatty liver, cirrhosis, neurological disorders, cardiomyopathy and coronary heart disease, stroke and some types of cancer, including breast cancer. This study aim to evaluate the drinking habits among 1st and 5th year medical students and their motives to consume alcohol, as well as to discover the alcohol-related problems associated. Nationalities and religion of the students, and living at home or not were considered in this research. Results showed that 89 % of first year and 65 % of fifth year students of the 175 students that took part in the study reported drinking alcohol, with slightly higher percentage of females than males consuming alcohol. Significant numbers of all students reported binge drinking on more than two nights per week, with the first year undergraduates consuming larger quantities of alcohol and more frequently than fifth year students. Irish students ingest greater amounts of alcohol compared to other nationality subgroups. Asian students, the majority of them Muslims, had the lowest rate of alcohol intake. According to the results of this study, 81 % of students reported drinking alcohol for social reasons, and only 12 % due to stressful situations. The financial circumstances seem to determine the alcohol consumption in the first year students. Alcohol intake among medical students should be taken more seriously because their own attitudes may affect their future professional behaviour and influence the health of society.

To tPa or Not to tPa? That is the Question!

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A 66-year-old man with diabetes presented to the emergency department at the hospital 45 min after developing acute left sided face and arm weakness and dysarthria.

Urgent Computerized Tomography (CT) of brain revealed an extensive hypodense area in the right temporo-parietal region consistent with chronic Right Middle Cerebral Artery (RMCA) branch occlusion. He denied any previous symptoms of stroke. Electrocardiograph on admission showed new onset atrial fibrillation.

Examination revealed a National Institutes of Health Stroke Scale (NIHSS) of 11 and confrontational visual field testing confirmed a left homonymous hemianopia, consistent with his prior clinically silent posterior RMCA infarction.

We were presented with a clinical conundrum: should we thrombolysed this patient in the setting of an extensive infarct of uncertain age? An urgent clinical decision was required. Following detailed discussion with the patient, he was thrombolysed at 2 h post symptom onset.

Subsequent magnetic resonance imaging of the brain revealed acute infarction in the anterior RMCA territory. This patient had a partial anterior circulation infarct (PACI) affecting the anterior branch of the RMCA. His prior ipsilateral RMCA stroke was also a PACI, affecting posterior ipsilateral RMCA. Careful review of the acute syndrome (facio-brachial paresis) distinguished the acute event from his prior posterior PACI syndrome (homonymous hemianopia).

This case highlights the critical importance of the clinico-anatomical syndrome in the decision to thrombolysed as well as the NIHSS score. Despite presence of established infarction on CT

imaging and his prior deficit affecting the NIHSS score, thrombolysis was appropriate in this setting. The patient was discharged home following a short period of rehabilitation with a NIHSS score of 1.

Management of Diabetes Mellitus Pre/Post Thrombolysis for Acute Ischaemic Stroke in a Tertiary Referral Centre

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Introduction: There is an association between poor glycaemic control in the acute stroke period and a worse prognosis, especially in people with diabetes presenting with ischemic stroke [1]. International guidelines recommend strict glycaemic monitoring and glycaemic control of patients in the critical stroke period [2, 3] in an acute stroke unit. Despite this there is no protocol for control of blood sugars during this period in many Irish hospitals. The Gold Standard for managing diabetes post stroke is intravenous insulin therapy [3]. **Aim:** To identify strengths and deficiencies of current management of hyperglycemia in thrombolysed people with diabetes compared with international gold standard guidelines.

Methods: Retrospective study of stroke patients thrombolysed in Galway University Hospital from August 2012 to October 2013 (n = 15). Data including glucose levels pre and post thrombolysis, HbA1C and discharge medications was collected. Glycaemic control of patients within 24 h following thrombolysis was analysed. **Results:** n = 6 had diabetes (40 %). n = 6 had type 2 Diabetes Mellitus. n = 5 (33 %) had a known diagnosis of Type 2 Diabetes Mellitus; n = 1 (7 %) had a new diagnosis of Type 2 Diabetes Mellitus. n = 15 (100 %) had a glucometer check and blood glucose reading documented prior to thrombolysis.

With regards to the diabetic cohort, mean VBG was 12.2 mmol at thrombolysis (time 0 min; pre-thrombolysis), with median value of 13.5 mmol. However time to first BM check post-thrombolysis ranged from 2.5 to 18.5 h (mean = 5.6 h). 2 of 6 patients with diabetes had blood glucose monitoring sheets started prior to transfer to the stroke unit. n = 1 received IV insulin and dextrose, n = 1 had a sliding scale with a 2 hourly blood glucose check, n = 2 had a sliding scale with a 6 hourly blood glucose check. n = 1 had no documented glucose check post thrombolysis. n = 1 was transferred to another institution for endovascular intervention. Mean HbA1c in our diabetic cohort was 67 mmol/mol.

Conclusion: We recommend the introduction of standardised in-hospital protocol for insulin/dextrose infusion and glucose monitoring in line with NICE guidelines in patients with diabetes thrombolysed following stroke.

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A Rare Reaction to ATRA Treatment for APML Resulting in Necrotic Testicular Lesions Which Healed Fully Following Drug Cessation

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Introduction: Acute promyelocytic leukaemia (APML) is a curable leukaemia, if the patient tolerates the first induction therapy. ATRA is used during induction, consolidation and maintenance therapy. It is considered revolutionary in that, rather than being cytotoxic, it induces maturation of the leukaemic cells. However, it is also associated with serious side-effects. We report a rare side-effect of ATRA in a 36-year-old male diagnosed with APML.

Clinical course: A 36-year-old man diagnosed with APML was commenced on ATRA. After 15 days he became unwell with fevers and painful, black, subcutaneous scrotal lesions. Septic screens were requested and broad spectrum antibiotics commenced. Differentials included atypical infections, Fournier's gangrene, drug reactions or leukaemia cutis. The patient continued to deteriorate despite broad spectrum antibiotics, antiviral and antifungal cover. Multi-speciality input was sought. 8 days following his symptoms septic screens remained negative. ATRA syndrome was suspected. ATRA was held and methylprednisolone commenced. Management options considered included excision and debridement and conservative management with methylprednisolone. The primary team opted to observe the response to steroids and cessation of ATRA. The patient proceeded to improve significantly with resolution of the ulcers and no subsequent pyrexia. He was subsequently commenced on Arsenic as an alternative to ATRA for treatment of APML. 46 days following symptoms the patient is stable, with ulcers continuing to heal well. Reintroduction of ATRA is currently being considered.

Conclusion: Side effects to medications can be variable and present in rare ways and must always be considered.

A Curious Case of Dyspnoea and Fatigue

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A 54-year-old female lady with a 20 pack-year smoking history presented to Galway University Hospital for investigation of increasing dyspnea on exertion and cough worsening over 6 months. She also noted new onset epistaxis in the 2 weeks prior to admission. Respiratory exam was normal and further examination noted a non-tender, plaque-like purple rash on face and arms, of onset 11 months previously. Respiratory exam was normal.

Creatinine was 378 $\mu\text{mol/L}$ on admission, and urinary ACR 70.8 mg/mmol, reflecting severe renal impairment and gross proteinuria. Normochromic normocytic anemia of haemoglobin 7.7 g/dL was noted. P-ANCA was positive with anti-MPO ANCA >600 IU/mL. Chest radiograph queried multifocal pneumonia as the cause of respiratory symptoms, and subsequent CT-TAP noted right middle and bilateral bibasal ground glass opacification suggestive of vasculitis with pulmonary haemorrhage. Biopsy of facial rash noted diffuse dermal inflammation. Renal US was suggestive of intrinsic renal disease, confirmed as acute active crescentic necrotizing glomerulonephritis on US-guided biopsy. Following initial antibiotic therapy,

treatment with high dose steroids, plasmapheresis and cyclophosphamide was commenced.

In summary, our patient was acutely unwell on presentation, with end stage renal disease, widespread rash, and respiratory symptoms. This complex multisystemic presentation and raised MPO-ANCA indicated either Granulomatosis with Polyangiitis or Microscopic Polyangiitis as the most likely diagnoses. She had noted onset of rash nearly 1 year prior to admission and further sub-acute deterioration in respiratory function in 6 months prior to admission. Subsequent chest imaging showed no resolution of lung pathology. We can learn from this case to identify seemingly unrelated and benign or common symptoms together and consider a more insidious and sinister underlying pathology. This multi-systemic approach may result in earlier diagnosis and improved clinical outcomes by intervening in pathology before irreversible end-organ damage occurs.

Stroke or Not a Stroke

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Background: This case highlights the importance of a solid differential in dealing with a common presentation. A 71-year-old gentleman who was referred to our services with worsening right sided weakness of leg and arm, right sided facial droop, homonymous hemianopia and slurred speech. He presented previously with the same symptoms 3 weeks prior and was worked up as a stroke. CT brain at the time revealed subtle areas of low attenuation in the right occipital region. His delayed presentation was a contraindication for thrombolysis. He was subsequently treated with high dose antiplatelet and best medical therapy. Due to progressive worsening of symptoms during his admission, MRI brain was performed to rule out any intracranial mass or haemorrhage. None were evident on scan and patient was discharged with advice to repeat MRI if symptoms did not alleviate. His symptoms did not resolve over the following 3 weeks but in fact had worsened. Repeat MRI was performed, finding a small intracranial mass in the basal ganglia.

Aims: To bring to the fore an important differential of a common disease, stroke.

Conclusion: Take home message is twofold:

1. Never forget the differential of intracranial mass in a patient with progressive focal symptoms, despite no imaging justification.
2. Clinical history and examination remain key in diagnosis and treatment of all patients.

Difficult Drugs: The Challenges in TB Treatment

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Introduction: Tuberculosis (TB) is a major health problem accounting for millions of deaths globally annually. High rates of resistance mean effective treatment requires the use of multiple anti-TB agents for prolonged periods of time. Treatment is often complicated by the side-effects of these medications.

Case description: A 34-year-old Filipino woman presented with a 6 month history of mastalgia and left cervical lymphadenopathy.

Ultrasound guided core biopsy revealed necrotising granulomata positive for acid fast bacilli. CT TAP showed no evidence of lung disease or other lymphadenopathy. She was commenced on first line therapy with Rifampicin (RMP), Isoniazid (INH), Pyrazinamide (PZA) and Ethambutol (EMB). 30 min after the first doses she developed a severe, diffuse, pruritic, erythematous rash requiring discontinuation of therapy. Pyrazinamide was suspected as the most likely cause and INH/RMP/EMB were re-introduced sequentially with no recurrence of the rash. At 4 weeks sensitivity results revealed isoniazid resistance and it was substituted with moxifloxacin. Two weeks later she presented with generalised malaise, nausea and vomiting. A full blood count revealed marked neutropaenia and mild thrombocytopenia. All medications were ceased and protective measures were implemented until neutropaenia resolved. Re-introduction of RMP/EMB and re-challenge with low dose PZA was further complicated by drug induced hepatitis requiring complete cessation of therapy once more.

Discussion: This case highlights the challenges encountered in treating TB, in particular finding an adequate regimen to cover drug-resistant strains where multiple drug reactions have occurred.

The Successful Use of Endovascular Intervention in the Management of Acute Ischaemic Stroke

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This is the case of a 61-year-old female who presented by ambulance to the ED at Galway University Hospital 60 min post witnessed onset of stroke (transferred a distance of 61 km). She had a dense left sided weakness and dysarthria. Her initial NIHSS score was 19. Urgent CT Brain and CT angiogram indicated the presence of right internal carotid and middle cerebral artery thrombi. In conjunction with the patient's husband, a decision was made to thrombolysate using intra-venous alteplase.

60 min post thrombolysis the patient's NIHSS Score had fallen to 18. Following discussion with neuroradiology in Beaumont the patient was deemed suitable for endovascular intervention. The patient was transferred by Air Ambulance to Beaumont Hospital where thrombectomy was performed using the TREVO retriever device.

3 days post procedure the patient was transferred back to GUH Stroke Unit, where she had a further 9 day inpatient stay, during which she received a full Stoke risk factor work-up and was reviewed on a daily basis by the stroke multi-disciplinary care team. At discharge the patient had an NIHSS of 0.

The evidence for endovascular intervention as standard management for ischaemic strokes is as yet far from convincing. Randomised controlled trials are currently in progress using newer devices such as the TREVO retriever and the results of these eagerly awaited trials will help guide future practice. This case highlights the functional and social benefits of a successful intervention in a suitable candidate and provides a glimpse of the world class health care available to all residents of Ireland provided action is taken in a timely fashion.

Multifocal Invasive Pneumococcal Disease: A Case Report

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Introduction: Invasive pneumococcal disease is defined as isolation of *streptococcus pneumoniae* from a normally sterile site such as blood, CSF or synovial fluid. This disease carries a high mortality rate and is an important cause of infection in all age groups and in both immunocompromised and immunocompetent patients.

Case description: A 66-year-old lady presented with a 6 day history of pain and stiffness in the right shoulder and a 3 day history of multifocal cellulitis involving her left hand, right upper arm and chest wall. She was penicillin allergic and had not received pneumococcal vaccination. She was commenced on Ciprofloxacin, Clindamycin, Vancomycin and Metronidazole. Blood cultures were positive for *streptococcus pneumoniae* on day 2; Ceftriaxone was added and her other antibiotics were stopped. MR imaging revealed a septic arthritis of the right shoulder and epidural abscesses at the level of T2, T4, L4 and L5. Surgical exploration of her right shoulder and thoracic vertebrae was performed; aspirate fluid was *streptococcus pneumoniae* PCR positive but culture negative. CT Thorax revealed a large right upper lobe lung abscess and transoesophageal echocardiogram was negative. Repeat imaging showed resolving epidural abscesses but two new mycotic aortic aneurysms were noted and vascular surgery opinion was sought.

Discussion: Invasive *streptococcus pneumoniae* is an uncommon but serious infection with a high mortality rate. Pneumococcal septic arthritis, epidural abscesses and mycotic aneurysms are considered relatively rare occurrences but here we describe a case involving all three.

Stiff Person Syndrome; a Rare Diagnosis from the CF Unit

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Introduction: Stiff person syndrome is an exceedingly rare medical condition. There are only 150 cases published in the medical literature [1]. It is under-diagnosed and under-treated due to a lack of awareness in the medical community. Early diagnosis and appropriate management avoids unnecessary investigations and procedures and improves the patient's quality of life.

Case description: A 25-year-old veterinary nurse presented with an 11 day history of severe, acute-on-chronic lower back pain and opisthotonic spasms. Her medical history was significant for cystic fibrosis, CF-related arthropathy, DIOS and a domestic cat bite 3 weeks previous. Her pain was refractory to oxycodone, oxycodone, diazepam and gabapentin on the ward. She was transferred to ICU and commenced on morphine sulfate, midazolam, baclofen and gaba-

pentin. As the frequency of her spasms increased, she was intubated and ventilated for pain control. An extensive battery of investigations came back normal. The case was complicated by the challenges of weaning sedation and managing an intercurrent IECF, a flare of DIOS and panic attacks. It was only as sedation was weaned that a rare diagnosis of Stiff Person Syndrome came to light. This facilitated better management and ultimately a successful discharge.

Discussion: Our case sheds more light on a clinically elusive medical condition. It highlights the importance of a multidisciplinary approach to accurate diagnosis in unusual or unfamiliar presentations. Interestingly, it also demonstrates the challenges of an MDT approach to the management of a patient with multiple biological, psychological and social comorbidities.

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Audit on Admission Medications

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Background: This random audit was performed to help decrease the potential medication related morbidity of inpatients.

Aims: To highlight to NCHDs the necessity to pay more vigilance in transcribing drugs on admission in order to decrease potential iatrogenic harm to inpatients. Also to highlight to general practitioners the importance of having full lists of medications available for their patients.

Method: Fifty inpatients were randomly selected for this audit. Their medications reported to staff on arrival to the emergency department or outpatient's department were compared with their most recent prescription from their general practitioner or pharmacy. Discrepancies in drug frequency and dosage were noted as well as omitted medications and whether or not medications were prescribed as trade name or generic name.

Results: Eighty percent of inpatients assessed had a drug error present on admission. Forty-three percent had errors in the form of dosage error. Twenty-seven percent had errors in the form of frequency error. Thirty-three percent had drugs omitted on admission.

Conclusions: Increasing awareness required for NCHDs when transcribing medication lists on admission. Increasing awareness from patients is required when presenting to ED or outpatients, in order to bring full list of most recent medications. Increasing awareness from general practitioners is required in order to provide their patients with full listings of medication ideally in generic format.

Investigation of Anaemia in the Older Population in a Secondary Hospital

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Background: Anaemia is a very common asymptomatic condition in the older population and although these patient often present with a mild anaemia, it has been associated with increased levels of

morbidity and mortality [1]. The prevalence of anaemia in this population has been shown to have increased, particularly in the last 10 years [2]. St. John's Hospital in Limerick is a Secondary Hospital with capacity for approximately 94 patients, most of who are over the age of 65 years. Thus the prevalence of anaemia on admission or during admission of such patients warranted review to ascertain whether or not appropriate investigations were carried out on these patients regularly.

The World Health Organization (WHO) defines anaemia as a Haemoglobin (Hb) of less than 12.5 g/dL in adults, however studies have shown that in older individuals these values are slightly lower [3] and it was decided to use a Hb value of 10.5 or less as our cut-off point in order to include all individuals with what is defined as a mild anaemia.

Aims:

1. Quantify the number of in-house patients in St. John's Hospital, a Secondary Hospital, with a Hb of 10.5 or less either on admission or during their admission.
2. Determine the type of anaemia that each of these patients had i.e. mixed pathology, normocytic, macrocytic or microcytic anaemia.
3. Ascertain whether the appropriate investigations were carried out in relation to each patient's anaemia.
4. Identify potential areas for review to improve the investigation of anaemia in the Secondary Hospital setting.

Methods:

1. A list of the entire patient population in St. Johns was generated using the in-house NoPas system.
2. A search was then carried out on kslive using each patients unique MRN identification number to retrieve their patient record which included date of admission, blood investigations and any other procedures they may have undergone including OGD/colonoscopy.
3. Patients with a Hb of 10.5 or less were included in the audit and their type of anaemia was determined by looking at the MCV and RDW.
4. Using this information it was then possible to ascertain if the correct investigations had been carried out to determine the cause of their anaemia.

Results: There were a total of 88 inpatients at St. Johns during the time of the audit. 20.45 % (18) of these patients had a Hb of 10.5 or lower at either the time of admission or during admission all of which, with the exception of one individual, were over the age of 65 years. 89 % (16) of the patients had a Hb of 10.5 or less on admission whilst the other 11 % (2) developed anaemia during their admission. The majority of patients had what appeared to be a mixed pathology anaemia (9), seven patients presented with a normocytic anaemia, one with a macrocytic anaemia and one with a microcytic anaemia.

Of those who presented with a mixed pathology anaemia six had Iron studies carried out during their admission including Ferritin studies, Folate and Vitamin B12, one underwent a colonoscopy/gastroscopy but had no Iron studies and two had no investigation carried out.

Of those who presented with normocytic anaemia one patient had both Iron studies and a colonoscopy/gastroscopy, one had Iron studies alone, one had a colonoscopy/gastroscopy alone and four had no investigations carried out. In relation to the patient with macrocytic anaemia, Iron studies were carried out whilst the patient with microcytic anaemia had a colonoscopy/gastroscopy.

Thus overall, six patients, representing 33.3 % of those who presented with a Hb of 10.5 or lower on or during admission did not have any appropriate investigations carried out to determine the cause of their mild anaemia.

Conclusion: 66.6 % of patients who presented with mild anaemia on or during their admission to St. John's Hospital were appropriately investigated for the possible cause for their presentation. The

remaining 33.3 % underwent no investigations; one of the possible reasons for this could include previously known and investigated chronic anaemia prior to presentation. However the audit did reveal a deficit that warrants the creation of a protocol whereby the investigation of mild anaemia is approached methodically and appropriately. This protocol could be implemented during teaching or indeed introduced into the Intern handbook.

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A Study of Primary Care Satisfaction with Communication from Mayo General Hospital

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Introduction: A vital part of my role, during internship, has been communicating with primary practice. This study was carried out to evaluate the satisfaction felt among GPs, in Co Mayo, with communication from MGH. To achieve this, a questionnaire was circulated to all GPs aiming to highlight existing problems.

Methods: A questionnaire was designed which assessed various aspects including the speed of communication, acceptable waiting times, effect on patient care, dictated versus electronic discharge summaries and disparity between hospital departments. It consisted of 12 questions, all multiple choice, and 3 included comment boxes to gather further information and suggestions for improvement. It was posted to the 79 practicing GPs in Co Mayo.

Results: We based our findings on 37 completed questionnaires. Overall, a lack of satisfaction was felt with the speed of communication. For example, 41 % of GPs felt unsatisfied and 51 % very unsatisfied with the speed of communication after outpatient appointments. 94 % of GPs felt that these delays effected patient care. 81 % felt that there is disparity between hospital specialities. In relation to edischarge letters, the majority of GPs felt that they are as comprehensive as previously dictated letters. Various suggestions on improvements were made including communication with GPs via the web based national health link program.

Conclusion: Overall, this study highlighted that the communication from MGH needs significant improvement to ensure optimal continuity of patient care. Following on from this, the aim is to make all doctors in MGH aware of this issue and began devising steps of improvement.

Steroid-Induced Mania with Psychotic Features: A Complicated Recovery. Liaison Psychiatry

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Introduction: Case studies documenting side effects appeared in the very first year of cortisone becoming commercialised [1]. In clinical practice there is a high rate of individual variability in terms of reaction time and severity with features ranging from mild to a psychiatric syndrome that fully meets the criteria [2]. Mania or hypomania has always been the most common with depression, panic attacks and psychosis also documented [3].

Case: We report a case of steroid-induced mania following 1 month of high dose corticosteroid treatment for graft versus host disease in a 36-year-old lady with no past psychiatric history. The consequent course was long and complicated with relapse, need for alteration in treatment and subsequent depression.

Discussion: This case demonstrates how complicated the treatment of steroid-induced mania can become. It is not simply a case of reducing steroids and using a psychotropic. The steroids are in use for a reason and in this case there came a time when they had to be re-increased resulting in a complimentary augmentation of psychiatric medications. One criticism of management here is that everyone involved used terms varying from psychosis to mania to mood disorder and each may have had a different concept of what these mean and their severity. Use of agreed terminology and a validated rating scale could be useful in comparing staff's impression of a given patient from one meeting to the next. We also believe that viewing steroid-induced psychiatric disorder through a biopsychosocial approach is more beneficial than treating it as an isolated agent.

Conclusion: This case demonstrates the serious psychiatric side effects that can occur due to corticosteroids, particularly in the oncological setting where high doses are frequently used. Important warning factors include insomnia and irritability. While Olanzapine has been found to be highly effective there are a number of potential side effects, one of which delayed recovery in this case. In treating these conditions a biopsychosocial approach should be used. While steroids were the predominant trigger in this case, multiple contributing factors are often present.

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Is B Cell Immunoglobulin (BiP) a Useful Biomarker for Multiple Sclerosis?

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Background: Several pathogenic processes such as oxidative stress, inflammation and excitotoxicity may interfere with normal protein folding in the ER, resulting in accumulation of unfolded proteins leading to activation of a stress-signaling pathway known as the unfolded protein response or UPR. This is a pro-survival mechanism but, under conditions of prolonged stress, may result in apoptosis. Proteins associated with this pathway have been shown to be increased in MS lesions and there is a possibility that the components of the pathway could be detected in bodily fluids. To test this hypothesis, saliva samples were collected and the presence of ER stress proteins examined.

Aim: To determine whether endoplasmic reticulum (ER) stress proteins could be useful as biomarkers in patients with Multiple Sclerosis (MS).

Methods: There were 97 participants in the study, 48 patients with MS, 25 with other neurological conditions and 24 normal control volunteers. Dot Blot analysis was carried out on the saliva samples to assess levels of BiP. The dot blot images were quantified using Image J software and statistical analysis was performed using the Kruskal–Wallis test.

Results: The results did not have a normal distribution, although the median value for BiP was higher in the MS group than the neurological and non-neurological controls, the p value was not significant ($p = 0.193$).

Conclusion: Further experimentation is necessary to determine whether ER stress proteins could be valuable as biomarkers.

A Rare Cause of Lactic Acidosis in Acute Severe Asthma

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Background: Lactic acidosis is commonly seen in the intensive care unit (ICU). In the vast majority of cases it is a consequence of shock; occasionally it is due to severe liver dysfunction. We report another, rarely reported cause of lactic acidosis.

Case description: A 78-year-old male was admitted with Acute Severe Asthma. In the emergency department he received multiple doses of nebulized salbutamol and ipratropium bromide, and intravenous steroids. Although initially showing signs of improvement, he later deteriorated. He was severely tachypnoeic (respiratory rate 39); blood pressure 160/100, heart rate 133 bpm. His arterial blood gas was normal apart from steadily rising lactate levels (1.6–4.5 mmol/L). On the assumption that his tachypnea was due to persisting bronchospasm, he was given further nebulized salbutamol. The Critical Care team was contacted and he was admitted to ICU. Although his vital signs and oxygenation remained good, his lactate continued to rise alarmingly. Blood pressure was normal and apart for the lactate level there were no signs suggestive of shock. Liver function tests were normal. A CT scan was used to out-rule bowel ischemia.

In the absence of other identifiable causes, the hyperlactatemia was attributed to his salbutamol medication. Salbutamol was reduced and lactate level rapidly normalized.

Conclusion: There are a small number of previous reports of this phenomenon, which has been attributed to enhanced glycolysis and pyruvate generation. This case highlights a rare but important cause of lactic acidosis in acute severe asthma.

An Interesting Case of Ureteric Obstruction

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Background: Retroperitoneal fibrosis is characterised by the development of extensive fibrosis throughout the retroperitoneum [1]. This fibrosis leads to entrapment and obstruction of the retroperitoneal structures, notably the ureters.

Case: We describe the case of a 56-year-old previously well female who presented with a 3 months history and general malaise, right flank pain and new onset constipation and difficulty passing urine. She initially tried to treat herself by increasing fluid and fruit intake. She saw her and her creatinine was found to have increased to 625 from a previously normal level. She was referred to Beaumont and admitted by the urology team.

Examination: New onset hypertension was noted. Abdominal Exam revealed right flank tenderness, no organomegaly, no lymphadenopathy.

Investigations: US Kidneys, pelvic US, nephrostogram, cystoscopy/uteroscopy and insertion of JJ stents. CT abdomen and pelvis

Results: Specialists in the fields of rheumatology, vascular surgery, nephrology and immunology were involved in this patient's care.

Hb was 10.5 g/dL, normochromic, normocytic. CRP 36 and ESR 89. Creatinine was 625 on admission. There was hydronephrosis of the kidneys and nephrostomy inserted into the right kidney. Creatinine decreased to 250 post nephrostomy. Nephrostogram demonstrated mid ureteric obstruction. Uteroscopy demonstrated extrinsic compression of the collecting system at the level of the pelvic brim. Bilateral JJ stents were inserted and Creatinine decreased to 100. CT of the abdomen and pelvis subsequently demonstrated extensive para aortic inflammatory changes with inflammatory change involving the iliac arteries, intimately associated with the ureters.

Conclusion: Retroperitoneal fibrosis was diagnosed. The patient was commenced on immunosuppression. Uterolysis is being considered

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An Audit of Protection Afforded to Our Paper Healthcare Records

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Objectives: To assess the quality of protection afforded to patient details in traditional healthcare records, the nature of the healthcare records at highest risk, the variation in protection that occurs over the course of a week, and how the level of protection correlates with the visible presence of (1) warnings on the protection of healthcare records and (2) nursing personnel, ward secretaries, medical students and members of the general public.

Methods: A customized audit tool was created. Data was collected in four discrete time periods. Data was collected from all open wards with the exception of day wards, the Emergency Department and the Intensive Care Unit, where reasonable standards of protection were not comparable at baseline.

Results: Unattended medical records were identified outside of the nurses' station on just 14 % of occasions. By contrast, unattended nursing records were identified on 66 % of occasions, and on 66 % of these, there were six or more such records.

Conclusions: Recent focus in the medical literature has shifted to the safe management of electronic information on patients—but the need for vigilance on traditional records in the hospital setting continues to exist. Traditionally, focus was confined to medical charts but as our audit has highlighted, nursing notes are more likely to be left in open view. This may be of greater concern, given that many clinicians acknowledge the greater comprehensiveness and detail of nursing

notes. This audit has provided the impetus for the implementation of measures to safeguard sensitive patient information in all traditional healthcare records.

Acute Lymphoblastic Leukaemia (ALL) Presenting as Myositis

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A 7-year-old boy presented to the Paediatric Department of University Hospital Galway with a 4 day history of left hip pain, exacerbated by movement, with associated fever, malaise, and abdominal pain. There was marked left hip and coccygeal tenderness on examination.

Laboratory tests showed anaemia, neutropaenia, elevated ESR and CRP with raised LDH. Platelets and peripheral blood films were normal.

MRI pelvis revealed bone marrow oedema and left sided intramuscular and fascial oedema in the Gluteus, Iliacus and Piriformis. Impression was myositis, viral cause.

Initially responded to analgesia and empiric antibiotics and was discharged on day 7. However represented 2 weeks later with spiking fever, limp, and left hip pain. Repeat blood tests showed little change and the peripheral film was normal.

Repeat MRI was reviewed by a paediatric radiologist in Our Lady's Children's Hospital, Crumlin (OLCHC), who felt the findings were consistent with marrow infiltration. Bone marrow aspirate diagnosed early pre-B cell acute lymphoblastic leukaemia. He was stratified as low-risk ALL and was commenced on Regime A of UKALL Protocol.

ALL is the commonest childhood cancer, accounting for 25 % of all childhood cancers [1]. With early diagnosis and treatment, cure rate is 80–90 % [1]. Typically these cases present with fever, malaise and weight loss. Bone pain is less common, seen in 20 % of cases [2]. While peripheral blood films can show blast cells in >80 % of cases [3], it is important to note that normal films cannot rule out ALL. If clinical suspicion is strong enough, bone marrow aspirate should be performed.

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Steroid-Induced Mania with Psychotic Features: A Complicated Recovery

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Introduction: Case studies documenting side effects appeared in the very first year of cortisone becoming commercialised [1]. In clinical practice there is a high rate of individual variability in terms of reaction time and severity with features ranging from mild to a psychiatric syndrome that fully meets the criteria [2]. Mania or hypomania has always been the most common with depression, panic attacks and psychosis also documented [3].

Case: We report a case of steroid-induced mania following 1 month of high dose corticosteroid treatment for graft versus host disease in a 36-year-old lady with no past psychiatric history. The consequent course was long and complicated with relapse, need for alteration in treatment and subsequent depression.

Discussion: This case demonstrates how complicated the treatment of steroid-induced mania can become. It is not simply a case of reducing steroids and using a psychotropic. The steroids are in use for a reason and in this case there came a time when they had to be re-increased resulting in a complimentary augmentation of psychiatric medications. One criticism of management here is that everyone involved used terms varying from psychosis to mania to mood disorder and each may have had a different concept of what these mean and their severity. Use of agreed terminology and a validated rating scale could be useful in comparing staff's impression of a given patient from one meeting to the next. We also believe that viewing steroid-induced psychiatric disorder through a biopsychosocial approach is more beneficial than treating it as an isolated agent.

Conclusion: This case demonstrates the serious psychiatric side effects that can occur due to corticosteroids, particularly in the oncological setting where high doses are frequently used. Important warning factors include insomnia and irritability. While Olanzapine has been found to be highly effective there are a number of potential side effects, one of which delayed recovery in this case. In treating these conditions a biopsychosocial approach should be used. While steroids were the predominant trigger in this case, multiple contributing factors are often present.

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The 'Hole' Truth Uncovered—A Case of Young Cryptogenic Stroke

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Approximately 40 % of ischemic strokes have no clearly definable aetiology and are termed cryptogenic strokes. Patent Foramen Ovale (PFO), a small communication between the left and right atria is a possible cause of paradoxical emboli and stroke however the significance of PFO and the role of closure in cryptogenic stroke remains uncertain.

We report the case of a 34-year-old Polish man who presented with acute onset of left sided weakness, facial droop and left visual field deficits. His NIHSS on admission was 6. He had a background significant for a previous ischaemic stroke in 2010, which was attributed to an identified PFO and this was subsequently closed.

On this admission he underwent an urgent CT brain and angiogram, which showed no evidence of acute infarction, but did show a

filling defect in the distal M1 segment of the right MCA. He received thrombolysis and as his NIHSS failed to improve he also received mechanical thrombectomy for the M1 occlusion. An MRI head showed a large recent right MCA territory infarct, it also showed recurrent occlusion of the M1 segment post thrombectomy. As his M1 was thus not fully recanalized he had persistent deficits.

Given his history of a closed PFO he had an urgent transthoracic echo with bubble study, which was negative for any significant intracardiac shunt. He was thus worked up for a cryptogenic stroke. An extended holter revealed no evidence of atrial fibrillation.

Carotid and vertebral artery duplex scans were normal. Laboratory tests showed a normal FBC, CRP, Renal profile, Liver profile, ESR, HbA1c, Lipid profile. Fibrinogen, ANA, ANCA, and ENA were all normal suggesting no evidence of vasculitis. A thrombophilia screen including homocysteine, protein C & S, anti thrombin, factor V leiden, PT, and APTT were normal. His antiphospholipid screen however came back strongly positive with titres of: IgG CAR ab >418.0, IgM CAR ab 50.0 U/mL, IgG B2GP 69.0.

His lupus anticoagulant came back as positive also.

The diagnosis of antiphospholipid syndrome requires two positive tests at least 12 weeks apart. He was seen by Haematology who felt that the diagnosis of primary antiphospholipid syndrome explained this young man's recurrent strokes. He was commenced on warfarin indefinitely. A repeat anticardiolipin screen was again positive 12 weeks later confirming the diagnosis of primary antiphospholipid syndrome.

On further investigation it was discovered that no thrombophilia screen had been taken during his original presentation in 2010 and was hence not anticoagulated. He received extensive multidisciplinary team input and is currently convalescing in the national rehabilitation hospital. He will require lifelong anticoagulation and extensive follow up.

This case illustrates the thorough work up needed for cryptogenic young stroke and the significant morbidity it has. The causative role of identified PFOs and cryptogenic stroke is an uncertain area where there is essential ongoing research, this case highlights the importance of looking beyond the most obvious cause and completing the work up until the whole story emerges.

Two Cases of Uterine Fibroids Causing Extensive Venous Thromboembolism

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Pelvic masses may cause venous stasis and thromboembolism due to mechanical obstruction of the iliac veins or inferior vena cava. This is a common feature with malignant masses, but rather unusual with benign pelvic pathology.

Surgery is difficult as anticoagulants need to be reversed to reduce intraoperative haemorrhage, but patients are at an increased risk of life-threatening pulmonary thromboembolism during this period.

We describe two case reports of fibroids causing extensive iliac vein thrombosis. Both patients presented initially with left lower limb swelling, then a large pelvic mass >15 cms was subsequently diagnosed through clinical examination and imaging.

The first is a 30-year-old multiparous lady who had a left sided above knee DVT and a large left iliac vein thrombus. Insertion of a vena caval filter was attempted but was not possible to distorted anatomy. She underwent uterine artery embolisation, and was

commenced on warfarin. She then had a total abdominal hysterectomy and bilateral salpingectomy 3 months later. Histology confirmed a benign leiomyoma.

The second is a 37-year-old nulliparous lady who had an extensive thrombus of the left iliac venous system with compression of the infrarenal vena cava and a thrombus in the right ovarian vein.

Insertion of a caval filter was not possible due to difficulty in access. She was commenced on therapeutic heparin following multidisciplinary discussion. Preoperative uterine artery embolisation was performed 6 weeks later, followed by a myomectomy. Histology confirmed a benign leiomyoma with hyaline necrosis.

Both patients had an uneventful postoperative course.

A Curious Case of Stroke

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Background: Recent studies in the US have shown a marked increase in the rate of ischaemic stroke among HIV infected people, with patients in this cohort three times more likely to suffer a stroke than people uninfected by the virus [1].

Clinical vignette: A 53-year-old male presented with a 2 week history of slurred speech, visual disturbance and left upper limb hemiparesis. He had no significant medical history. On physical examination, he has an evident dense left homonymous hemianopia, a right upper motor neuron VIIth nerve lesion and right upper limb drift. Brain MRI showed subacute multifocal infarction. Transoesophageal echocardiogram was positive for a patent foramen ovale.

Discussion: The etiology of cerebrovascular events in HIV infected patients are manifold with the following factors proposed as playing a role in the relationship between HIV infection and stroke: (i) HIV-associated dyslipidemia, (ii) cardioembolic events stemming from increased levels of hypertension and endothelial dysfunction, (iii) opportunistic infectious meningitides and vasculitides, (iv) primary HIV vasculopathy, (v) Altered coagulation: decrease in proteins C and S is associated with HIV infection, this prothrombotic state in the context of a patent foramen ovale can result in multifocal cerebral pathology [2].

Conclusion: Recurrent or multifocal strokes can be the presenting manifestation of an underlying HIV infection and in the light of preliminary results of the M-BRIHT Study project at the Mater hospital's A&E department, which demonstrated a rate of HIV positivity of 2.85 cases for every thousand tested, we must be increasingly cognisant of its presence [3].

References:

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Epidemiology of Ankle Injuries in Our Emergency Department

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Introduction: Ankle sprains are one of the most common injuries presenting to emergency departments, representing 3–5 % of all visits in the UK, and 10 % of all injury-related visits in the USA. Ankle ligamentous sprain injury is the most common single type of acute sport trauma. Over the years, various preventative strategies have been implemented; however, a recent epidemiology revealed that ankle sprain injury still dominated in sport injury, as it accounted for 14 % of all attendance in an accident and emergency department. Among ankle injuries, ankle sprain injury accounts for more than 80 %, and is also the most common single type of sport-related trauma among all body sites.

Objectives: To describe the epidemiology of ankle sprains and fractures among the general population. A second aim of this audit is to assess the use of the Ottawa rules in triaging ankle injuries.

Methods: A retrospective audit of 100 cases of ankle injuries in the emergency department in the University hospital Limerick was conducted.

Results: A total of one hundred cases of ankle injuries were reviewed, 54 of which were males. The average patient age was 28 years (4–96 years). 53 % of people presented within 24 h of injury while the longest period prior to presenting to the emergency services was 28 days. Self referrals accounted for 53 % of attendances while GP referrals contributed a further 37 % of cases. In relation to the site of injury, the sports field was responsible for 29 % of ankle injuries, three (10.3 %) of which were subsequently radiologically diagnosed as fractures. The Ottawa rules of assessment were implemented in 12 cases. A total of 25 fractures were diagnosed.

Conclusions: As there is a global trend of mass participation in recreational sports, the management and prevention of ankle injuries will become essential topics in sports medicine. Information on the epidemiology of ankle sprains and fractures may facilitate planning for health policy and the provision of health services.

A Case of ‘Tangled’ Gut

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The case we present centres on an all too common presentation to ED across the country—the presentation with abdominal pain.

This is the case of a 15-year-old girl who presented with intermittent epigastric pain, lasting 2–3 h with no identifiable triggers. This pain had been present for 3 years and was associated with a 3 year history of foul smelling stool, a 6–8 month history of loss of appetite and a 1 month history of morning gagging and vomiting and early satiety. Examination was unremarkable aside from a large, smooth, non-tender epigastric mass which moved with respiration.

Social history was non-contributory. She was investigated with a CT TAP, which demonstrated a low attenuation mass in the stomach surrounded by oral contrast. This was suggestive of trichobezoar, a diagnosis confirmed at OGD. In her case the trichobezoar extended into the small intestine, confirming a diagnosis of Rapunzel Syndrome [1]. The trichobezoar was removed at laparotomy and the patient did well post operatively.

This girl was diagnosed and treated with the gold standard regimen for Rapunzel Syndrome but her treatment does not stop there [2]. It is important to address the underlying psychiatric conditions of trichotillomania and trichophagia that caused her acute presentation.

This case is important as it reminds us of the necessity of considering underlying psychiatric conditions in what originally appears to be an acute surgical presentation. In psychiatric conditions, patients can become expert at hiding their symptoms and it is up to the treating doctor to have these masked conditions in their differential diagnosis in order to identify them on the rare occasions that they present.

References:

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The Assessment of a Musician Presenting to Primary Care

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Musician’s Injury (MuIn) is a relatively new subspecialty in medicine, assessing and managing performance-related injuries sustained by professional and student musicians. It has been established that such injuries can limit performance ability, and in some cases, be career ending. A musician presenting to Primary Care with such an injury requires access to and assessment by a Multidisciplinary Team which may involve specialist physicians such as neurosurgery and allied health professionals including physiotherapy.

An audit of 26 musicians presenting to Dublin Performing Artists Medical Centre with performance related injury was carried out in 2013 to establish how early musicians present, the types of injuries they sustain and how they are treated.

For those who present early, intervention and prevention of further career-threatening injury could be achieved. The majority of musicians played stringed instruments, a number somewhat skewed by the higher proportion of string players within the musician population. The style of music played by those who presented included Classical, Jazz or Blues, Rock and Irish Traditional Music. It is unclear whether the larger number of Classical musicians is skewed by their familiarity with the services now available to musicians.

Pain is a signal chronic injury, especially if experienced at rest and associated with swelling. Appropriate recognition and management of such a sign is essential to the continuance of performance at a professional level. Many of the neuromuscular and musculoskeletal presentations respond to physiotherapy, however others, including focal dystonia require specialist management.

A Challenging Case of Extensive Renal Cell Carcinoma

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This is the case of a 57-year-old farmer who initially presented with two episodes of frank hematuria. He had a medical history significant

for hypertension, had no other symptoms and was otherwise fit leading an independent life. A bladder ultrasound and cystoscopy were booked and revealed a large bladder hematoma. After these findings he had a CT thorax and CT urogram which reported a right renal mass, tumor thrombus in the right renal vein and pulmonary nodules. He was transferred to our service where he proceeded to further testing. An MR venogram showed a large partially necrotic renal mass compatible with RCC with renal sinus and renal vein extension. The mass abutted the posterior right lobe of the liver and a thrombus extending into the right atrium was again confirmed. At this point the working diagnosis was an extensive renal cell carcinoma with definite cardiopulmonary involvement. CT brain and a bone scan were fortunately clear. A trans-thoracic echo was then scheduled and overall cardiac function was deemed satisfactory and there was no significant tumor thrombus. The case was discussed at length with hepatobiliary surgery and at an MDM involving cardiothoracic surgery. It was decided that this gentleman would be suitable for a right radical nephrectomy with removal of an inferior vena cava and right atrium thrombus. He made a tremendous recovery and was discharged from hospital day 10 post op. The pulmonary nodules are still suspicious for pulmonary metastases and will be followed up with interval scans.

Assessment of the Adequacy of Investigation and Follow-Up of Deep Venous Thrombosis Referral to the Acute Medical Assessment Unit

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Introduction: The Acute Medical Assessment Unit (AMAU) at University Hospital Limerick (UHL) investigates, diagnoses and initiates management for patients referred for suspected DVT on a daily basis.

Objective: The aim of this clinical audit is to evaluate the adequacy of diagnostic process, follow-up of patients with suspected DVT. The recommendations in the Nice guidelines; ‘Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing’ 1 will be used as comparison for best practice.

Methods: A retrospective audit of the DVT referrals for the month of May 2013 was conducted. The way each patient was evaluated and followed up was recorded and data were tabulated in Microsoft Words: Mac 2011.

Results: 30 patients were enrolled. A history, physical examination, well’s score and D—dimer were performed for all suspected DVT referrals. Out of 30—8 (26.7 %) had a likely two-level DVT well’s score (≥ 2) and the remaining 22 (73.3 %) had an unlikely two-level DVT well’s score (≤ 1). Among the group of 8 with likely Wells score—6 (20 %) had a raised D-dimer and they all had a Doppler ultrasound of the affected lower leg. 2 (6.67 %) of those ultrasounds were positive for DVT and 4 (13.3 %) were negative. Out of the 4 negative dopplers—3 patients were discharged with no follow-up and 1 was scheduled for review of symptoms within 1 week. Among the group of 22 with unlikely wells score—11 (36.7 %) had a raised D-dimer. Only 1 (3.33 %) out of this group of 11 had a lower leg ultrasound, which was negative and discharged with no further follow-up. Out of the remaining 10—6 (20 %) were discharged with no plan to follow-up and 4 (13.3 %) had an appointment for review of symptoms within 1 week.

Discussion: The Nice guidelines recommend that for patients with unlikely Wells score and a positive D-dimer; a Doppler ultrasound should be carried out within either 4 h of presentation or within 24 h of presentation and in the last case interim of 24-h

Dose of parenteral anticoagulant is needed. The second recommendation is for a Doppler ultrasound scan is repeated 6–8 days later for all patients with a positive D-dimer test and a negative initial Doppler ultrasound [1].

Conclusion: In the group of patients with unlikely Wells score and raised d—dimer; a significant percentage (90.9 %) were discharged without receiving Doppler scan. In the group of patients with likely Wells score and raised D-dimer but with negative initial Doppler ultrasound—there was no repeat Doppler scan as recommended in the Nice guidelines. With 2 slots for Doppler ultrasound scan per day; there are limited resources for follow-up of patients with raised D-dimer and negative initial Doppler and limited resources to provide a Doppler scan to patients with unlikely Wells and raised D-dimer. In these situations, clinical judgment is used to allocate the Doppler scans to patients.

Reference:

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Clinical Risk and Discharge Against Medical Advice (DAMA); the Pursuit of Patient Safety in Challenging Circumstances

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Background: The phenomenon of discharge against medical advice (DAMA) where patients leave an in-patient or Emergency Department location prior to completion of treatment is a recognized feature of modern healthcare. Such patients are often vulnerable and many have additional mercurial behaviours which further multiply the mortality and readmission risk [2]. Patients contemplating DAMA should have greater attention paid to their care before, and especially after any premature discharge [1].

Aims: Our aim was to study the current DAMA practices specifically with regard to the existing DAMA protocol & documentation and the adequacy of communication.

Method: We retrospectively studied DAMAs from in-patient wards for the period January 1st 2012 until December 31st 2012. We recorded basic demographics, re-admissions, mortality, and presence of discharge summary or communication with primary care [3].

Results: 44 episodes of DAMA were identified, of which 30 (68 %) were male. With regard to age, 55 % of individuals fell within the 40–65 age category. Median length of stay was 4.5 days. 9 (20 %) represented to hospital following DAMA; 5/9 within 14 days. 2 individuals died during the study period.

Documentation revealed deficiencies in the assessment of capacity and discussions of risk. In over 50 % of cases there was no discharge summary or formal communication with primary care.

Conclusion: Before DAMA, patients have a capacity assessment and that this should be clearly recorded. The patient and physician should both be aware of the increased mortality risk that derives from DAMA. Thorough documentation and follow-up is essential in such cases.

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Awareness and Uptake of Novel Oral Anti-Coagulants in the Community

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Introduction: Recently evidence has emerged that newer anti coagulants directed mainly at thrombin and Factor X have proven to be equally as effective as warfarin in the prevention of atrial fibrillation related cerebrovascular accidents and in the treatment of pulmonary embolism, whilst having the favorable advantage of not requiring a monitored response to treatment as is required on warfarin therapy

Aim: To assess the awareness and level of knowledge in the community of the novel oral anti-coagulant therapies available on the market and to determine potential uptake.

Methods: A single 16 point questionnaire was distributed randomly over a period of 5 weeks to patients attending an anti-coagulation clinic in a single institution. A sample size of 100 was used.

Results: Atrial fibrillation was the most common reason for anti-coagulation (52 %).

10 % had heard of Dabigatran 4 % of Rivaroxaban, and 3 % of Apixaban.

64 % had no issue with INR monitoring while 32 % felt it was an inconvenience. 93 % had normal kidney function. 15 % admitted to having knowledge of advantages of novel therapies. 62 % wished to switch off warfarin. 80 % had their INR in desired range. 83 % had no information about the cost of new anticoagulants. 89 % had no knowledge of adverse effects. 90 % had no prior discussion with their own doctor.

Conclusion: Less patients found monitoring inconvenient than may have be portrayed. A high number wish to switch with poor knowledge. Awareness is still poor.

Audit of the Management of Diabetic Ketoacidosis in an Acute Medical Setting

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Background: Diabetic ketoacidosis (DKA) is a medical emergency with features including: hyperglycaemia, ketonuria/ketonaemia, high anion gap and metabolic acidosis [1]. Local guidelines exist for the management of DKA in MMUH.

Aim: The aim of this study was to audit the management of DKA. For the purposes of this abstract, I report the compliance with laboratory investigations conducted during the initial 12 h of admission.

Methods: Data on 17 patients admitted with DKA from January to June 2013 was analysed. Clinical management was audited against the standards set in the local guidelines. Laboratory investigations reviewed included renal profile, arterial/venous blood gas, plasma venous glucose, serum ketones, serum lactate, and urinary ketones.

Results: In the first 12 h of admission, 64.6 % of patients did not have repeat plasma venous glucose levels conducted. 41.2 % of patients had serum ketones measured on initial bloods, compared to a greater proportion having urinary ketones measured. 11.8 % did not have a repeat blood gas analysis conducted in the first 12 h.

Conclusion: It is apparent that there are large discrepancies noted amongst Physicians regarding biochemical investigations to conduct and at relevant intervals, once diagnosis has been made. Adherence to local guidelines therefore should be encouraged and further education required.

Reference:

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Advanced Pancoast's Tumour on a Background of Chronic Obstructive Pulmonary Disease and Pulmonary Tuberculosis—A Note on Inter

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Introduction: Inter-observer discrepancy in radiography interpretation is a crucial factor in the sequence of patient treatment.

Case discussion: JW, a 77 year old male ex-smoker with a background of COPD and pulmonary TB presented to University Hospital Limerick with a 24 h history of urinary retention, thoracic back pain, and bilateral lower limb weakness. This occurred on a 4 month history of left shoulder pain, anorexia and weight loss. Based on his symptomatology, he was scheduled for urgent CT and received an erect chest radiograph in Limerick which demonstrated findings of locally advanced Pancoast's tumour.

He was transferred to the Mater hospital orthopaedic service with a provisional diagnosis of cauda equina syndrome. He underwent an urgent contrast CT TAP, revealing a large 7 × 6 cm soft tissue mass in the left superior sulcus, with invasion of posterior chest wall, left erector spinae muscles, and transverse processes of T2–4 inclusive.

One month prior he was admitted with an exacerbation of COPD to UHL, whereby he received two serial PA erect chest radiographs. The former had an appearance consistent with a normal radiograph, and the latter reported as showing fibrocalcific disease in left upper lobe consistent with prior pulmonary TB.

His case was consulted by both the respiratory and cardiothoracic services in the Mater who agreed that neither surgical intervention nor radiotherapy would be suitable, given the limited chance of recovery and proximity to spinal cord, respectively.

Conclusion: This patient's case highlights the limitation of plain film radiography in malignancy detection, and the significance of careful radiographic interpretation by healthcare workers [1], as well as the importance of heightened awareness of a potential diagnosis of malignancy given a suggestive respiratory history [2].

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An Audit of the Prescribing of Anticholinergic Medication in a Mental Health Outpatient Department

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Introduction: Anticholinergic drugs are extensively used in mental health settings. However, clinical research and guidance on their use is scant. Their short-term adverse effects include constipation, dry mouth, blurred vision and tachycardia [1]. Their longer-term side effects include cognitive impairment, agitation and the initiation or worsening of tardive dyskinesia [1]. The World Health Organization recommends that anticholinergics should not be routinely prescribed for the treatment of extrapyramidal side effects in individuals on antipsychotics [2]. Their use should be short-term and restricted to individuals with significant extrapyramidal side effects, when dose reduction and switching strategies have proven ineffective, or when side effects are acute or severe [2].

Method: A sample of patients on depot antipsychotic medications attending an outpatient psychiatric service was retrospectively audited using medical charts. Standards were developed from several evidence-based sources [3]. We aimed to audit the number of anticholinergics prescribed per patient, the daily dose of anticholinergics prescribed, the duration of anticholinergic use and to establish if the long-term use of anticholinergics was being reviewed quarterly.

Results: Eighty-one patients were audited ($n = 81$). Of the 81 patients on depot antipsychotics, 44 % were prescribed anticholinergic medications ($n = 36$). 66 % of those patients were prescribed Biperiden ($n = 24$) and the remaining 33 % were prescribed Procyclidine ($n = 12$). None of the patients were prescribed more than one anticholinergic medication. Furthermore, none of the patients were prescribed doses that exceeded the limits set out in the British National Formulary [1]. Of those prescribed anticholinergics, 31 % have been taking them for longer than 3 years ($n = 11$) and 17 % have been taking them for less than 1 year ($n = 6$). 17 % of the patients had their anticholinergic prescriptions reviewed in the 3 months prior to the audit ($n = 6$).

Conclusion: The audit exposed a lack of regular review of anticholinergic medications and revealed that these drugs were frequently prescribed to patients on depot antipsychotic medication on a long-term basis.

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An Important Differential of Dementia

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A 69-year-old man presented to his GP, due to his wife's concern over progressive change in his behaviour across the previous 5 weeks. The GP noted confusion, confabulation and aggressiveness. His wife reported a failure to identify friends and family. His background included vitamin-B12 deficiency, hypertension, and ischaemic heart disease. There was no prior neurological history. Psychiatric history included chronic alcohol abuse.

MMSE was 15/30. There was no nausea, vomiting, headache, visual changes or focal neurological signs. Initial differential included vascular dementia, cognitive impairment due to vitamin-B12 deficiency and alcohol-related dementia. However, as collateral history indicated such rapid cognitive decline, he was referred to the emergency-department of his local hospital.

Routine bloods were completed and these were found to be within the normal range. MRI brain revealed a large mass (7.9×4.9 cm) in the left temporoparietal lobe with surrounding oedema and an associated mass-effect highly suggestive of Glioblastoma Multiforme. He was then transferred to a tertiary centre for radical neurosurgical debulking. 80–95 % of the tumour was successfully removed and he was discharged directly home 3-and-a-half weeks after his initial presentation. MMSE improved to 23/30, and he was able to identify and converse relatively normally with family and friends.

Although it usually also presents with headache and focal neurological deficits, cognitive impairment can be the only presenting feature of Glioblastoma Multiforme. Despite recent advances in treating other malignancies, current treatment continues to allow only modest extension to life. However, this case highlights the improvements in cognition and quality-of-life that are achievable.

The Evolving Management of the Axilla in Node Positive Breast Cancer

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Introduction: The management of the axilla in node positive breast cancer is an evolving area, of much discussion amongst experts. Traditionally, patients with node positive breast cancer underwent completion axillary clearance followed by adjuvant chemotherapy. Recent evidence [1] has led to some practice changes, namely the omission of AC in early breast cancer and the scheduling of chemotherapy before completion AC in node positive breast cancer patients.

Aims: The aim of our study was to assess the outcomes of these practice changes at our breast cancer centre.

Methods: We carried out a retrospective cohort study of patients with positive sentinel lymph node biopsies (SLNB) at our institution from January 2011 to December 2012. Data was retrieved from an existing database and correlated with pathology reports. We focused specifically on date of initial surgery, date of completion of adjuvant therapy and pathological evidence of chemotherapy response.

Results: 103 patients had a positive SLNB, with 57 then undergoing completion AC. 22 of these patients received their chemotherapy prior to completion AC. Of these 22 patients, 9 had positive nodes at AC and we identified a partial/complete chemotherapy response in 3.

Discussion: In conclusion, our study shows evidence of the changing management of the axilla in node positive breast cancer patients. The scheduling of chemotherapy prior to completion AC may provide prognostic information in those with a positive SLNB without impacting on overall duration of therapy.

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Tumour Related Leukocytosis in Lung Carcinoma

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Introduction: Leukocytosis is a common feature of malignancy. It is caused by a number of different processes—underling infection, bone marrow involvement and tumour production of hematopoietic factors or tumour related leukocytosis. Tumour related Leukocytosis (TRL) is particularly prevalent in solid lung tumours. Here, I will describe a rare case of tumour related hyperleukocytosis (WCC >50,000), review the literature and discuss the prognostic indication and risks associated with the condition.

Case: BM, a 62 year old male, presented to ED following a 1 month course of frequent visits to his GP for treatment of a chest infection. On referral to ED his community CXRs had progressed from an initial left basal consolidation to left lower lobe collapse with superimposed pleural effusion. Symptoms over the previous month were SOBOE, cough, night sweats and LHS chest pain. On presentation to ED he was admitted. CXR showed a complete opacification of the left hemithorax and his WCC was 48,000. He proceeded to have a CT thorax, which showed occlusion of the left mainstem bronchus and complete left lung collapse. A histopathological diagnosis of poorly differentiated squamous cell carcinoma was made. During his inpatient stay his WCC climbed as high as 110,000. He is for bronchial stenting and radiotherapy with possible future chemotherapy planned.

Clinical significance: On review of the literature it quickly becomes apparent that TRL is a poor prognostic factor. In one study NSCLC associated with TRL was shown to have an even poorer prognosis than small cell lung cancer. As well as being a poor prognostic factor it is a significant risk for VTE, which these patient groups are already at extremely high risk for.

References:

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An Unusual Cause of Back Pain

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Background: This case highlights the challenges of diagnosing and managing a patient with a rare cause of proximal DVT which also requires exploration of new frontiers in medicine, surgery and interventional radiology for future management.

Case: A 37-year-old man presented to the emergency department complaining of lower back and abdominal pain and feeling generally

unwell on a background of recent diagnosis of hyperthyroidism. Work up led to a preliminary diagnosis of thyrotoxicosis. Abdominal Ultrasound for investigation of incidental minor liver profile abnormality revealed complex renal cysts. Further Triple phase renal CT led to discovery of suprarenal IVC atresia with large associated large vein proximal thrombosis and collateralisation. Interventional radiology catheter directed thrombolysis was performed with good results.

Discussion: The incidence of IVC atresia in the general population lies between 0.0005 and 1 %. It is a rare vascular malformation causing proximal deep vein thrombosis. Intervention is necessary to prevent longterm complications of venous insufficiency and manage symptoms such as erectile dysfunction. Options include surgical grafting or re-cannallisation using pioneering techniques in interventional radiology. These interventions require highly specialised input with multidisciplinary, cross-border co-operation.

Outflow Tract Ventricular Arrhythmia Induced Cardiac Arrest

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A 50-year-old male presented with a 2-month history of dyspnoea, palpitations, light-headedness and chest pain described as a pressure-like across his chest. Baseline ECG was normal, specifically there was no ischemia or pre-excitation evident and electrocardiographic intervals were normal. Serial troponins and echocardiography were normal. Telemetry demonstrated frequent symptomatic runs of self-terminating broad complex tachycardia, with left bundle branch morphology and inferior axis, consistent with Right Ventricular Outflow Tract (RVOT) tachycardia. Coronary angiography was normal, outruling an ischemic trigger. Cardiac MRI was normal, outruling an infiltrative intramyocardial process. Symptoms and telemetry settles with commencement of bisoprolol. He was discharged from hospital for an outpatient EP evaluation, at which the diagnosis of RVOT tachycardia was confirmed and continued beta-blockade was advised.

The patient re-presented to the emergency department with epigastric pain, but soon after admission suffered a witnessed cardiac arrest. The cardiac rhythm was shown to degenerate from RVOT tachycardia to torsades de pointes and ultimately ventricular fibrillation. After appropriate CPR and multiple shocks, spontaneous circulation returned. The patient made a full recovery and an implantable cardiac defibrillator was inserted prior to discharge.

Typically outflow tract arrhythmias (OTA) occur between 20 and 40 years of age and require investigations [1]. 80 % of OTA originate in the RVOT; generally these are benign and do not cause any structural myocardial damage [1]. Rarely they can manifest as sudden cardiac death [2]. Acutely OTA may respond to carotid sinus massage or intravenous adenosine or verapamil [1]. Long-term treatment includes beta-blockers or calcium-channel blockers [1]. Radiofrequency catheter ablation also works effectively in refractory cases [3].

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Life-Threatening Variceal Bleed in the Fit Young Male

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Portal Venous Thrombosis probably accounts for only 5–10 % of portal hypertension in the developed world [1], and many of these cases suffer from coexistent cirrhosis [2]. Underlying most cases of PVT is a prothrombotic state and, especially in cases such the one we describe here, where cirrhosis is *not* also present, it is imperative to seek causes of deranged haemostasis.

A 32-year-old male presented to hospital in Drogheda with recent melaena and haematemesis, which developed into a frank variceal haemorrhage. Managed with a Sengstaken–Blakemore tube, intubated and ventilated, he was transferred to the Mater Hospital where a variceal banding procedure was successful.

JK, an iron man triathlete with minimal alcohol intake and no history of liver disease, seemed initially to have a distinctly atypical background for a presentation of this type. However, a more thorough history revealed occurrence of venous sinus thrombosis at 11 years old and a posterior circulation infarct at the age of 26.

A CT abdomen and duplex ultrasound of the hepatic portal vein duly identified portal vein thrombosis. We followed with a full thrombophilia screen which, despite broad investigation, revealed no abnormalities.

Despite the unremarkable thrombophilia screen, JK was managed as a patient in a presumed prothrombotic state with warfarin and recovered well. His case highlights the myriad threats that such haemostatic derangements pose to patients of any age, and the importance of medical history in quickly identifying the culprit lesion.

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Mechanistic Modeling of the Role of MR Contrast Agents in Arthrographic Joint MRI in the Presence of Iodinated Contrast: A Phant

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Background: Hospital policy made the transition from MR contrast agent Magnevist to newer agent Gadovist that has a lower incidence

of nephrogenic systemic fibrosis. MR arthrograms became inconsistent in terms of signal intensity with this new agent with slightly different properties. Literature of optimum preparation of Gadovist for MR arthrogram was lacking.

Hypothesis: Does a new contrast agent, Gadovist, with stronger T1 relaxation often create inconsistent signal enhancement when injected in joints for MR arthrograms compared to a somewhat weaker T1 relaxation agent, Magnevist.

Methods: Usual arthrographic joint preparation and MR imaging requires the following steps in the X ray and MRI departments:

1. Saline and Ioversal mixture (50:50) are injected first under fluoroscopic guidance to ensure needle placement within the correct joint space
2. Upon satisfactory access to desired joint space 1/200th dilution of MR contrast agents (Magnevist or Gadovist) are injected into the joint
3. The patient is positioned in the MRI system within 10–15 min and spin echo T1 is used to preferentially image the joint of interest where MR contrast and Ioversal have spread as a consequence of ligament or meniscal tear.
4. Due to enhanced relaxivity of MR contrast agent (Magnevist or Gadovist) the affected areas are expected to have higher signal intensity due to the presence of the MR contrast agent while the “normal” tissues should appear less intense in the absence of Magnevist or Gadovist.

Results: Pending.

A Cystic Metastasis of the Scapula Secondary to Squamous Cell Carcinoma of the Lung. A Case Report

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Case description: An 82-year-old male referred by the GP to the Medicine for the Elderly Clinic for 6 month history of worsening malaise and right shoulder pain, and more recently, 3 week history of an enlarging mass of the right scapula and hypercalcaemia.

An ultrasound guided biopsy of the mass revealed a poorly differentiated Squamous Cell Carcinoma on histology with atypical cells in an inflammatory background on cytology-likely metastatic in origin.

As a lung lesion was felt to be the most likely cause, a bronchoscopy was subsequently carried out which found moderately differentiated Squamous Cell Carcinoma on histology. It was staged radiologically as a T3 N2 M1b tumour-with an abnormal adrenal also discovered on PET CT.

On discussion at the Lung MDT, Palliative treatment was deemed the most appropriate, with a radiologically inserted pig tail drain, and local radiotherapy to the lesion both attempted. The patient has since had multiple readmissions due to dislodgement of the drain and recollection of the fluid, which requires reinsertion of the drain on each occasion.

Bleeps Evaluation—A Quality Improvement Project

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The bleep remains an invaluable tool amongst interns. This quality improvement project has been conducted prospectively to investigate the current bleep patterns of interns on call in University Hospital Limerick (UHL) with a view to develop a future bleep policy for interns. The interns in UHL are provided with a questionnaire to record the various tasks they were bleeped by nurses on duty. A total of 856 bleeps were recorded from 37 on-call shifts over a period of 3 weeks. The data obtained is tabulated below.

Table 1 Nature and frequency of bleeps

Categories	Number of bleeps	Percentage (%)
Patient care	291	34.00
Administrative	97	11.33
Clerical	216	25.23
Clinical procedures	252	29.44
Total	856	100

Patient care accounts for 34.00 % of bleeps with 29.44 % for clinical procedures. A very significant 36.56 % of bleeps were for administrative and clerical categories which may not be urgent. The limitation to this study is the potential overlap between categories and as non patient care categories are the foundation towards patient's outcome which might be equally urgent in some instances. Bleeps do cause interruptions and disruptions to intern's work and rest. Any inappropriate bleeps would ultimately result in reduction of quality of patient care. Therefore, an introduction to a Bleep Policy in UHL drawing from international guidelines and best practice [1] would be most relevant. Consideration could also be given to alternative methods of communication such as the alphanumeric system [2]. These measures could have a positive impact on interns and thereby improve patient care.

References:

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Audit of Diuretic Therapy Monitoring in a General Practice: Are Patients Having Their Electrolytes Checked?

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Background: Diuretics are widely prescribed in Primary Care for indications such as hypertension and heart failure. Diuretics have side effects that can have serious consequences. Monitoring for electrolyte disturbance is recommended. (1) NICE CG 127 "Hypertension: Clinical Management of primary hypertension in adults". An annual check is recommended for patients on treatment for hypertension. (2) NICE CG 108-Patients receiving diuretics for Chronic Heart Failure should have their electrolytes checked at least every 6 months.

Aims and objective: In a GP practice: To identify all patients receiving diuretics for hypertension or heart failure and to measure percentage of these patients who have had electrolytes checked (1) in the last year or (2) in the last 6 months. A rate of 90 % is the acceptable target.

Methods: Using the 'population analysis' function on Health One computer system in a GP practice, all patients receiving diuretic therapy were identified. All diuretic patients who had their electrolyte levels monitored (1) in the last 12 months and (2) in the last 6/12 were identified. Of the patients on diuretics who did not have their electrolytes measured, it was determined if there had been a missed opportunity i.e. a consultation where blood could have been taken and tested. It was also studied if there was any correlation with private/public status and whether a patient had electrolytes monitored.

Results and analysis: 200 patients of the practice were prescribed diuretics (so far 45 analysed)

Implications: It is possible on the Health One system to flag patients who are due a blood test.

Audit of Cardiovascular Risk Factor Management in Chronic Kidney Disease Patients

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Background: Cardiovascular disease is a major concern in patients with chronic kidney disease. Patients with chronic kidney disease have a higher risk of death from cardiovascular disease than progression to end stage renal disease [1]. Both albuminuria and reduced GFR and associated with increased cardiovascular morbidity [1].

Aims: The aim of this audit was to identify patients attending Stranorlar Health Centre, Co. Donegal with Chronic Kidney Disease (CKD) and to assess if their Cardiovascular (CVD) risk factors were adequately managed. This was a pertinent issue as the numbers of patients with chronic kidney disease in the practice has increased from 34 in 2009 to 63 in 2013.

Methods: The Socrates software system was used to identify patients that met the ICD-10 criteria for chronic renal disease. This consisted of patients with reduced glomerular filtration rate for greater than 3 months which were classified as group 1–5 based on GFR. We assessed the risk factors hypertension, diabetes and hyperlipidaemia retrospectively to identify those patients receiving suboptimal minimisation of these risk factors. We looked at maximisation of these risk factors in patients in stages 3–5 CKD.

Results: A total of 64 patients were deemed eligible for inclusion. The majority of patients audited had 2 or more cardiovascular risk factors. The most prevalent risk factor was hypertension. All patients with diagnosed hypertension were on appropriate pharmacologic treatment. Lipid control and diabetic control were suboptimal. 75 % of stage 3a patients with hyperlipidaemia were on a lipid lowering agent, followed by 37.5 % of Stage 3b and none of the stage 4 patients. Diabetes mellitus was the most poorly controlled CVD risk factor an average HBA1C 8.2 % for stage 3 and 4 patients.

Conclusions: There continues to be a substantial cardiovascular risk associated with chronic renal disease. There is a greater need for increased diabetic and lipid control in this patient cohort. This audit has resulted in the identified patients being individually followed up with medication review.

Reference:

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Inflammatory Bowel Disease Stricture: A Prime Mover or an Innocent Observer

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Introduction: Cytomegalovirus is a member of the Herpes Virus Family, which may infect 40–70 % of the adult population at some stage in their life, most frequently in immunocompromised patients.

Case description: A 53-year-old female presented with crampy abdominal pain, bloating and loose bowel motions with a background history of ileocaectomy in 2007 for Crohn's Disease. Physical examination was normal with laboratory parameters unremarkable. Colonoscopy demonstrated an anastomotic ileal stricture, biopsy of which confirmed chronic inflammation. Magnetic Resonance Enterography confirmed the stricture proximal to ileocolic anastomosis. Conservative management utilizing prednisolone, Immunomodulators and biologics conferred no benefit. Repeat colonoscopy confirmed a fixed fibrous stricture not amenable to balloon dilatation. Following multi disciplinary meeting discussion, with consciousness of previous laparotomy, a laparoscopic resection of 11 cm in region of ileocolic anastomosis was performed. Histopathological assessment disclosed anastomotic ulceration with no transmural inflammation or active ileocolitis. Immunohistochemistry demonstrated endothelial cells infiltrated by cytomegalovirus. Following Infectious Disease consultation, Vanganciclovir was administered with steroid tapering.

Discussion: Cytomegalovirus infection involving the gastro-intestinal tract is exacerbated in inflammatory bowel disease, most especially those who develop immunosuppression as a consequence of steroid dependence. Diagnosing cytomegalovirus directly involving the gastro-intestinal tract requires sub-mucosal biopsy of ulcerating area in the segment of bowel. The final discussion point of this case revolved around the potential use of laparoscopic surgical approach in individuals who had previous open laparotomy.

Small Bowel Obstruction Caused by the Ingestion of Magnets

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A 10-year-old boy with a history of prior abdominal surgeries presented to the ED around midnight with a 6 h history of abdominal pain and profuse bilious vomiting. He had passed a bowel movement that morning but had become obstipated in the past few hours. On examination, he appeared lethargic, his abdomen was distended and tender particularly in the periumbilical region. No rebound tenderness was observed. His vital signs were stable and laboratory

investigations were normal. An abdominal radiograph in A&E demonstrated a prominent loop of small bowel in the central abdomen with an air fluid level. As the patient's past surgical history included an open appendectomy for a perforated appendix 16 months prior, and more recently an umbilical hernia repair, the clinical picture was suggestive of a mechanical SBO due to adhesions. However, the PFA also revealed a radiopaque density projected over the midline.

Following a day of observation, and non-resolving symptoms, a laparotomy was performed with a finding of multiple small magnetic beads adhering adjacent loops of distal ileum via a sealed local perforation. The involved segment was resected (approximately 10 cm) and the small bowel was joined with a primary hand-sewn anastomosis. The postoperative period was uneventful with a repeat PFA confirming removal of all foreign bodies. This case demonstrates an unusual underlying cause for a typical presentation of SBO and perhaps additionally emphasizes the importance of broadening the scope of etiology when dealing with the mischievous child demographic.

A Case of Hyponatraemia in a Patient with Panhypopituitarism

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A 41-year-old lady presented with a 3 day history of reduced mobility, reduced appetite and increased confusion. This was on a background of primary CNS lymphoma diagnosed 2 years prior, treated with chemotherapy and radiotherapy, causing panhypopituitarism and cognitive difficulties. Medications included desmopressin, hydrocortisone, levothyroxine, risperidone and levetiracetam. Physical exam, including neurological and cranial nerve exam, was normal. Serum analysis revealed serum sodium of 108 mmol/L, serum osmolality of 227 mosmol/kg and spot urinary sodium of 10 mmol/L. The patient was admitted to ICU for monitoring. Desmopressin was held and urinary output measured, with substitution of urinary losses with IV 5 % dextrose. Subsequently, sodium level was seen to rise too quickly and desmopressin was re-introduced.

Inpatient stay was complicated by a UTI requiring antibiotics and a stress dose of hydrocortisone. In addition, she developed hypernatraemia, with sodium climbing from 146 to 163mmol/L over 24 h, requiring IV 5 % dextrose.

Discussion: This case deals with a multifactorial cause of hyponatraemia, and also stresses the complexities of managing sodium.

Hyponatraemia is categorised into hypervolaemic, hypovolaemic and euvolaemic hyponatraemia. Pseudohyponatraemia must be excluded and a low serum osmolality demonstrated. Assessment of urinary sodium loss and urinary volume is important in categorising different causes of hyponatraemia. Correction of hyponatraemia must be slow, at a rate of ≤ 0.5 mmol/L/h, to avoid osmotic demyelination syndrome. This case represents an interesting mixed picture, in which the predominant cause appeared to be excess water intake, with low urinary sodium. However, this was confounded by the inability to regulate intrinsic ADH, due to ADH deficiency, and the continued administration of extrinsic ADH, despite falling serum osmolality. In addition hypocortisolism may have contributed to the low sodium, as measured serum cortisol was low.

This case also demonstrates the difficulty in managing sodium in adipsic diabetes insipidus. Severe hypernatraemia developed as the patient did not have intact thirst sensation.

Outcomes for Emergency Laparotomies in a Regional Hospital

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Aims and objectives: Emergency Laparotomies are commonly performed, risky procedures. There is significant morbidity and mortality associated and studies have shown in hospital mortality can be as high as 16.5 % [1]. However, there remains a significant lack of data regarding the outcomes of patients undergoing emergency Laparotomies [2].

Methods: A retrospective study was conducted reviewing the list of all emergency laparotomies carried out in a peripheral hospital within a 12-month period. The list was obtained from the medical records and a pro-forma was established including co-morbidities, investigations prior to surgery, deterioration in renal function and complications. The standard of care was compared to national and international standards.

Results: 60 emergency laparotomies were performed in 2012 of which 39 charts were attainable. Charts were unavailable due to flood damage and ongoing clinics off site. The mean age of patients was 65 and the average co-morbidities was 3.8. 69.2 % of patients went to ICU post op and the mean duration of stay there was 5.2 days. There was a 12.8 % in hospital mortality rate and a 15.4 % 30 day mortality rate.

Conclusion: The in hospital mortality rate was less than expected, however, the 30 day mortality was in line with available literature. We noticed a lack of uniformity in the surgeon's notes and so are implementing a pro-forma to be implemented in Letterkenny with review in 6–12 months time.

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An Inpatient Liaison Neurology Service in an Irish, Tertiary-Care Hospital: A Snapshot

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Background: The University Hospital Limerick inpatient liaison neurology service consists of two consultant neurologists and an intern. The consultations are requested via handwritten forms. The neurology team's workload and the quality of the consultation request forms in this busy peripheral, tertiary-care hospital is unknown.

Aims: The aims of this study were to characterize the caseload of the liaison neurology service and assess the quality of the neurology consultation requests.

Methods: 133 consecutive consultation forms submitted from July to October 2013 were reviewed retrospectively. The patient demographics and the patients' symptoms were recorded. The consultation request forms were examined for the documentation of patient history, neurological examination, investigations and specific questions regarding diagnosis or management.

Results: The mean age of the patients was 53.0 years old. 51.9 % were female. 85 % were medical patients and 15 % were surgical patients. 6 % of the patients were in the intensive care unit. The most common symptoms were seizure-like activity (24.1 %), altered sensation (21.1 %), limb weakness (19.5 %) and visual disturbance (17.3 %). The majority of the consultation forms were submitted by interns (42.9 %) and senior house officers (42.1 %). Patient history was mentioned in 97.7 % of the forms. Neurological exam was documented in 29.3 % of the forms. 37.6 % of the forms provided CT or MRI results. A question for the consultation was noted in 38.3 % of the forms.

Conclusion: The liaison neurology service has a large and varied caseload. While the majority of consultation forms provided patient history, they often lacked neurological examination findings and results of further investigations. Inclusion of this information would facilitate more effective and efficient consultations.

A Case of Stoma Complications

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Presentation: A 36-year-old lady presented to the Colorectal Out-patient's Department with a 3 month history of severe abdominal pain and excoriation adjacent to an ileostomy site. Vitals were stable, she was afebrile and inflammatory markers were normal. On examination the excoriation encompassed most of the anterior abdominal wall. It encircled the ileostomy site; base was red with yellow slough covering most of the surface.

Past medical history: She had a history of epilepsy, depression secondary to child sexual abuse, chronic pain and reportedly had a diagnosis of Crohn's disease. She had also suffered from severe constipation, and had normal manometry, defecating proctography and transit studies. Constipation was likely caused by anismus secondary to the history of abuse. She underwent partial colectomy and formation of colostomy. She had an emergency laparotomy for bowel necrosis secondary to obstruction at the colostomy site. Post-op she developed life threatening sepsis, ARDS and ARF. She was lost to follow-up until this admission.

Hospital course: She was admitted, given IV antibiotics and brought to theatre for debridement of the area and application of a VAC dressing. Biopsies were taken of the area as it was suspected that this was pyoderma gangrenosum secondary to Crohn's disease. She was treated systemically with steroids and cyclosporine.

Once her full history was known the diagnosis of Crohn's was revised and she was tapered off immunosuppression. The excoriation improved with conservative management and she was discharged home after a prolonged hospital stay.

Discussion: This lady suffered life-threatening complications from surgery for symptomatic relief, when the American Society of Colorectal Surgeons guidelines on the management of constipation don't include anismus as an indication for surgery [1]. Therefore

although it is easy in hindsight to say that she should have been managed conservatively this case emphasizes the importance of careful balancing of the potential benefits and risks of surgery for symptomatic relief.

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Audit of Physical Examination on Admission to a Psychiatric Hospital in Malawi

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Introduction: Physical health problems are common but often under-recognised among psychiatric patients [1]. In this study we audited physical examinations conducted on patients admitted to a standalone psychiatric hospital in Mzuzu, Malawi.

Method: We undertook a retrospective chart review for 233 patients admitted to Saint John Of God Hospital in Mzuzu, Malawi in 2012. We assessed the quality of physical examination conducted by nurses and clinical officers in the first 72 h of admission.

Results: Vital signs were noted for 73 % of patients within 24 h and for 82 % patients within 72 h. Cardiovascular, respiratory and gastrointestinal examinations were the most frequently conducted, but were performed in less than half of patients by 24 h. Neurological examinations were performed for less than a third of patients. There was minimal difference between 24- and 72-h examination rates.

Conclusion: For the majority of inpatients in St John of God Hospital, Mzuzu, physical examinations within 72 h of admission were either absent or incomplete. Examinations not completed within 24 h were unlikely to be completed later. There is a risk of underdiagnosis of physical illness in patients admitted to St John of God Hospital.

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Documentation of DVT Prophylaxis in the Admission Proforma and Drug Kardex

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An audit into the appropriate use of DVT prophylaxis and clinical documentation in a population of general medical patients. A significant risk for DVT and PE exists in medically ill patients. LMWH e.g. Enoxaparin and Dalteparin are similar in efficacy for the prevention of VTE. DVT prophylaxis is a recognised standard of care for medical inpatients when not contraindicated.

Methods: This audit was performed on the general medical wards in a tertiary referral centre comprising of 100 patients across different age groups and clinical backgrounds. We compared trends in documentation of DVT prophylaxis in the proforma and in the Kardex.

Results: Of a total of 100 patients, 44 had prophylaxis documented in the kardex, 55 did not; in 1 patient no kardex was found. Of 55 patients not for prophylaxis 18 had contraindications.

Of 44 patients on prophylaxis 1 patient had a contraindication. 14 patients were documented for DVT prophylaxis in both the proforma and the drug Kardex. 26 patients were documented for DVT prophylaxis in the Kardex but were not documented in the proforma. 5 patients were documented for DVT prophylaxis in the proforma but were not documented in the Kardex. 45 patients were not documented in either the proforma or in the Kardex. The average age of patients receiving DVT prophylaxis was 69 years of age and those that didn't was also 69 years, p value = 0.99. The average frailty score (Charlson co-morbidity index) for patients receiving prophylaxis was 1.91, those that didn't was 1.98, p value = 0.87.

Conclusion: There are discrepancies between documentation of DVT prophylaxis in the proforma and in the Kardex as DVT prophylaxis is more likely to be recorded in the Kardex rather than in the proforma. In many cases, there is no record of DVT prophylaxis as 47 patients out of the 100 sample size were not documented. DVT prophylaxis does not appear to vary amongst different age groups. People with higher charlson scores were not more likely to receive prophylaxis. Abstract category = 1.

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Infection Awareness Following Joint Injection

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Aim: The aim of this study was to assess response rate and patients awareness of infection risk with joint injections

Methods: A retrospective study was carried out on 20 patients who received joint injections over a 9 month period in our out-patient procedure clinic. A phone survey was carried out to assess patient satisfaction and awareness of risk of infection

Results: There were no reports of infection following injection. Three patients reported a transient increase in pain following joint injection, all for a duration of less than 7 days. Thirteen patients felt the joint injection was successful, success was measured as a significant reduction in joint pain. Patients derived relief for between 6 weeks and 7 months. Seven patients reported no improvement. Five patients could not recall whether or not they had been given information regarding the risk of infection following a joint injection. Five patients received both verbal and written information regarding the risk of infection following injection, One patient reported receiving verbal information only, One patient reported receiving written information only, Eight patients were not given either verbal or written information.

Conclusions: This study serves to confirm our thoughts that infection following joint injection is a rare occurrence. It highlights that a proportion of patients experience an increase in pain following joint injection, albeit temporarily. A large proportion of patients (25 %) could not recall having been given any information and or definitely

didn't receive any information which highlights the need to make patients more aware of the risks involve in receiving a joint injection. We plan to improve practice in making sure all patients receive verbal and written communication regarding the risks receiving an injection in the procedure clinic.

Hypomagnesaemia as a Rare Trigger for New Onset Seizure Activity

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A 53-year-old gentleman presented 19 days post aorto-bifemoral bypass and subsequent right iliac embolectomy with a 2 day history of diarrhoea and colicky abdominal pain. He was tender in the RIF with a soft, slightly distended abdomen. He had a background history of heavy smoking, peripheral vascular disease, hypertension, hypercholesterolemia, depression, alcohol induced liver disease, peptic ulcer disease, hiatus hernia and obstructive sleep apnoea. Surgical history included cervical discectomy for a prolapsed C5/6, pilonidal sinus excision and left subclavian angioplasty for subclavian stenosis. CT abdomen was requested to investigate possible mesenteric artery ischemia. Prior to CT, he developed first onset of seizure. Focal left sided seizure developed into generalised tonic-clonic seizure activity. It was aborted by 5 mg IV diazepam. Left sided weakness and slurred speech were noticed. A second seizure was halted by 10 mg IV diazepam. He developed status epilepticus and was commenced on phenytoin infusion and transferred to the special care unit. Differential at this time was a first onset seizure due to acute versus old stroke. ECG showed sinus tachycardia. Urgent CT brain revealed no evidence of acute infarction or haemorrhage but showed chronic small vessel ischemia, old lacunar infarcts in the right caudate, left lentiform nucleus, left external capsule and right centrum semiovale and right parietal lobe. Further investigations including FBC, liver profile and U&E were within normal limits. Magnesium was found to be <0.25 , (reference range 0.70–1.00). He was immediately treated with IV magnesium infusion. Magnesium returned to normal limits following infusion but began to decline on the second day post seizure. Calcium was normal during seizure activity but had decreased on day 1 post seizure; 1.97 mmol/L (reference range 2.18–2.60), corrected calcium 2.13 mmol/L (reference range 2.20–2.60), potassium was 3 mmol/L (reference range 3.3–5). These electrolyte abnormalities were duly corrected.

Follow up investigations were performed. EEG was abnormal, showing a structural abnormality of the right hemisphere with epileptiform potential. A diffusion weighted MRI showed chronic ischaemic change, with no acute infarct or haemorrhage. He remained in sinus rhythm during 24 h holter monitoring. Aortic duplex showed a 30–49 % stenosis bilaterally. Left sided colonoscopy was normal with no obvious cause for diarrhoea. Blood and stool cultures were negative throughout admission. CT abdomen showed no evidence of enteritis or colitis, celiac artery and SMA were patent. Magnesium levels, in this case were low enough to act as a trigger for seizure activity, with previous infarcts acting as a focus. Hypomagnesaemia is rarely reported as a trigger for new-onset seizure. Low magnesium levels are commonly caused by PPIs, diarrhoea and alcohol consumption, in the case of our patient these could all have been contributing factors. He was discharged 10 days after admission on low dose PPI, phenytoin, levetiracetam and oral magnesium and calcium supplementation. His diarrhoea had resolved, magnesium levels were stable on discharge and he had had no further seizure activity during admission.

Anabolic Adrenergic Steroid Abuse—A Strong Case for More Research

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Background: Anabolic Adrenergic Steroid (AAS) have a plethora of effects on the human body, especially when taken in excess in the setting of illicit use. This case report provides an insight into some of the potential complications associated with AAS abuse, both physical and psychological and its increasing prevalence in Irish and British populations.

Case report: DM, 28-year-old gentleman presented to MMUH following a RTA, resulting in polytrauma presentation: Right subtrochanteric femur, left mid-shaft femur and left lateral malleolus fractures. This is on a background 10 year history of IV Anabolic Adrenergic Steroid (AAS) abuse for competitive bodybuilding. DM underwent bilateral ORIF of femurs, and of left ankle and commenced on IV Hydrocortisone in the peri-operative period—50 mg TDS. Within 36 h of admission DM was taken back to theatre and fasciotomies carried out on anterior and lateral compartments of left lower limb for Compartment Syndrome. On day 5 DM developed wound site infections. These requiring repeated washouts, debridement, totalling in 10 surgical procedures from ORIF to final closure. Throughout his admission DM requested permission to inject himself with Human Chorionic Gonadotrophin, which he had purchased online. This request was denied.

Discussion: The complications noted in this case have been documented in several other similar case studies in the *Journal of Emergency Medicine* [1] and *British Journal Sports Medicine* [2]. Coupled with a recent article in the Irish Times reporting on IV drug users attending the Merchants Quay Needle Exchange, highlighting higher % of attendees were injecting AAS than cocaine or crack, highlights the need for further research in this area.

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An Unusual GAA Injury

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Introduction: 2/3 of players on a GAA team will get injured at least once in a season. 1/2 of injuries will be during a match whilst over 1/3 are sustained during training. Most common injuries in Gaelic football are of the lower limb. Reports of pneumothorax associated with blunt trauma sustained during sporting activity are rare.

Case: 18 year old male present to ED complaining of right sided pleuritic chest pain. Had been at GAA training earlier in the evening and recalled getting elbowed in his right hemithorax. Post training he noticed moderate right sided chest pain on deep inspiration, his breathing had become shallower and rapid. On examination respiratory rate was 22 and O2 saturation 98 % on room air. There was decreased air entry on the right side of chest and a resonant percussion note. Chest XRay revealed a 30–40 % right sided non tension pneumothorax, no fracture. A 24Fr chest tube was inserted and

incentive spirometry encouraged. Day 2 CXR pneumothorax resolving to 10 %. Day 3 chest drain removed, a small apical pneumothorax remained. 3 weeks post discharge CXR revealed total resolution of pneumothorax.

Discussion: Only 2 % of all adult thoracic injuries requiring medical treatment are sports related. The GAA have a annually updated national injury database, first established in 2006, there is little evidence of chest trauma. Due to its uncommon nature, a high clinical suspicion must be held when the patient first presents to ED and a chest XRay should be promptly carried out.

Conservative Management of a Grade IV Splenic Laceration

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A 55 year old male presented with a 1 day history of constant epigastric pain of sudden onset, 10/10 severity radiating to left shoulder tip on a background of trauma 10 days previously. Vitals indicated Grade 4 shock. Abdomen was rigid with maximal tenderness in the left upper quadrant. Haemoglobin was stable at 11. INR was 3.7 (warfarinized for atrial fibrillation).

We managed acutely with ABC assessment, input and output monitoring and warfarin reversal with octaplex and vitamin K. When stabilised, he was sent for further imaging. CT-abdomen showed free fluid and a splenic laceration involving the hilum—grade IV laceration.

This patient was managed conservatively: IV hydration and antibiotics, 4 units RCC in reserve, kept on emergency list for laparotomy, and observation with daily haemoglobin checks and serial CT scans on day 2 and day 9. Warfarin was replaced with aspirin by cardiology recommendation. After 11 days, he was fit for discharge.

The spleen is one of the most commonly injured intra-abdominal organs. Diagnosis and prompt management of potentially life-threatening hemorrhage is the primary goal; preservation of functional splenic tissue is secondary. Splenic trauma, historically treated surgically, is now managed conservatively in 50–70 %, encompassing observation and embolization techniques. The rationale for nonoperative management is based upon the assumption that salvaging functional splenic tissue avoids the surgical and anesthetic risks and complications associated with laparotomy and abrogates the risk of postsplenectomy sepsis [1]. An observation period of 5 days identifies >95 % of patients who require intervention. One multicenter trial found that 86 % of patients who failed nonoperative management did so within 96 h, with 61 % of failures occurring inside 24 h [2].

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Diabetic Screening of Newly Admitted Hospital Patients: Audit to Assess Routine Diabetic Screening Rates

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Abstract: Diabetic screening is often overlooked in general screening of newly admitted patients within hospital wards and emergency rooms. Diabetes is frequently not diagnosed in patients until many have already developed complications and progressed with the disease for years, resulting in approximately one-third undiagnosed population. The American Diabetes Association states that approximately 7.4 % of adults among the general population have a prevalence of diabetes with an expected increase of prevalence to 9 % by 2025. The purpose of this audit is to assess the rate of diabetic screening of newly admitted patients and to ascertain the practicality of routine diabetic screening in a general hospital population with emphasis on newly admitted patients. The data obtained in this audit will help develop a statistical analysis of diabetic screening rates within a hospital setting.

Introduction: This audit was carried out at the University Hospital Limerick, Ireland and assessed newly admitted patients on a single day both in hospital wards as well as those seen in accident and emergency department. The American Diabetes Association states that “screening an asymptomatic populations is appropriate when seven conditions are met: (1) the disease represents an important health problem that imposes a significant burden on the population; (2) the natural history of the disease is understood; (3) there is a recognizable preclinical (asymptomatic) stage during which the disease can be diagnosed; (4) tests are available that can detect the preclinical stage of the disease, and the tests are acceptable and reliable; (5) treatment after early detection yields benefits superior to those obtained when treatment is delayed; (6) the costs of case finding and treatment are reasonable and are balanced in relation to health expenditures as a whole, and facilities and resources are available to treat newly diagnosed cases; and (7) screening will be a systematic ongoing process and not merely an isolated one-time effort [1].” With that being stated the overall cost-effectiveness, social, and environmental factors associated with diabetes should be taken into account within an already debilitated hospitalized population in regards to possible routine diabetic screening.

Methods: Data was obtained by assessing 100 new accident and emergency department attendees as well as fifty newly admitted patients to hospital wards. Ward patients in both male and separate female wards were assessed in order to prevent gender bias. Each patient’s blood work was reviewed via iLab on the day of admission to assess whether or not blood glucose levels had been taken upon admission or within the first 24 h. One hundred consecutive accident and emergency department attendees and twenty-five male ward patients as well as 25 female ward patients were assessed on October 25, 2013 at the University Hospital Limerick, Ireland.

Results: Data collected showed the following results. Of the 100 consecutive accident and emergency attendees only 22 out of 100 patients had blood glucose levels done. Out of the 22 patients who had their blood glucose done only 10 had their blood glucose levels checked within the 24 h period resulting in a 10 % screening rate of patients within the accident and emergency department.

Data from the female ward showed the following results. Of the 25 admitted female ward patients, 17 of the 25 (68 %) admitted patients had their blood glucose done. Only 10 of the 17 (58 %) patients had their blood glucose taken upon admission. Overall results showed that only 10 out of 25 (40 %) female ward patients had blood glucose results upon admission or within the first 24 h of admission.

Data from the male ward showed the following results. Of the 25 admitted male ward patients, 13 of the 25 (52 %) admitted patients had their blood glucose done. Only 11 of the 13 (84 %) patients had their blood glucose taken upon admission. Overall results showed that

only 11 out of 25 (44 %) male ward patients had blood glucose results upon admission or within the first 24 h of admission.

Upon reviewing charts of the admitted ward patients 6 out of 50 (12 %) patients were confirmed diabetics and of the 6 only 3 (50 %) confirmed diabetics had their blood glucose levels done upon admission. In total only 3 out of 50 (6 %) admitted ward patients had their blood glucose levels done upon admission or within the first 24 h of admission, resulting in a 6 % positive diabetic screening rate and overall 12 % total diabetic screening rate in a hospitalized population. Unfortunately A&E patients were not able to be confirmed for diabetic status due to the fact only attendee lists were available for assessment.

Conclusion: In conclusion preliminary data obtained from this audit shows that only a small amount of the total hospital population is being initially screened for diabetes upon admission or within the first 24 h of admission. Routine screening and early detection of diabetes in a hospital setting can help prevent further progression of diabetes in those undiagnosed, limit the overall complications patients face in the midst of diabetes, as well as help tailor patient treatment within a hospital setting for those with diabetes. The overall all cost-effectiveness of diabetic screening is fairly small compared to the total medical costs and decreased quality of life that occurs with diabetic complications. Although community screening for diabetes is not recommended it may however be beneficial in a hospital setting where patients are presenting with symptomatic features that could be associated with diabetes.

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A Complicated Course of Infective Endocarditis

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Introduction: Infective endocarditis is a well-known clinical entity that still commonly presents with a myriad of complications. Presentations are classified into acute or subacute. The heterogeneity of this clinical identity often causes misdiagnosis or delayed diagnosis, which leads to an increase in mortality and morbidity. Pre-existing congenital valve lesions or structural heart disease predisposes the occurrence of this condition.

This case report is on a 46-year-old male who presented with joint pains and fever and was subsequently found to have *Staphylococcus aureus* infected endocarditis, further complicated by complete heart block due to aortic root abscess.

Case presentation: A 46 year old male with a background history of psoriasis and coeliac disease was admitted on second presentation, 2 days post discharge from A&E with ongoing symptoms of multiple joint pains, general malaise, reduced appetite, fevers and rigors. He reported no weight loss, headache, cough, abdominal pain or urinary symptoms and denied any recent holidays or infectious contacts. He is a non-smoker but drinks 20–30 units of alcohol per week. On admission, vital signs recorded a temperature of 37.3 °C 2 h post Paracetamol, BP 139/73 mmHg, HR 90 bpm and RR 18/min.

Physical examination revealed bad dentition, a pansystolic murmur at the aortic area, splenomegaly reduced range of movement in bilateral shoulders and tenderness over bilateral deltoid muscles and the dorsum of the right foot. No joint oedema was noted.

Significant laboratory results included raised ESR(28 mm/h), CRP(>90 mg/L) and LDH 869; normal WCC 4.7 m/mL; low platelets 98; abnormal liver function with Bilirubin 34, Alk Phos 221, GGT 102; raised Troponin 0.031; and normal urate levels. Mid stream urine was clear.

The patient was initially admitted under rheumatology. A differential diagnosis of frozen shoulder, gout, polymyositis, alcoholic liver disease, thrombocytopenia secondary to alcohol was made. Autoimmune bloods were sent which returned normal. Ultrasound of the abdomen revealed hepatomegaly 16.97 cm and splenomegaly 15.78 cm. X ray of the shoulders only showed degenerative changes but X ray of the foot noted subluxation of the second MTP joint and para articular erosions in the head of the second metatarsal. Urate levels, however, were normal (213).

On the 3rd day of admission, blood cultures on three separate occasions grew *Staphylococcus aureus*. A transthoracic echocardiogram was performed in view of the new onset murmur, which revealed bicuspid aortic valve, calcified vegetation and mild to moderate aortic incompetence, which was confirmed later on transoesophageal echocardiogram (Figs. 1, 2). On examination, new onset splinter haemorrhages and Janeway lesions were also reported. Given the +ve blood cultures plus vegetation on imaging, along with a temperature of 38.2 °C and vascular phenomena, he met two major and two minor criteria for endocarditis. ECG incidentally showed PR prolongation 236 ms (Fig. 3) compared to his previous ECG PR = 180 ms.

Fig. 1 Bicuspid Aortic Valve on TOE

Fig. 2 Calcified vegetation of the aortic valve on TOE.

Fig. 3 ECG showing PR prolongation 236 ms

IV flucloxacillin 2 g 4 hourly was commenced followed by serial ECGs and imaging. On day 4 of admission, ECG showed progression into AV block with junctional escape (Fig. 4). Despite imaging being –ve, conduction disease noted on ECG suggested a high probability of aortic root abscess and he was referred for a surgical opinion.

Fig. 4 ECG showing complete AV block

Repeat imaging under the cardiothoracic team showed acute changes including an aortic root abscess, LV to RA fistula, VSD, disruption of the tricuspid valve annulus, and destruction of the anterior mitral valve leaflet. CT also revealed septic lung emboli. Thus, he underwent emergency surgery for a homograft aortic root repair, tricuspid valve repair, VSD repair, pericardial patch repair of the anterior mitral leaflet and right atrial wall patch closure. Being fully dependent on pacing the patient had he had an epicardial DDD pacemaker inserted on his 10th day post op. His course of treatment was further complicated by positive growths of *staphylococcus* and *streptococcus* on his PICC line and acute kidney injury with a rise of urea from 7.7 to 16 and creatinine rise from 104 to 161 that required dialysis post operatively.

The patient was subsequently discharged 1.5 months later on antibiotics therapy.

Discussion: Despite advancement in diagnostic tools and treatment therapies, infective endocarditis is still a rare clinical entity associated with high mortality and morbidity rates [1]. The annual incidence was reported to be fewer than 10 per 100,000 in the normal population, however, significant mortality rates of 20 % was noted [2].

Presentations of native valve infective endocarditis are generally classified as acute or subacute. Acute NVE frequently progresses over days to weeks and are commonly due to virulent organisms such as *Staphylococcus aureus* or group B *Streptococci* [3]. In a recent prospective study of 1,779 cases of IE in 16 countries, *S. aureus* was found to be the most frequent cause of IE [4]. This has a major implication in view of an analysis done by the International

Collaboration on Endocarditis—Merged Database (seven existing electronic databases from five countries of definite IE cases) which reports the significant complications associated with *S. aureus* compared with IE by other organisms. These complications includes [5].

Complications	<i>S. aureus</i> (%)	Other organisms (%)
Death	20	12
Embolic event	60	31
Avoid surgery	26	39
CNS event	20	13

Given the high morbidity and mortality, early diagnosis of this disease is vitality important to avoid complications. However, the diverse nature and evolving clinical characteristics of IE ensure it remains a diagnostic challenge [6]. In the absence of a high clinical suspicious, the diagnosis is frequently delayed or even missed as illustrated in the case above where the patient was only diagnosed on the 3rd day of his second admission to A&E, resulting in severe complications from delayed treatment. European Society of Cardiology has thus set up guidelines where awareness must be raised in the presence of clinical presentations as stated below:

1. New regurgitant heart murmur
2. Embolic events of unknown origin
3. Sepsis of unknown origin (especially if associated with IE causative organism)
4. Fever especially if associated with risk factors or stigmata of IE [7]

The importance of clinical examinations, bedside examinations such as ECGs and blood cultures in the diagnosis of IE, despite recent advancement and reliance on clinical imaging should also be highlighted from the case above. Despite being missed on the TOE, aortic root abscess was still diagnosed purely from the acute changes seen on ECG and ongoing spiking temperatures, leading to efficient management and early referral for surgery.

Approximately half of patients with IE would eventually undergo surgery mainly due to severe complications [8]. It was reported that surgery was required in 25–50 % of patients in acute infections and 20–40 % of patients during convalescence [13, 14]. Early surgical intervention during active IE is commonly to avoid progression of cardiac failure, irreversible structural damage and systemic embolism [9–12]. However, procedure sterility or prosthesis inserted prior to antibiotic therapy completion may pose as a significant risk for further complications. In the case of IE discussed above, the patient was admitted with the sole risk factor of congenital valve abnormality. The risk of developing IE on a bicuspid aortic valve is 10–30 % over a lifetime [15]. Currently post surgery, the risk further IE is increased in the context of previous history of IE, prosthetic valve insertion and pacemaker insertion prior to completion of antibiotic therapy. Of note, prosthetic valve endocarditis proves to be the worst form of IE and occurs in 1–6 % of patients with valve prostheses, affecting both mechanical and bioprosthetic valves equally [17]. Cardiac devices infection also results in a severe disease associated with high mortality.

Prophylactic antibiotics before invasive procedures have been the standard of care for 50 years in most part of the world [19, 20]. However, in the recent NICE guidelines March 2008, prophylactic antibiotics are not longer warranted in particular for dental procedures [21]. The rational of this outcome by weighing the risk and benefits includes

1. Large number needed to treat [22, 23]

- a. 1:14,000,000 in the average population
- b. 1:95,000 in patients with previous IE

2. Antibiotic administration carries a small risk of anaphylaxis [24]
3. Widespread and inappropriate use of antibiotics may result in resistance [25]

However, a randomized placebo controlled trial has never been attempted to justify the use of antibiotic prophylaxis before dental procedures due to ethical and medicolegal issues, cost and a large cohort required for statistically significant findings [26], which gives rise to the concerns of its effects on the incidence of this difficult disease.

In conclusion, this case reports denotes the importance of high suspicion and accurate diagnosis to prevent severe complications in this rare but fatal clinical disease. Also, as of most diseases in Medicine, the essence of teamwork in the diagnosis and management of Infective Endocarditis was clearly projected in this case presented involving the radiologist, rheumatologist, cardiologist, cardiothoracic surgeons, nephrologist, not to mention nurses, dietitian and physiotherapist all in the aim for the wellbeing of this patient.

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Pulmonary Alveolar Microlithiasis

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Introduction: Pulmonary Alveolar Microlithiasis (PAM) is a rare disorder with approximately 200 cases reported worldwide. It is

believed to be caused by a defect in calcium metabolism which is confined to the lungs. PAM is characterised by a striking and truly unique appearance on chest radiograph caused by calcific deposits in the alveolar spaces. No effective treatment has been evolved as yet and the disease is fatal.

Case: A 27-year-old man was admitted under orthopaedic care for treatment of a right sided antecubital fossa abscess. Routine chest radiograph on admission revealed diffuse, symmetric, reticular-nodular shadowing bilaterally, predominantly in the mid zones. Effusions, consolidation, cardiomegaly and adenopathy were absent. The patient reported a history of feeling “caught” in the chest on exertion and following large meals. He also mentioned frequent appointments with respiratory physicians in Galway. A perusal of the patient’s notes revealed abnormal lung function tests with 42 % response to bronchodilators and unremarkable bronchoscopy. The patient’s elbow was assessed and he received intravenous antibiotic therapy for 3 days prior to discharge on an oral regimen as treatment of his abscess. He continues to be seen by respiratory physicians in Galway on an outpatient basis.

Discussion: There is no specific treatment of PAM. Allendronate Sodium has been documented as a method of providing symptomatic relief but has not reversed chest radiograph findings. Corticosteroids and bronchopulmonary lavage have no effect. Eventually respiratory failure and cor pulmonale supervene with ominous consequence. Substantial research is required to discover an absolute cure of this rare life-threatening disorder.

Thyroid Malignancy in Birt–Hogg–Dubé Syndrome: A Case Series and Review of the Literature

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Birt–Hogg–Dubé Syndrome (BHDS) is a rare autosomal-dominant inherited disorder. It results from a germline mutation of the *FLCN* gene, which codes for folliculin, a tumour suppressor protein. BHDS is characterised by a triad of skin fibrofolliculomas, multiple lungs cysts and malignant renal tumours. Since the sentinel paper describing BHDS in 1977 there have been multiple cases of various tumours, both malignant and benign associated with BHDS. Malignant tumours reported in BHDS include breast cancer, colorectal cancer, melanoma and squamous-cell skin cancer. However, no causal relationship between BHDS and these tumours has ever been proven. The literature also suggests a possible link between BHDS and thyroid disease.

We present a case series of two siblings with BHDS who both developed thyroid malignancy. One sibling had both the typical skin lesions associated with BHDS and spontaneous pneumothorax due to multiple lung cysts. He subsequently developed a thyroid carcinoma and underwent a partial thyroidectomy. The other sibling had a renal carcinoma for which she underwent surgical treatment. Following this she developed a thyroid carcinoma and had a total thyroidectomy.

While there is no causal relationship proven by these cases, it does present a possible link between BHDS and thyroid carcinomas. As a consequence of its rarity, there are no established guidelines available to direct clinicians in the management and screening of individuals with BHDS. One recent publication does recommend yearly renal MRIs for the detection of renal tumours in patients with BHDS. With regard to thyroid malignancy no recommendations on the need for screening in BHDS are available. However, following this case study we believe that thyroid screening should be considered in the management of BHDS.

An Audit of Arterial Blood Gas Measurement and Documentation of Fraction of Inspired Oxygen in the Mater Misericordiae University

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Background: The measurement and interpretation of arterial blood gases (ABG) is a valuable diagnostic tool in clinical medicine. It gives important information in relation to ventilation, oxygenation and acid–base status. However in order to interpret the ABG correctly information regarding the fraction of inspired oxygen is needed. This is often not documented in clinical practice. Thus, this audit was carried out to assess whether the FiO_2 at the time of sampling or the clinical indications for ABG were documented.

Method: Data was collected in the Mater Hospital over a 5 day period over September–October 2013. ABGs performed in the Emergency Department, Medical and Surgical wards and Special Care Unit are analysed in the Mater Hospital' Biochemistry laboratory and these were used in the study. ABGs in ICU patients were not included in analysis. The clinical notes and computerized requests of the patients in whom ABG were measured were reviewed to assess whether FiO_2 was documented.

Results: 126 ABGs requests were made during study period. Majority tests (64.2 %) were performed in ED, 15.8 %—on general medical wards, 12.6 %—in Special Care Unit and 7.1 %—on surgical wards. Of the 126 that were done, 101 of the files were available to analyse. Of the 101 ABGs only 24 (23 %) had FiO_2 documented. Interestingly, of these 24—16 were from the special care unit. To note, FiO_2 was documented in all SCU samples.

Excluding SCU, of the remaining 85 samples, FiO_2 was clearly documented in only 8 cases (7.9 % of total); 5 patients being on room air.

PO_2 was low (<10.7kpa) in 72 % of all tests examined. $p\text{CO}_2$ was abnormal in 48 cases: 16.1 % of patients had $p\text{CO}_2$ <4.5 kPa; 34 % of patients had elevated levels (>6 kPa). 24 of patient's pH (24.2 %) were abnormal: 10 (10.1 %) being acidotic and 14 (14.1 %) being alkalotic. Results compatible with uncompensated respiratory acidosis (elevated $p\text{CO}_2$ and decreased pH) were noted in 9 (9.1 %) patients.

Conclusion: FiO_2 is not documented when ABGs are performed in Medical and Surgical wards or in the Emergency Department. This hampers meaningful interpretation of results.

Recommendation: We recommend mandatory documentation of FiO_2 to enable ABG analysis. Mandatory laboratory order step could address that.

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Wilms' Tumour at the Ocean Road Cancer Institute, Dar es Salaam, Tanzania

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Background: Wilms' tumour (nephroblastoma) accounts for 5–7 % of childhood cancers worldwide [1–5]. It requires a multidisciplinary team approach to maximize positive long term outcomes [7]. The 2 year survival rate in developed countries is reported to be 95 %. There is limited data in resource poor settings.

Aim: The aim of this study was to evaluate the patient characteristics, extent of disease, management and the short and long term outcome of children treated in Dar es Salaam, Tanzania for Wilms' tumour.

Methods: All patients admitted to Ocean Road Cancer Institute (ORCI) over a 2 year period with a confirmed histological diagnosis of Wilms' tumour were included ($n = 20$). 50 % ($n = 10$) had metastases at presentation. 85 % ($n = 17$) received pre-operative chemotherapy based on the SIOP WT2001 protocol, however due to the increased size of the tumours, doxorubicin was added to regimen for 15 patients. After completion of chemotherapy patients underwent nephrectomy at Muhimbili National Hospital. 5 % ($n = 3$) of children had surgery at another centre prior to presentation. Outcomes were analysed at 8 months, 1 and 2 years from the date of presentation.

Results: Out of 20 patients who had a confirmed histological diagnosis of Wilms' tumour, 85 % ($n = 17$) of patients were still alive 8 months. 10 % ($n = 2$) of patients had died. One was deemed to be due to advanced disease while the other was due to treatment effects (gastroenteritis). 5 % ($n = 1$) defaulted post-operatively. 75 % ($n = 15$) of patients were alive 1 year from their date of presentation. 10 % ($n = 2$) of patients died between 8 months and 1 year. 1 death was deemed to be treatment related (reported to be due to renal failure) while the other death was reported to be due to disease. 60 % ($n = 12$) of patients were alive at 2 years. 15 % ($n = 3$) of patients died between 1 and 2 years from date of presentation. All 3 patients who died during this period died due to a disease relapse.

Conclusion: This study shows that Wilms tumour is treatable in resource poor settings with an 8 month survival rate of 85 %. This may be due to the addition of doxorubicin to preoperative chemotherapeutic regimens in this setting. This did not appear to effect toxicity rates or treatment related deaths when compared to other studies examining the treatment of Wilms tumour in developing countries. However due to delays in presentation and lack of resources, outcomes continue to fall short of those achieved in resource rich centres. It is suggested in this study more research is needed into the not only the therapeutic regimens but also social factors surrounding the treatment of paediatric cancers in a resource poor setting.

How Do Medical Interns Spend Their Time?

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Aims and objectives: Emergency Laparotomies are commonly performed, risky procedures. There is significant morbidity and mortality associated and studies have shown in hospital mortality can be as high as 16.5 % [1]. However, there remains a significant lack of data regarding the outcomes of patients undergoing emergency Laparotomies [2].

Methods: A retrospective study was conducted reviewing the list of all emergency laparotomies carried out in a peripheral hospital within a 12-month period. The list was obtained from the medical records and a pro-forma was established including co-morbidities, investigations prior to surgery, deterioration in renal function and

complications. The standard of care was compared to national and international standards.

Results: 60 emergency laparotomies were performed in 2012 of which 39 charts were attainable. Charts were unavailable due to flood damage and ongoing clinics off site. The mean age of patients was 65 and the average co-morbidities was 3.8. 69.2 % of patients went to ICU post op and the mean duration of stay there was 5.2 days. There was a 12.8 % in hospital mortality rate and a 15.4 % 30 day mortality rate.

Conclusion: The in hospital mortality rate was less than expected, however, the 30 day mortality was in line with available literature. We noticed a lack of uniformity in the surgeon's notes and so are implementing a pro-forma to be implemented in Letterkenny with review in 6–12 months time.

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Stuck in the Middle? A Diverticular Abscess Causing Bowel Obstruction in a Patient with a Hypoplastic Lung

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Background: Emergency laparotomy is a common procedure and carries a high mortality rate [1]. Surgical decision making is becoming ever more complex as patients with significant comorbidities develop surgical pathology. This case highlights management dilemmas in a patient with significant underlying respiratory compromise.

Case: This is the case of a 77-year-old man who presented with abdominal pain. His background was significant for Swyer–James Syndrome, an underdeveloped left pulmonary vasculature, with a hypoplastic left lung. In addition, he had anti-thrombin III deficiency, with a history of multiple pulmonary emboli and was on lifelong warfarin. Initial CT revealed a small diverticular abscess and he was treated conservatively with antibiotics. However, following apparently successful treatment and discharge from hospital, he represented with abdominal pain and developed signs of small bowel obstruction. CT revealed a large diverticular abscess arising from the sigmoid colon with small bowel obstruction due to extrinsic compression by the abscess. A work up for surgery included pulmonary function tests, which displayed an interesting mixed restrictive and obstructive pattern; Our patient also had a 15 pack year history of smoking. Given the complexity of his respiratory disease, a conservative approach was taken as he was felt to be an extremely high risk surgical candidate. His imaging was reviewed at a multidisciplinary conference, and a decision was made to radiologically drain his collection. This resulted in resolution of his SBO slowly over the next week and the drain was removed. Repeat CT the following week showed complete resolution of the SBO and of the abscess. Inflammatory markers returned to

normal, antibiotics were stopped and the patient was discharged home after a 23 day stay in hospital.

Conclusion: Decision making in surgical patients is increasingly complex. This case highlights the management dilemmas presented by patients with complex medical co-morbidities and the need for a multidisciplinary approach.

Discussion: This case outlines four major conditions: Swyer James Syndrome, Antithrombin III deficiency, complicated diverticular disease and small bowel obstruction. Swyer–James Syndrome occurs in <0.01 % of patients and is usually the result of recurrent childhood infections resulting in hypoplastic lung [2].

Anti-thrombin III deficiency and other hereditary thrombophilias are considered to have a higher risk of venous thromboembolism and pulmonary embolism, as exhibited by this case. A thorough medical history and preoperative evaluation is needed to reduce complications [3]. In preparation for surgery, his warfarin was stopped and he was anticoagulated with therapeutic enoxaparin.

5 % of patients with diverticular disease may develop abscesses. The treatment of diverticular disease today is trending towards a more conservative and minimally invasive approach, in particular in those like the man in our case. However, the results from ongoing randomised trials are needed to improve our decision making [4].

Thus abdominal surgery in a patient with such comorbidities is considered high risk. Abdominal surgery is known to adversely affect pulmonary function and pulmonary complications are the most frequent cause of postoperative morbidity and mortality [5]. We are increasingly being faced with dilemmas each day where emergency surgery is needed and preoperative optimization is not feasible. Although not always possible, conservative measures as exemplified in this case, can indeed be the alternative.

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Running in the Family: A Rare Diagnosis of Familial Papillary Thyroid Cancer

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A 54-year-old lady was referred by her GP to the Surgical Endocrine Outpatients complaining of a recent choking sensation. She did not have any stridor or dyspnoea and was asymptomatic from either hypo- or hyperthyroidism.

Her medical history was significant for longstanding thyroid goitre. Examination revealed a large multinodular goitre with a single dominant nodule. Her family history was significant for papillary thyroid cancer, with two sisters having undergone total thyroidectomies.

Our patient went on to have an ultrasound of the thyroid, which revealed a diffuse goitre with a focal nodule with microcalcifications, suspicious for malignancy. Fine needle aspirate reported Thy 5, consistent with papillary thyroid carcinoma.

Given her strong family history, the patient underwent a total thyroidectomy and ipsilateral neck dissection, with an uncomplicated postoperative course. She was further referred for adjuvant radioactive iodine therapy.

Familial thyroid cancer is traditionally divided into either medullary or non-medullary types [1].

Non-medullary thyroid cancer is a rare inherited form of either papillary or follicular thyroid cancer. It is defined as 3 or more 1st degree relatives affected by either form, in the absence of another familial tumour syndrome. It represents approximately 5 % of all thyroid cancers [2].

The familial form of the disease shows more aggressive features with greater incidence of multifocal disease, local and lymphatic invasion and local recurrence [2, 3]. Therefore it is agreed a more aggressive surgical management is required—total thyroidectomy and ipsilateral Level VI neck dissection with adjuvant radioactive iodine treatment and thyroid hormone suppression postoperatively [4].

Screening of unaffected relatives has yet to be universally agreed on, however it includes routine annual ultrasound or routine physical examination in an outpatient setting [4].

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An Audit of On-Call Tasks and Challenges Facing Interns in Beaumont Hospital

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Background: Beaumont Hospital offers acute and emergency care across 31 wards. Out-of-hours, 6 Interns cover 21–24 wards until midnight, reducing to 4 Interns until 9 a.m. Without an operational on-call bleep policy, Interns can face a large volume of tasks in addition to providing essential emergency care.

Aims: This ongoing audit, due to cease on December 24th, aims to quantify the number of Intern on-call requests and categorize these as appropriate or inappropriate. This coincides with the draft of an on-call bleep policy for Beaumont Hospital due for implementation on January 1st, 2014. A 4-week follow up audit is planned for February 2014.

Methods: On-call tasks were recorded on hard copy lists which were collected at shift end for review. Tasks were compared directly with

those deemed appropriate in existing bleep policies in both HSE and NHS hospitals. Interns completed a questionnaire to quantify the total number of bleeps received in a shift and the total hours rest obtained to quantify the volume of work required during a shift.

Results: In total, 64.1 % (Medical) and 78.4 % (Surgical) of ward task data was collected. From these 419 medical and 856 surgical on-call tasks were reviewed with 56.5 % (n = 237) and 45.9 % (n = 393) being classed as inappropriate. Interns reported an average of 15–20 bleeps and 1–3 h sleep in a 24-h period. 28 % of interns reported no sleep and 40.6 % said >50 % of calls were inappropriate.

Conclusions: In total, 49.4 % (n = 630) of tasks were classed as inappropriate. A completed audit will highlight the need for a local bleep policy to protect Interns rest and provide appropriate out-of-hours care.

Partial Sacrectomy in Local Recurrence of Primary Colonic Carcinoma

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We report a presentation of low back pain and urinary incontinence in a 53-year-old Caucasian male with a past history of rectosigmoidal adenocarcinoma (T4N2M3). Radiological imaging revealed a mixed sclerotic and lytic lesion in the sacrum and coccyx.

A partial sacrectomy was performed and histopathology confirmed adenocarcinoma consistent with colonic primary. Sacrectomy is an uncommon procedure and can be performed via a number of approaches.

Via an anterior approach with mobilisation of the pelvic contents and subsequent posterior approach, the sacrum was resected. This required neat intertwining of a multidisciplinary team with input from specialities including interventional radiology, vascular, urology, general and plastic surgery, with a consistent orthopaedic overview.

Bleeding is a significant complication in sacral surgery and in this case we employed pre-operative embolisation of the sacral arteries to mitigate this risk. Myocutaneous flaps were used to provide bulk in the void created at sacrectomy.

Spinopelvic stability depends on preservation of the sacro-iliac joints and reconstructive measures. With sacrectomy, neurological outcome is variable and depends on the level of resection. In this study, the patient maintained both urinary continence and full bilateral lower limb mobility. Tumour margins also returned clear which suggests a very rewarding outcome.

Rapidly Growing Pelvic Mass

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Uterine leiomyosarcoma is a rare uterine malignancy. It is sometimes difficult to distinguish from a leiomyoma [1].

A 37-year-old female presented with a pelvic mass that was rapidly increasing in size. This was associated with severe pelvic pain, vaginal spotting, loss of appetite, and 10-pound weight loss.

She had a 10-years history of breast cancer with liver metastasis. She had a right mastectomy in 2002, which was followed by chemotherapy. Her hepatic masses had been stable since.

On a routine CT scan, it was noted that there was a 5 cm uterine mass in the fundus of her uterus. She was seen and followed by a general gynaecologist with initial diagnosis of a uterine fibroid. Three months later, on a repeat CT scan, the uterine mass showed marked increase in size to 13 × 10 cm in diameter. At this time, the pain was so severe that she required hydromorphone for pain management, but there was no rectal bleeding or bowel obstruction. On examination, there was an obvious pelvic mass palpable on abdominal examination to the level of the umbilicus. Due to the aggressiveness of the mass, a decision was made for a total abdominal hysterectomy with possible sigmoid colectomy and re-anastomosis. Subsequent histology showed a diagnosis of uterine leiomyosarcoma and she passed away 4 months later due to pulmonary embolism.

In this case, diagnosis was not suspected when she initially presented with the uterine mass. Only when it progressed aggressively 3 months later was surgical intervention given, and the final diagnosis established by pathology.

Triple Assessment Clinic—How Efficient is Our Service?

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St James's Hospital was designated as one of eight specialist centres for Symptomatic Breast Disease Services in Ireland by the National Cancer Care Programme in 2007. This has led to an increase in our catchment area and the number of referrals with over 8,000 patients reviewed in 2012.

To our knowledge there has been no review of the clinic or patient feedback regarding their experience. As such we carried out an audit to assess efficiency and patient satisfaction in the clinic.

Our aim was to assess time spent in each stage and highlight any delay recorded with a view to improving the service based on findings.

A survey was given to each patient on arrival and retained by the last member of the team they have contact with. Data was collected and results compiled to analyze areas of significant delay and dissatisfaction, if any.

188 surveys in total were collected over a 5 week period. Patients were seen at clinic a median time of 22 days from presentation at GP. The average age of patients at clinic was 44-years-old. 78.5 % of patients were happy with service and did not feel it could be quicker. Average time spent in clinic 314 min (5 h). Areas of significant delay noted as time taken to be seen at clinic again after radiology and time spent awaiting imaging in radiology department especially if dual imaging involved (as per protocol for anyone over 35-years-old (US and mammogram).

A Life-Changing Response to Imatinib in a Patient with a Disabling Neurofibroma

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Plexiform neurofibromas are benign but often disabling proliferations of the cells of the nerve sheath. They are almost always associated with Neurofibromatosis type 1, but otherwise their aetiology is not well-studied. They are known to occur especially during times of hormonal fluctuation such as pregnancy and they have also have been linked to history of local trauma, but this has never been substantially proven. They are generally extremely resistant to treatment [1].

We present a case of a benign neurofibroma which was not associated with NF type 1, but which had other interesting aetiological features. Our patient first presented during her puerperium after trauma to her left shoulder and axilla, with pain and swelling in the area. This progressed until a large palpable mass in the left axilla and a separate mass in the left-sided anterior chest wall were noted. These growths caused severe pain and significantly impaired the functionality of her left arm.

The growth was resected and found to be a histologically benign neurofibroma. Immunohistochemical studies were focally positive for the c-KIT gene mutation, amongst other markers. The tumour recurred extremely quickly after surgery.

She was trialled on Tamoxifen and Zoladex with little result. She continued to be reliant on extremely high doses of neuropathic pain medications and regular stellate ganglion nerve blocks. Finally she was trialled on Imatinib with dramatic results. Over an 8 month period her disease burden shrunk considerably by approximately 50 % on MRI, her functionality is almost normal and her pain medication requirement has reduced. Furthermore, as her tumour consists of benign cells, there is a distinct possibility of cure as it is unlikely that these cells will mutate to resistance.

Imatinib acts on the receptor tyrosine kinase of the c-kit gene and is used to treat CML and other slow-growing stromal tumours. Mutations in the c-kit gene in the bone marrow have recently been shown to be a necessary component of neurofibroma formation [2]. There is extremely limited evidence for Imatinib and other chemotherapeutic agents in the treatment of neurofibromas, thus this case is one of the first of its kind to have seen such significant results [3]. This exciting development warrants further study as it could potentially be an important treatment option.

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Mr. EK—A Case Report

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A 73-year-old gentleman, EK, presented to the ED department of UHL complaining of lower abdominal pain, nausea, weight loss and anorexia. A CT scan showed “Malrotation with an internal hernia at the level of the SMA with the proximal duodenum herniating anterior to the right anterior pararenal space”.

EK was brought to theatre where intraoperative finding included:

1. A grossly dilated large bowel
2. A redundant and twisted sigmoid colon
3. An atonic colon

The redundant large bowel was removed and an ileostomy was created. Recovery was complicated by a prolonged ileus, oedematous stoma, severe nausea and vomiting. A second laparotomy was carried out and intraoperative findings included:

1. Diffuse adhesions and multiple internal herni.
2. A megaduodenum.
3. Small bowel mesentery which was adherent to the retroperitoneum throughout.

These were corrected and a gastrojejunostomy was fashioned at the greater curvature of the stomach. EK was receiving TPN via a PICC line and NG tube. He had an extreme food aversion and his oral intake varied from little to none. He also complained of severe stomach pain on eating. It was thought that EK may have been suffering from an eating disorder as he was described by his family as a “picky eater” and had a strong family history of anorexia.

It was eventually decided that a PEG tube would be inserted to allow for discharge. It was found, however, that the gastrojejunostomy was severely stenosed-explaining EKs food aversion. EK is currently being evaluated in another hospital by an upper GI surgeon with a view to performing a corrective surgery.

An Audit of ABG's, are We Failing to Record the FiO₂

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Background: Arterial Blood Gas analysis is one of the most commonly performed and important diagnostic tests performed in the hospital. If the FiO₂ is not recorded, it is impossible to gauge the patients oxygen status and to identify hypoxic patients.

Aims: Not recording the patient's FiO₂ appears to be common and we sought to establish the scale of the problem.

Methods: We looked at the charts of 30 medical and surgical patients and recorded whether or not the FiO₂ was recorded at the time of the ABG. We noted whether any comment on the ABG was made and if any change in management took place as a result.

Results: We had a sample size of 30. Only 53 % of ABG's we looked at noted the FiO₂. In the majority of cases no interpretation of the ABG was documented with only 43 % of ABG's having an accompanying note explaining the ABG's significance. In 40 % of cases, no documented change in took place as a result of the ABG.

Conclusions: It is essential to record the FiO₂ of the patient when the ABG is performed in order to accurately interpret the ABG. This is something frequently neglected and in only a minority of cases is an interpretation of the ABG recorded. This suggests that ABG's may not be being interpreted correctly with hypoxic patients possibly not being identified. Not documenting the FiO₂ makes it impossible for other staff to know what the patients oxygen status was at the time of the ABG.

Endoluminal Tracheal Stenting as a Treatment Option for Tracheal Compression Secondary to Retrosternal Goitre

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A 78-year-old man with a long standing history of idiopathic pulmonary fibrosis and pulmonary hypertension requiring long term oxygen therapy presented to our institution for management of tracheal compression secondary to retrosternal goitre.

On admission he was dyspnoeic on minimal exertion. There was no clinical evidence of SVC obstruction and the patient was euthyroid. Spirometry on admission showed an FEV1 of 0.8 (30 % predicted) and an FVC of 1.17 (32.8 % predicted). The FEV1/FVC ratio was 68 %. CT neck and thorax was notable for a large thyroid displaying retrosternal extension bilaterally causing tracheal compression. There was no compression or stenosis of the brachiocephalic vein or SVC. Emphysematous changes were noted in the upper lobes. Extensive interstitial septal thickening in the mid and lower zones bilaterally was consistent with known pulmonary fibrosis. There was also severe thoracic kyphosis which was likely causing pulmonary restriction.

The aetiology of this patient's dyspnoea was multifactorial. Following optimisation of medication and co-morbid disease the patient was deemed a suitable candidate for bronchoscopy with tracheal stenting. The procedure was uncomplicated. Follow up CT showed an improvement in the airway dimension from 9.5 to 11 mm. Post procedure, the patient's oxygen requirement reduced from 6 to 4 L/min (33 % reduction) and there was a noticeable clinical improvement.

This case demonstrates that the placement of endoluminal tracheal stent by an interventional pulmonologist is an effective means of improving airway patency in cases of tracheal compression.

Snap, Crackle and Pop—A Case of Pituitary Apoplexy

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Pituitary apoplexy is a rare but serious condition caused by haemorrhage or infarction of the pituitary gland. The findings in patients with pituitary apoplexy vary from mild headache to sudden collapse and coma. Most patients exhibit severe frontal or retro orbital headache, vomiting, impaired visual acuity, visual field defects, hypopituitarism, or adrenal crisis. A minority will also present with ocular palsy, obtundation, meningism, blindness, seizures, or long-tract signs.

Definitive treatment may require pituitary decompression, through a transsphenoidal approach. Outcomes depend on the symptom severity at initial presentation and promptness of decompression.

An interesting case of pituitary apoplexy occurring in a 22-year-old male with seizures and X-linked agammaglobulinaemia and prior traumatic brain injury is presented. Diagnostic pitfalls and controversies in the current management paradigms of this interesting subset of pituitary patients are discussed.

Malignant Melanoma in Mid-West Ireland: A 2-Year Audit

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Introduction: The incidence of cutaneous malignant melanoma is rising in Ireland with the National Cancer Registry of Ireland reporting an average of 706 new cases diagnosed per annum. Patients who are diagnosed in the early stage of malignant melanoma have a better prognosis and reduced mortality. The primary aims of this audit were to investigate the time lapse between referral from primary to secondary care for examination and biopsy of cutaneous melanoma, in the Mid-West region of Ireland, and to assess if histopathology reports of cutaneous MM conform to the Royal College of Pathologists' national minimum data set.

Methods: A retrospective audit was performed over a 2-year period to investigate the referral system, histological reporting and management of malignant melanoma in the Mid-West region of Ireland. The data was collated and analysed using the electronic spread-sheet program 'Microsoft Excel'.

Results: A total of 54 patients were diagnosed with invasive cutaneous malignant melanoma within the specified time period. The time lapse between initial referral from primary care to patient seen in clinic ranged from 0 to 48 weeks, with a median of 4 weeks. The time lapse from initial consultation to excisional biopsy ranged from 0 to 10 weeks, with a median of 1 week.

Conclusion: The findings of the audit revealed a fractionated approach to management of malignant melanoma in Mid-West Ireland. Referral from primary to secondary care was delayed in some instances with a median of a 4-week wait time for review in clinic. A potential for improved standardisation of histopathological reporting of malignant melanoma was also highlighted.

Assessing the Efficacy of a Milk-Based Intensive Weight Management Programme as an Adjunct, or Alternative to Bariatric Surgery

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Therapeutic options for patients with severe obesity are limited by restricted access to bariatric surgery and a paucity of safe, effective drugs for weight loss. Low energy diets (LEDs) have been shown to induce significant weight loss [1]. Several types are available, but a relatively inexpensive and straightforward regime based on meal replacement with semi-skimmed milk has shown therapeutic promise, within the context of an intensive weight-management programme (IWMP) incorporating lifestyle change and behaviour modification [2, 3].

We sought to determine the efficacy of this LED in patients attending the Bariatric Medicine Clinic at GUH, and the efficacy of the milk-based diet in changing outcomes relevant to specific patient subgroups, i.e. HbA1c in severely obese patients with Type 2 Diabetes.

Our cohort consists of patients who are currently enrolled in a 24-week IWMP, and have completed the initial 8-week weight-loss phase whereby a milk-based liquid diet is prescribed. This consists of ~2.5 L/day of semi-skimmed milk, with additional sodium, vitamin, mineral and fibre supplementation, equating to ~1,200 kcal/day.

18 patients (10 female) of which 10 had Type 2 Diabetes, completed the 8-week weight-loss phase. Initially, mean weight was 147.5 ± 28.1 kg, mean BMI 54.3 ± 7.6 kg m², mean age was 52 (range 34–66) years and HbA1c was 65.8 ± 21.6 mmol/mol in the diabetic subgroup. After the intervention, mean weight was 130.8 ± 26.7 kg, mean BMI 48.1 ± 7.3 kg m², and mean HbA1c 57.8 ± 15.4 mmol/mol, with a mean weight loss of 16.6 ± 4.4 kg.

This LED is an effective weight-loss tool and may serve as a useful adjunct or in some cases as an alternative to bariatric surgery in

the severely obese, while also contributing to significant improvements in metabolic outcomes such as HbA1c.

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Interventions in Adolescent Smoking

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Background: Tobacco use is the single most preventable cause of death in the world and is a habit which, for many, develops during adolescence. The WHO states tobacco is thought to kill 5.4 million people per annum, a figure expected to rise to 8 million by 2030, unless there is concerted international action on tobacco control.

Aims: (1) To establish the main interventions being used to help prevent adolescents from smoking, or to help them cease smoking. (2) To assess Dublin school-students' attitudes towards smoking and the effectiveness of some of the interventions employed currently.

Method: A survey compiled was distributed to schools and G.P. practices. We surveyed 478 school going adolescents.

Results: The largest percentage of adolescents who smoked was aged between 16 and 17 years. This age bracket also contained the largest amount of adolescents who had once been smokers but had now given up. Amongst other interesting findings, we elucidated experimentation, boredom, mood enhancement and creation of the right image were the main reasons cited for beginning smoking.

Conclusion: The impacts of many of smoking interventions were reviewed which highlighted the importance of education on the negative health implications of smoking in adolescents to prevent initiation of this habit in those under 19. Peer support groups should be more widely available to those who do smoke as it was found to be the most effective intervention. It has been shown that interventions based on a cognitive behavioural approach are most likely to be successful.

An Unusual Case of a Migrating Biliary Stent

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Biliary stents are commonly inserted to treat biliary obstruction secondary to benign or malignant disease. Complications of biliary stents usually occur in the acute setting and are not uncommon. They occur

in approximately 5 % of cases in the acute setting and include infection, pancreatitis, bleeding, perforation, early migration [1], occlusion and stent related cholecystitis. However late complications due to dislodged stents up until 2000 had not previously been reported [1]. Late complications are most often related to stent dysfunction, occlusion or as this case illustrates, migration.

An 89-year-old lady presented to the Emergency department complaining of vague abdominal pain and nausea. A Plain film visualised a biliary stent was deemed to be in good position and there was no evidence of obstruction, as confirmed on CT scan. Once her pain resolved she was discharged home for follow-up in the opd.

She represented 7 days later with recurrence of her symptoms which had increased in severity and were associated with vomiting on this occasion. Repeat imaging showed migration of her biliary stent causing a small bowel obstruction. She underwent emergency laparotomy, enterotomy and biliary stent retrieval. This case highlights an unusual complication of long-term biliary stenting and the need for appropriate follow up and timely removal of biliary protheses.

Reference:

1. Simpson D, Cunningham C, Paterson-Brown S (1998) Small bowel obstruction caused by a dislodged biliary stent. *J R Coll Surg Edinb* 43:203

An Observational Study of the Trends in Antibiotic Consumption in Ireland (2008–2012)

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Introduction: Antibiotic resistance in Ireland is an area of concern. In recent years, a number of initiatives have been put in place to promote more prudent antibiotic prescribing practices. This has included national awareness campaigns, education programmes targeting general practitioners and publication of evidence based guidelines for antibiotic prescribing in primary care.

Aim: To analyse the trends in antibiotic consumption in Ireland and examine the overall impact of prescribing interventions at a national level; whilst also considering Kerry and Mayo in greater detail to assess the response to known localised interventions in these counties.

Method: A statistical analysis of a dataset from the Intercontinental Marketing Service (IMS) Health database obtained through the Health Protection Surveillance Centre (HPSC). This dataset contained monthly antibiotic consumption data from January 2008 to June 2012 inclusive. For the purpose of this study, we looked at broad spectrum penicillins, 2nd and 3rd generation cephalosporins and quinolones.

Results: Overall antibiotic consumption is continuing to rise. Quinolones and 2nd and 3rd generation Cephalosporins show a downward trend in consumption. Broad Spectrum Penicillins appear unchanged. Seasonal variation remains high.

Conclusion: The interventions appear to have had no discernible effect on the overall consumption of antibiotics. However, there seems to be an improvement in the choice of antibiotic in prescribing. This is in line with the recommendations made in the guidelines for antibiotic prescribing.

A Rare Presentation of Neurofibromatosis Type II: Bilateral Cerebello-Pontine Angle Meningiomas

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A 45-year-old lady presented with a 6 month history of progressive hearing loss associated with balance disturbance. Magnetic resonance imaging showed findings of bilateral cerebello-pontine angle meningiomas. Audiometry showed she has sensorineural hearing loss affecting the left side greater than right side. The presentation is consistent with a clinical diagnosis of Neurofibromatosis Type II (NF2) with a differential diagnosis of sporadic multiple meningiomas. Multiple meningiomas are defined as 2 spatially separated meningiomas that occur in absence of neurofibromatosis or vestibular schwannoma [1]. NF2 is a genetic disease caused by mutations of the *Merlin* gene that results in symmetric, non-malignant brain tumours. Clinical diagnosis requires bilateral eighth nerve masses visualized on MRI, or a first-degree relative with documented NF2 for an individual with a unilateral eighth nerve mass, or a first-degree relative with documented NF2 for an individual with at least 2 of the following findings: meningioma, glioma, schwannoma, or juvenile cataract [2]. Our treatment plan involves surgical resection of the largest tumor initially with preservation of cochlear nerve function. With the genetic implications of NF Type II, her daughter will be tested for similar tumour manifestations with MRI.

References:

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An Unusual Presentation of Psoas Abscess in a Patient Following a Road Traffic Accident

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Psoas abscess is a rare and potentially life-threatening suppurative myositis of the iliopsoas compartment. While in developed countries the vast majority of psoas abscesses are due to haematogenous spread of infection (75 %), in our study, the patient's predisposition arose elsewhere.

We present a 52-year-old female who presented to the emergency department complaining of lower back pain and symptoms suspicious of a urinary tract infection. She had been admitted 4 weeks previous following a road traffic accident (RTA) in which she sustained stable compression fractures of T4, T6, and L1 vertebrae identified by computed tomography (CT). These had been dealt with conservatively with a spinal support brace.

The patient was readmitted and despite rigorous antibiotic regimens, the infectious nature of a suspected urinary tract infection persisted. CT imaging of the thoracolumbar spine was repeated and identified a new kyphosis with retropulsion into the spinal cord. Posteriorly, there was a 20 cm left psoas abscess containing bony fragments identified.

Spinal decompression and stabilisation with drainage of the psoas abscess was performed. Culture and Sensitivity identified Meticillin Sensitive Staphylococcus Aureus and the patient was treated with a postoperative antibiotic regimen accordingly.

A high index of suspicion for psoas abscess is crucial. Early intervention can avoid complications including septic shock (20 %), and death, which can near 100 % in untreated patients. The complexity of this case illustrates the importance of early imaging in patients where there is an index of suspicion.

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Coexistent Well-Differentiated Papillary Mesothelioma of the Fallopian Tube and Invasive Ductal Carcinoma of the Breast

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Introduction: Well-differentiated papillary mesothelioma (WDPM) is a rare epithelioid mesothelioma of uncertain aetiology, primarily of women of reproductive age. It is usually an incidental finding involving the peritoneum, pleura, pericardium or tunica vaginalis, with occurrence at multiple sites reported. Treatment options include observation, local resection, cytoreductive surgery, and intravenous or intraperitoneal chemotherapy. WDPM is a tumour of low malignant potential, with reported outcomes from stable disease without intervention, to rare malignant transformation.

Case presentation: An asymptomatic 56-year-old female with a significant family history of breast cancer and normal clinical examination had a left breast invasive ductal carcinoma (IDC) with axillary nodal metastases diagnosed following a screening mammogram. Neoadjuvant chemotherapy was scheduled and staging CT thorax/abdomen/pelvis revealed a 2.7 × 3.2 cm mass adjacent to the left ovary. Post chemotherapy ultrasound confirmed persistence of a 3.6 cm solid left adnexal mass. A laparoscopic left salpingo-oophorectomy and excision of an associated Pouch of Douglas lesion was undertaken; histology revealing two foci of WDPM. She underwent left breast wide local excision and axillary clearance and made an excellent recovery, although was subsequently found to be a BRCA carrier.

Discussion: We believe this to be the first case of coexistent peritoneal WDPM and breast carcinoma reported. Local excision with long term follow up is appropriate therapy in cases of localised peritoneal WDPM. This case illustrates the importance of histological diagnosis and literature review in incidental ovarian masses presenting with breast carcinoma, to determine appropriate treatment and accurate patient prognosis.

In the Current Era of ST Elevation Myocardial Infarction Treatment: What Patients are Not Reperfused?

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Background: The current treatment of ST elevation myocardial infarction (STEMI) is mechanical reperfusion by Primary Percutaneous Coronary Intervention (PPCI) or systemic thrombolysis [1]. Certain patients do not receive this treatment and several factors are related to non-reperfusion, with advanced age and co-morbidities being particularly significant [2]. As the patient population continues to increase in terms of age, we need to define and critically evaluate these patients that do not receive reperfusion.

Aim: To define the characteristics and outcomes of STEMI patients not receiving reperfusion therapy

Methods: The Coronary Heart Attack Ireland Register was used to identify STEMI patients who did not receive reperfusion therapy between January 2007 and December 2011. A retrospective chart review was performed. Patient mortality at 30-days and 1-year post STEMI was included. Data was analysed using SPSS.

Results: 77 cases were included. Patients were predominantly female (61 %, n = 47) with a mean age of 80.39 years. 42.9 % (n = 33) were widowed, with the majority (49.4 %, n = 38) living with a spouse/relative. 49.4 % (n = 37) were considered independent in terms of ADLs. 26 % (n = 20) received formal cognitive assessment during their hospital admission. Patient mortality at 30 days post STEMI was 55.8 %, increasing to 61 % at 1 year.

Conclusion: Patients presenting with STEMI that do not receive reperfusion therapy have a high 30 day and 1 year mortality. As the older demographic of the population grows, this patient cohort will become increasingly significant.

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In the Current Era of ST Elevation Myocardial Infarction Treatment: What Patients are Not Reperfused?

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Introduction: Acute compartment syndrome is a neurovascular emergency. It occurs when tissue pressure within a closed muscle compartment exceeds the perfusion pressure resulting in muscle and nerve ischemia. It is commonly associated with traumatic events, such as crush injuries or fractures but may also occur after reperfusion of vascular occlusion and an ischaemic period within a limb. Consequences of neglected compartment syndrome include, irreversible

muscle and neuronal necrosis, Volkmann's contracture, nerve palsies, renal failure and potentially death.

Case: 55-year-old male presented with acute onset, severe pain and acute limb ischaemia of the left leg which occurred at rest. There was no previous history of peripheral vascular disease or radicular pain in the leg. Past medical history included type two diabetes mellitus and hypercholesterolaemia. The patient underwent revascularisation via aortofemoral bypass. Day 1 post op the patient developed severe pain in his foot with loss of distal pulses, proprioception, and deep touch sensation. Emergency fasciotomy was undertaken to decompress acute compartment syndrome secondary to a reperfusion injury. Fasciotomy wounds were dressed with negative pressure dressings for 2 weeks. Failure of negative pressure treatment, led to the patient requiring split skin grafting to complete wound closure.

Discussion: Commonly following reperfusion, prophylactic fasciotomies are created in anticipation of compartment syndrome. As this patient's ischaemic time was considered short, 3–4 h, he was perceived to be a lower risk for this reperfusion injury. He returned to theatre for fasciotomy day 1 post op. Neurovascular observations 24–48 h post op are essential to recognise early signs of compartment syndrome.

Colorectal Cancer Management in a Single Institution Over a 2-Year Period

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Background: Colorectal cancer currently represents the second most common cause of cancer death in Ireland. The National Cancer Screening Service recently introduced BowelScreen—The National Bowel Screening Programme, which offers free bowel screening to men and women aged 60–69 years. We sought to analyse the proportion of our cohort of colorectal cancer presentation with advanced disease, who may have benefited from colorectal screening.

Methods: Data was collected on all patients admitted to Mayo General Hospital with a new diagnosis of colorectal cancer over a 2-year period from December 2011 to November 2013.

Results: In total there were 114 new cases of colorectal carcinoma. The majority of these were male (79/114, 69.3 %). The average age of presentation was 69 years. Altered bowel habit was the most common presenting symptom (26/114), followed by iron-deficiency anaemia (21/114) and bleeding per-rectum (18/114), with 11.4 % (13/114) of patients presenting as an emergency. Our data showed that a significant proportion of our cohort presented with metastatic disease (28/114, 24.6 %), with only one case of metastatic disease undergoing resective surgery. The most common site of metastases was the liver (71.4 %), with numerous cases of omental metastases and peritoneal carcinomatosis. The average age of those who presented with metastatic disease was 67 years.

Conclusion: A large proportion of our cohort presented with late-stage unresectable disease. Our data proposes the definite role for colorectal cancer screening to pick up disease at an earlier stage leading to increased survival. Our results show the benefit of multi-disciplinary team meetings in terms of accessing and planning neoadjuvant and adjuvant therapy in our institution.

Chest Pain—A “Pain in the Neck”

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The presentation of sudden onset chest pain invariably mandates a thorough investigation and treatment strategy. Naturally, confirmation bias can often result in clinicians favouring diagnoses with high incidence to the detriment of a rare peculiar cause. With a shrewd and observant approach, complimented by a high index of suspicion, rare conditions can be identified and, as with our case, early treatment can be crucial in preventing death.

A 71-year-old gentleman presented to the emergency department complaining of severe left sided chest pain following four episodes of vomiting 1 h after the consumption of a large meal. Following routine investigation, X ray imaging was performed. The triad of pneumomediastinum, surgical emphysema and left hydropneumothorax were identified on the plain film.

Suspicion of oesophageal perforation warranted Computed Tomography (CT) and contrast radiographic studies which confirmed the presence of an oesophageal rupture. Emergency surgery was planned and antifungal, antibiotic and proton pump inhibitor therapy commenced.

An emergency endoscopy was performed which revealed a 7 cm full thickness rupture at the left supradiaphragmatic portion of oesophagus. By Seldinger technique, a 17 cm Hanarostent was deployed. A nasogastric tube was passed through the stent to the stomach.

The patient had an uneventful post operative course with repeat contrast radiographic studies performed on the fourth postoperative day confirming competency and viability of the Hanarostent. The patient returned to oral feed on the 14th postoperative day and was discharged 20 days after initial presentation

Occurring as infrequently as 3.1 per million per year Boerhaave's Syndrome is exceptionally rare. Historically it has a high fatality rate (30 %) with time delay to diagnosis recognized as the most crucial indicator of prognosis. The immediate recognition in this case facilitated rapid intervention and optimal outcome.

Reference:

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A full thickness oesophageal rupture was identified

Full Thickness Oesophageal Rupture from 30 to 37 cm

A 23-year-old, active gentleman, presented to hospital with pain and swelling in the left lower leg. It was a deep, non radiating pain, exacerbated by exercise. The swelling was acute, developing over 12 h. There was no past history of deep vein thrombosis, no recent immobilisation, and the patient denied any concurrent illnesses. On examination, the leg was tender, and measured 4 cm larger than the contralateral leg. Of note, a large posterior mass was palpable in the affected limb. X-ray showed a posterior femoral exostosis. Well's score was two. An ultrasound was performed which identified thrombosis in the superficial femoral, and popliteal veins. Haematological causes of thrombosis were ruled out, and it was determined that compression by the exostosis was the cause of the thrombosis.

The patient was readmitted electively for excision of the exostosis. Following preservation of the vessels of the popliteal fossa, the exostosis was excised. Histological reports indicated an osteochondroma. Therapeutic low molecular weight heparin was discontinued 6 weeks post-operatively and venous thrombosis has not reoccurred.

An exostosis, also known as osteochondroma, is a cartilage capped lesion. If solitary, they represent low malignant potential and unless symptomatic, they are rarely excised. When excised, they have a 5 % risk of recurrence.

Audit of Doctors' Knowledge and Understanding of the Medical Fitness to Drive Guidelines, "Sláinte agus Tiomáint", 2013

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Background: Traffic medicine aims at reducing injury and deaths due to traffic accidents. In 2013, the Medical Fitness to Drive Guidelines, Sláinte agus Tiomáint [1], were published by the Irish Road Safety Authority (RSA). These guidelines help doctors to assess a patient's driving fitness. Identifying and warning patients who are potentially unfit to drive has previously been shown to decrease trauma from road accidents [2].

Aims: This audit aimed to investigate whether doctors were aware of/ had read the guidelines. A questionnaire aimed to assess knowledge of information and recommendations contained in the guidelines.

Methods: A representative majority of the doctors from Saint Vincent's Hospital, Fairview were selected. 5 consultants, and 6 NCHDs completed a 30 item questionnaire, containing both open-ended and closed-ended questions. The questions were adapted from the guidelines, and focussed on medications which affect driving.

Results: 82 % of doctors had heard of the guidelines, however only 55 % had read them. Only 27 % could state the year the guidelines were published. The mean questionnaire score for a NCHD was 58 %, while for a consultant was 45 %. Those who had previously read the guidelines scored higher than those who had not. There were certain questions which were consistently poorly answered.

Conclusion: More should be done to increase awareness of the Medical Fitness to Drive Guidelines. A letter with recommendations was written to the RSA. A summary of the important guidelines was compiled, which was distributed to hospital doctors, to increase their knowledge related to medications which affect driving.

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Hermansky–Pudlak Syndrome: Not Just For Puerto Ricans!

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PO, a 39-year-old Irish male with oculocutaneous albinism, presented to the respiratory clinic with worsening dry cough and exertional dyspnoea. The patient was known to haematology regarding a coagulopathy first noted at the age of 14, marked by frequent epistaxis and which required multiple blood transfusions following minor surgical or dental procedures. Following referral for genetic testing and electron microscopy studies of whole blood, which showed an absence of platelet-dense (PD) bodies, Hermansky–Pudlak Syndrome Type 1 was diagnosed. Monitoring for subsequent pulmonary fibrosis by pulmonary function testing and HRCT thorax was initiated. The patient has since been commenced on pirfenidone following documented deterioration.

The Hermansky–Pudlak syndrome is a heterogeneous group of autosomal recessive disorders defined by a storage pool deficiency of platelets, and characterised by tyrosinase-positive oculocutaneous albinism, bleeding diathesis, and systemic complications associated to lysosomal dysfunction, such as pulmonary fibrosis and granulomatous colitis [1].

Eight known HPS subtypes exist, the majority of which present with the same clinical phenotype, albeit varying degrees of severity. Over three-quarters of patients with HPS die of causes directly related to the syndrome. Life expectancy is between 30 and 50 years of age [1, 2].

HPS-1 and HPS-4 carry the most severe prognosis, since these subtypes are associated with the development of pulmonary fibrosis. This is attributed to accumulation of a ceroid-like substance in lysosomes of a variety of tissues. While pirfenidone may slow the progression of pulmonary fibrosis in some HPS patients, lung transplantation is the only definitive treatment at present. Steroid therapy is not effective [1, 3].

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An Audit of Night Sedation Prescribing Practice in Hospital In-Patients

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Introduction: Hypnotic medications are commonly prescribed for patients in the hospital setting. However over-prescribing of these medications pose serious risks to patients, including dependence [1], confusion and increased falls risk, particularly in elderly patients [2].

Objective: The objective of this clinical audit was to assess the frequency with which hypnotic medications are prescribed to hospital in-patients, and whether risk factors and contraindications for such medications are documented.

Methods: The drug charts of one hundred patients from Mayo General Hospital were analysed to determine the prevalence of night sedation prescribing. Patient medical notes were also examined to assess whether any documentation had been made of patient risk factors/contraindications to these medications, and whether a date had been noted for when these prescriptions should be reviewed.

Results: 47 patients (47 %) were prescribed night sedation. The commonest prescribed hypnotic was Zopiclone (72 %). No patient notes or drug charts had documented when these prescriptions should be reviewed.

Conclusion: This audit indicates the high prevalence of prescribing of night sedation for hospital in-patients. Our recommendations include education of medical and nursing staff regarding the potential effects of over-prescribing of night sedation, careful consideration of patient contra-indications prior to commencing hypnotic therapy, and regular review of requirement of therapy in patients who have been commenced on night sedation, to potentially reduce the overall duration of therapy.

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A Rare Presentation of Pulmonary Hydatid Cyst Disease in Ireland

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A 44-year-old Bulgarian male presented to the respiratory service following an episode of sudden onset prolonged postprandial cough, productive of 400–500 mL of clear, salty material, and associated with left-sided back pain.

On examination, he was febrile, tachycardic, tachypnoeic, and flushed, with inspiratory crackles at his left base.

The patient was HIV-and-TB-negative, and had a normal vascular screen. A chest radiograph showed a large, left-sided pulmonary cyst, later confirmed by CT scan which also revealed multiple liver cysts. Radiologic opinion strongly suggested hydatid cyst disease. This diagnosis was subsequently confirmed by ELISA for detection of anti-Echinococcus IgG.

The patient was commenced on continuous albendazole. Surgical intervention is considered the optimal treatment for echinococcosis but is associated with considerable mortality, morbidity, and recurrence rates [1]. Following discussions with multiple Irish cardiothoracic units, it was agreed that referral to a specialist centre in Bulgaria, which sees over 500 cases per year, was appropriate.

Under albendazole coverage, the cysts were punctured using an ultrasound-guided catheter, through which nitrogen mustard was instilled to nullify the cyst contents. The contents were then aspirated via the catheter, and the membranes subsequently excised surgically.

The patient is presently asymptomatic several months later.

Echinococcosis or hydatid disease is caused by larvae of the tapeworm *Echinococcus*. Four species are recognised, with the majority of infestations in humans caused by *E. granulosus*, and

associated with cystic disease [2]. The liver and lungs are the most frequently involved organs. While the condition is seen worldwide, incidence in Ireland is extremely low [3].

References:

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2. Brunetti E, Kern P, Vuitton DA (2010) Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. *Acta Trop* 114(1):1–16
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A Follow-Up Review of Infection Rates in Peripherally Inserted Central Venous Catheter (PICC) Lines Using Centre for Disease Control (CDC) Definitions

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Background: An initial study to examine the feasibility of a nurse-led Peripherally Inserted Central Catheter (PICC) insertion service at Galway University Hospitals (GUHs) suggested that infection rates may have been higher than expected. A subsequent 20 day in-patient prospective study which reviewed all Central Venous Catheters in use, also indicated a high PICC infection rate of 7.09/1,000 catheter days. As many of the patients with PICCs are in the community for long time periods, this may overestimate the true incidence of infection as the denominator data may be spuriously low if only in-patient days are counted.

Aims: The aim of this study was to retrospectively assess PICC line infection rates using CDC definitions of infection and line day denominator data.

Methods: Over a 19 month period, all PICC insertions performed by the Clinical Nurse Specialist were recorded and the total line days calculated. The indications for insertion, length of insertion and reasons for removal of the line were all documented. Retrospectively, blood culture and line tip data were analysed using CDC definitions to calculate numerator data.

Results: This yielded 5,354 line days from 194 lines in 170 patients, with the average patency being 38.6 days. Using CDC definitions of infection, a Catheter Related Bloodstream Infection (CRBSI) rate of 1.2/1,000 catheter days and a Catheter Associated Bloodstream Infection (CABSI) rate of 1.7/1,000 catheter days were found.

Conclusion: There is little published on PICC line infection rates but rates following nurse-led PICC insertion at GUH appear to be comparable with the few available publications [1]. This study is worthwhile as short-term audits/surveillance may over-estimate the true rate of line infection if all line denominator data is not available. There is a need for further development of suitable surveillance for PICC and other long term lines in use.

Reference:

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Vital Signs are Vital; a Case of Atypical Presentation of Ischemic Heart Disease in General Practice

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Introduction: O.P. presented to his GP requesting a repeat prescription of a terbutaline (short acting beta agonist) inhaler. Further investigation of the patient demonstrated broad complex tachycardia, left bundle branch block and heart failure.

Case presentation: O.P. a 42-year-old male smoker with a history of asthma and diabetes presented to his GP requesting a repeat prescription of his inhaler. He had a 2 day history of shortness of breath, no chest pain, dizziness, palpitations or cough. There was no family history of cardiovascular disease. On examination O.P. had a heart rate of 138 bpm, bi-basal crackles bilateral pitting oedema and no wheeze. ECG revealed broad complex tachycardia (rate 140,) and new onset LBBB. The patient was sent to hospital.

Management and outcome: On admission to A&E, O.P. had 2 negative troponins and chest X-ray evidence of heart failure. While awaiting cardiology review in the patient self-discharged. Immediate contact with the patient was made and he re-attended the GP clinic showing signs of dyspnoea and diaphoresis. Despite his clinical presentation, the patient was reluctant to return to hospital where he underwent an angiogram and coronary artery stenting.

Discussion: This case underlines the danger of taking a diagnosis for granted before examining the patient. The tachycardia and sob in this patient could have been attributed to the use of beta agonists for an exacerbation of asthma. Dyspnoea however is the most common atypical presentation of Acute Coronary Syndrome, followed by diaphoresis, nausea/vomiting and pre-syncope episodes. Patients with atypical features take longer to present and are more likely to have heart failure at the time of presentation [1].

References:

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The Effect of PA401 on Interleukin-8 Levels in Airway Samples of Patients with Cystic Fibrosis

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Introduction: The chemokine interleukin-8 (IL-8) is a key mediator of inflammation in the cystic fibrosis (CF) lung [1]. Glycosaminoglycans (GAGs) possess the ability to influence the chemokine profile of the CF lung by binding IL-8 and protecting it from proteolytic degradation [2]. Previous work from this laboratory has shown that hypertonic saline disrupts the interaction between GAGs and IL-8, rendering IL-8 susceptible to proteolysis, thereby reducing neutrophil chemotaxis [3]. In this study, we examine the effects of PA401 [IL-8 (Δ 6F17KF21KE70KN71K)], a recombinant glycan-binding IL-8 decoy on the IL-8/GAG complex.

Objectives: As PA401 lacks chemotactic activity yet demonstrates increased (40 $\times$) glycan binding affinity we investigated the anti-inflammatory effect of PA401 on IL-8 levels, and activity, within the CF lung in vitro.

Methods: Degradation of IL-8 in CF bronchoalveolar lavage fluid (BALF) after treatment with PA401 was analyzed by ELISA. The ex vivo chemotactic activity of purified neutrophils in response to CF airway secretions

Measurement and main result: Exposure of CF BALF to increasing concentrations of PA401 (50–1,000 pg/mL) over 2–12 h in vitro, significantly reduced the level of detectable IL-8 ($p < 0.05$). PA401 engendered release of IL-8 from GAGs exposing the chemokine to proteolysis. A 30 % decrease in neutrophil chemotaxis towards CF BALF samples incubated with PA401 was also observed ($p < 0.05$).

Conclusions: The IL-8 decoy PA401 disrupts the interaction between GAGs and IL-8, rendering IL-8 susceptible to proteolytic degradation with subsequent decrease in neutrophil chemotaxis in vitro. Clinical application of an IL-8 decoy may serve to decrease the inflammatory burden in the CF lung in vivo.

References:

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2. Solic N, Wilson J, Wilson SJ, Shute JK (2005) Endothelial activation and increased heparan sulfate expression in cystic fibrosis. *Am J Respir Crit Care Med* 172:892–898
3. Reeves EP, Williamson M, O'Neill SJ, Grealley P, McElvaney NG (2011) Nebulized hypertonic saline decreases IL-8 in sputum of patients with cystic fibrosis. *Am J Respir Crit Care Med* 183(11):1517–1523. doi:10.1164/rccm.201101-0072OC

Ossification of Posterior Longitudinal Ligament: An Uncommon Cause of Cervical Myelopathy

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Introduction: Ossification of the posterior longitudinal ligament (OPLL) of the cervical spine is an uncommon condition and the myelopathy caused by cervical OPLL is rare. The signs and symptoms of complications related to OPLL are non-specific and varied. The size of the spinal canal is a factor that contributes to the neurologic deficits associated with cervical ossification of the posterior longitudinal ligament (OPLL).

Case description: A 75-year-old female presented with radicular pain which had persisted following a knee replacement and was treated with steroid injection. 3 years later she presented with upper and lower limb weakness which had become progressively worse during the previous 4–6 weeks. When she presented she could no longer walk independently and was using a wheelchair for mobility. She was very ataxic with a wide based gait on attempted walking. She was hyperreflexic with a positive Hoffmann's sign bilaterally. She had profound grade 3 weakness in her right lower limb and grade 4 throughout the remainder of her limbs. She had significant loss of ADLs on presentation and required a carer.

She was admitted for investigation. MRI scan of her cervical spine showed severe stenosis between C2 and C6 which measured 9 mm on CT scan.

She underwent urgent craniocervical decompression and instrumented fusion of C0 to C6, with multilevel microneurosurgical undercutting facetectomy.

Postoperatively she received physio and occupational therapy at a rehab unit. Six weeks after her operation she was walking independently and had regained normal power in her limbs.

Discussion: Cervical myelopathy due to OPLL is most commonly seen in middle aged males of Asian extraction and is rarely seen in elderly Caucasian females. The normal cervical canal measures 17 mm in anterior/posterior diameter. Absolute stenosis defines a canal of 10 mm or less. The patient in this case had marked spinal stenosis with a spinal canal measurement of 9 mm. Following her initial presentation with non-specific radicular symptoms, her symptoms progressed rapidly and over a short period rendered her wheelchair bound and requiring a carer. This case demonstrates how surgical intervention in these patients can result in a marked change in quality of life and in this patient's case led to restoration of independent walking and living.

Peristeen as a Management for Neurogenic Bowel Dysfunction in Children with Myelomeningocele

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Background: Bowel management is an important concern for individuals with myelomeningocele and for their families. Peristeen is a new device shown in previous studies to be an effective method of treatment of neurogenic bowel dysfunction (NBD) with ease of use and improved independence. However, we wanted to evaluate Peristeen in our own experience in Cork University Hospital (CUH) because of poor verbal feedback from our patients.

Aims: The aim was to assess if Peristeen, in the opinion of the patient and their carers, is effective, reduces symptoms and time spent on bowel management and improves quality of life and independence compared to their previous bowel management method. Adverse events were also evaluated.

Methods: 15 patients fitted the inclusion and exclusion criteria. A retrospective questionnaire was posted to these families.

Results: 42.9 % reported an improvement in symptoms of uneasiness, headache or perspiration during or after a bowel evacuation. A majority of patients reported all other symptoms as worsening. 38.4 % reported an improvement in quality of life, however, 38.4 % reported no change with the remainder reporting a worsening. 83.3 % reported an increase or no change in time spent on bowel management. 61.5 % reported no change in their level of independence. 84.6 % experienced expulsion of the catheter and 69.2 % experienced leakage of irrigation fluid and abdominal pain during use. 69.2 % had experienced bursts of the rectal balloon at least once.

Conclusions: Peristeen did not improve symptoms of NBD, quality of life or amount of time spent on bowel management in this group of patients. Furthermore, patients encountered difficulties when using Peristeen.

References:

1. López Pereira P, Salvador OP, Arcas JA, Martínez Urrutia MJ, Romera RL, Monereo EJ (2010) Transanal irrigation for the treatment of neuropathic bowel dysfunction. *J Pediatric Urol* 6(2):134–138
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myelomeningocele children: an alternative, safe and valid approach for neurogenic constipation. *Spinal Cord* 48(7):560–565

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Audit of Functioning ECG Machines in University Hospital Limerick

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Background: The 2012–2013 interns in University Hospital Limerick highlighted in correspondence to management their perceived difficulty and delay in obtaining functioning 12-lead ECG machines when needed at work, in particular while on call. On foot of guidelines emphasising requirement for electrocardiographs being carried out without delay, e.g. in the context of chest pain [1] and pursuant to the complaints of last year's interns, an audit of functioning 12-lead ECG machines in the hospital was carried out by one intern during a weekend night.

Aims: To assess the number of functioning 12-lead ECG machines on each ward in University Hospital Limerick during a night on call and the readiness for use of each machine at that point in time.

Methods: This was an observational cross-sectional study, carried out by survey and inspection of ECG machines on each of the 17 wards of the hospital on the night of Sunday 10th November 2013. Availability and stores of ECG equipment (electrodes and ECG paper) were also checked. ECG machines were tested to see if they were charged and worked.

Results: 6 wards had no ECG machines. A further three wards had machines not ready/fully fit for use. Medical wards were notably better equipped than surgical wards. Included in the above results are five new ECG machines (purchased in recent months). In one case a new ECG machine had not been used for a week because incorrect electrodes were on the ward.

Conclusions: There are not enough ECG machines in the hospital. There is inefficient use of existing machines and equipment. This audit has been added to the agenda for the upcoming Intern Steering Group meeting with the CEO and management of the hospital. Any recommendations/changes arising from this meeting will be noted and a re-audit carried out early in the new year.

Reference:

1. NICE Guideline (2010) CG95 Chest pain of recent onset

Intern Practical Skills: A Comparison of Confidence Levels Between Medical and Surgical Interns

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Introduction: The National Intern Training Programme was approved by the Irish Medical Council in 2011, and outlines

professional competence requirements for newly-appointed doctors during intern year, including an array of practical skills interns should be capable of performing.

Objective: The objective of this study is to assess interns' confidence levels at performing clinical skills, and to compare medical and surgical intern confidence levels at intervals during internship.

Methods: 31 interns in the West-Northwest Training Network completed a paper-based questionnaire, rating their own competence to perform six procedural skills, as outlined by the NITP, at three time intervals. A Likert Item of 1–5 was used, 1 representing not confident and 5 representing very confident. A comparison was made between medical and surgical intern scores.

Results:

- Similar confidence levels were reported among medical and surgical interns in venepuncture, cannulation, and taking blood cultures.
- Surgical interns demonstrated greater confidence at performing male catheterization than medical interns at 3 months, with median confidence rating amongst surgical interns 4/5 and 3/5 for medical interns ($p < 0.05$).
- Medical interns showed greater confidence in performing ABGs at 3 months, with median confidence 4/5 compared with 2/5 for surgical interns ($p < 0.05$).
- Among medical interns NG Tube insertion scored the lowest confidence rating with a median rating of 2/5, whereas among surgical interns ABG analysis scored the lowest confidence rating with a median of 3/5 at 3 months.

Conclusion: There is a discrepancy in confidence levels between medical and surgical interns, which merits consideration in designing future intern teaching programmes.

Two Parathyroidectomies in Pregnancy

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We report two cases of hypercalcemia in pregnancy with differing presentations both of whom were treated with parathyroidectomies. These cases highlight the effective role surgery plays in the management of hypercalcemia in pregnancy.

Case report: Two cases of primary hyperparathyroidism in pregnancy are described.

Patient A was a 29-year-old lady who presented at 22 weeks gestation with a 3 year history of abdominal pain, depression and agitation. Blood tests revealed a serum calcium of 2.93.

Patient B was asymptomatic with a serum calcium of 2.88 on routine antenatal bloods. Patient A had an open parathyroidectomy at 27 weeks gestation. Patient B had a minimally invasive parathyroidectomy at 22 weeks gestation. Histology confirmed the diagnoses of an adenoma of the parathyroid gland. Both patients had an uneventful outcome for both mother and baby.

Discussion: Hyperparathyroidism is a rare complication of pregnancy affecting approximately 0.5–1.4 % of all cases [1]. Hypercalcemia in pregnancy can have serious complications for mother and baby. Maternal complications nephrolithiasis, depression, bone disease and hypercalcemic crisis. Fetal complications range from low birth weight to stillbirth, miscarriage and neonatal tetanus. Parathyroidectomy is a potentially curative treatment for both mother and baby.

Reference:

1. Mc Mullen TPW, Learoyd DL, Williams DC, Sywak MS, Sidhu SB, Delbridge LW (2010) Hyperparathyroidism in pregnancy:

options for localization and surgical therapy. *World J Surg* 34:1811–1816

Audit: Doctors Adhering to Proper Prescribing Methods, Generic vs Brand, What are We Doing?

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Background: Generic prescribing has been proven to enhance the health of the public, by reducing errors and improving patient safety. Generic prescribing has been renowned for its economic efficiency, also creating clarity in support of competitive drug markets and reducing transaction costs. Developed in the 1950s by the World Health Organization, INNs (International Nonproprietary Names) are a common global scientific nomenclature designed to prevent mishaps that occur when prescribing. The law in most countries requires manufacturers to designate pharmaceuticals with INNs in labeling and advertising. Generic substitution is also permitted or mandatory in many countries.

Objectives: The goal of the study was to assess how many generic drugs we are prescribing in comparison to brand name drugs.

Methods: Based on 22 patients from St. Comans unit at RCH, their drug prescription sheets were examined to determine fellow doctors behavior in regards to prescribing.

Results: 61 % of drugs were being prescribed using generic names and 39 % were being prescribed using brand names.

Conclusions: Doctors adherence to generic prescribing was poor in RCH. As suggested by the INNs, when prescribing brand names, benefits in writing the generic name would be more clear, cost effective and efficient for those dispensing and using the medication.

An Audit of Repeat Doppler Ultrasound Studies Conducted in the Emergency Department

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Introduction: Gold standard for the detection of deep vein thrombosis involves Doppler ultrasound of the limb affected. Current guidelines in Tallaght Hospital involve conducting repeat Doppler studies on those with negative first Doppler studies for Deep vein thrombosis (DVT) and with positive d-dimer results. This audit aims to assess the results of those patients who underwent repeat Doppler studies and to compare Tallaght hospital guidelines with that of another Dublin hospital.

Methods: A cohort of patients over a period of 4 months who underwent Doppler studies were assessed. Information was extracted using the sex, age, d dimer results and reports of Doppler results of this cohort. Discharge summaries from computerised medical records were analysed to assess the final diagnosis/outcome. Information was compiled into comprehensible pie/bar charts. AMNCH protocol was compared to the standard.

Results: From a total of 185 patients who underwent repeat Doppler, 2 were shown to have a DVT on repeat scanning. D Dimers in both these patient were shown to be positive. 34 those who underwent a

Doppler study had negative d dimers. The breakdown in diagnosis, having out ruled DVT, was mostly attributed to soft tissue and vascular issues. The majority of those undergoing Doppler studies were aged between 55 and 69 and female.

Conclusions: Conducting an audit of Doppler ultrasound studies is essential to evaluate clinical performance and to determine what changes should be made to improve quality of care and to avoid unnecessary scanning.

Attitudes of Doctors and Nurses to the National Early Warning Score System

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Background: In order to aid recognition of changes in a patient's state the National Early Warning Score (EWS) system was recently introduced in Ireland. The EWS system allows the calculation of a patient's risk of serious deterioration using a number of specific parameters.

Aims: The purpose of this study was to conduct interviews with interns, Non-consultant hospital doctors (NCHDs), and nurses in order to obtain information on attitudes to the EWS system.

Methods: A total of 30 semi-structured interviews were performed with 18 interns, 2 NCHDs, and 10 nurses.

Results: It was recognised that the EWS system was useful in identifying and monitoring sick patients, and particularly helpful in empowering nurses to encourage a doctor to evaluate a patient. As such, the nurses generally believed that the EWS system positively impacted communication between nurses and interns. However, there was still reticence on the part of the nurses to call more senior doctors even when required. Not all of the interns agreed that the EWS system necessarily improved communication between interns and nurses. It was suggested that the EWS system can negatively impact clinical judgement and flexibility. It was also agreed by interns and nurses that the EWS system increases the workload of interns.

Conclusions: The EWS system would appear to have a positive impact on patient care. However, there is a need to encourage nurses to contact senior doctors as required, and consideration should be given to the effect the EWS system is having on the workload of interns.

The Impact of Maternal Age and Chorionicity on Obstetric Outcome in Twin Pregnancy

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Introduction: The number of twins born in Ireland has increased from 11.8 sets per 1,000 live births in 1988 to 17.9 in 2011 [1]. This study aims to investigate the impact of advanced maternal age and chorionicity on obstetric outcome in twin pregnancies.

Aims: The aims of this study were to investigate the impact of advanced maternal age and chorionicity on obstetric outcome in twin pregnancies in an Irish population.

Methods: A retrospective cohort study of all twin pregnancies delivered from 2009 to 2011 in a large, tertiary hospital (~8,000 deliveries per annum) in the Republic of Ireland was conducted. Birth registers and clinic records were reviewed to examine obstetric outcomes.

Results: Of the 523 twin pregnancies included in the study 9.6 % (n = 50) of mothers were ≥40 years and 47.5 % (n = 247) were nulliparous. Advanced maternal age, mother aged ≥40 years, was associated with increased ART (52 vs. 25.2 %; p < 0.001) and increased caesarean delivery (78.0 vs. 60.9 %; p < 0.001). Differences between the age groups were noted for GDM (9.8 vs. 3.1 %; p = 0.007) and PET/PIH (30.8 vs. 13.8 %; p < 0.001). 16.3 % (n = 87) of twins were monochorionic who had a higher incidence of PTD (65.1 vs 47.9 %, p = < 0.001) and iatrogenic reasons for PTD (69.4 vs 52.4 %, p = 0.006) than dichorionic twins.

Conclusion: As a greater number of women are delaying childbearing, and with advances in ART, there are considerable more first time births, including sets of twins, to older women. The findings of this study indicate that advanced maternal age and nulliparity were associated with adverse obstetric outcome in twin pregnancies.

Reference:

1. Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland Directorate of Strategy and Clinical Care, Health Service executive (2012) Clinical practice guideline management of multiple pregnancy. Royal College of Obstetricians and Gynaecologists

Treatment of Insomnia in Psychiatry OPD

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Background: Insomnia is a highly prevalent complaint in our psychiatric community. I conducted this audit as I believed I could implement change and improve patient care.

Standard: The Maudsley Prescribing Guidelines in Psychiatry 10th Edition

Methods: This retrospective audit's population included all patients attending general adult psychiatric OPD, over a 2-week period. Data was collected from patients' case notes using a data collection sheet.

Results: Forty-three percent (thirty-six/eighty-four) of our population suffered from insomnia, fifty-six percent (twenty/thirty-six) of which were male. Thirty-one percent (eleven/thirty-six) of our patients had documentation of sleep hygiene being advised prior to any therapeutic intervention. Ninety percent (twenty-seven/thirty) were initially prescribed a hypnotic at the lowest available dose. Eighty-three percent (twenty-five/thirty) were prescribed intermittent dosing regimes. Seventy-seven percent (twenty-three/thirty) were prescribed at greater than 4-week intervals and eighty-seven percent (twenty-six/thirty) had been on hypnotics for greater than 4 weeks. Forty percent (twelve/thirty) of the population had their hypnotic discontinued abruptly and forty-three percent (thirteen/thirty) had never had their medication discontinued. Ninety-three percent (twenty-eight/thirty) had no evidence of being counselled on the possible side effects, tolerance and dependence of this class of medications.

Conclusion: While there is documentary evidence that some of the guidelines are being appropriately implemented, I believe that we could improve the standard of treatment of insomnia by improved documentation of our treatment plans, with an emphasis on more stringent application of the guidelines. An improvement is possible especially in relation to advising sleep hygiene, prescribing for short term use, counselling our patients and discontinuation process of hypnotic medications.

Identifying Significant Family History in Primary Care

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Background: The GP plays an essential role in cancer prevention and early detection. Across all malignancies, family history is a strong predictor of increased risk. It is appreciated that identification of individuals at increased risk is an essential component of cancer care. GPs are commonly asked by patients to quantify risk, and are well positioned to identify the population at increased risk.

Objective: To determine whether family history of cancer is being identified in general practice.

Method: A retrospective audit on patients presenting with breast symptoms over a 5-year period.

Outcomes measured: The clinical variables ascertained included; date of birth, risk factors for breast cancer, family history of breast, ovarian or colorectal cancer and referral to tertiary services.

Results: Eighty-eight women presented with breast symptoms. Forty-one percent (thirty-six/eighty-eight) had no documentation of family history. A positive family history for breast cancer was observed in twenty-three percent (twenty/eighty-eight), the affected relative was identified in each case but age of diagnosis was not recorded in fifteen percent (three/twenty). Ten percent (two/twenty) of affected families also had a history of colorectal cancer. There was no family history of breast cancer in thirty-six percent (thirty-two/eighty-eight), but none of these records identified whether a history of ovarian or colorectal cancer had been inquired about. Referral to tertiary breast services was made in ninety-seven percent (eighty-five/eighty-eight). Fifteen percent (thirteen/eighty-eight) satisfied the national guidelines for genetic testing referral.

Conclusions: Greater awareness of National Referral Guidelines and efficient recording strategies need to be developed to encourage GPs to obtain an accurate family history within the time constraints of a consultation.

Concordance Studies Between Hospital Discharge Data (HIPE) and Medical Records

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Backgrounds and aims: Accurate data collection is imperative in modern medical practice. HIPE (Hospital Inpatient Enquiry Scheme) is routine dataset that collects data on discharges and deaths from hospitals in Ireland [1]. This study assesses the reliability of using HIPE for monitoring trends of lower extremity amputations (LEA) in patients with and without diabetes.

Methods: This study was designed as a concordance study between two data sources-HIPE and medical records. To determine the level of agreement for LEA, HIPE records were compared to theatre log books. This was done in nine hospitals in Munster for the years 2008–2009. For diabetes, HIPE records were compared to laboratory results. This was done in the four largest hospitals in the study area, for the first 200 patients discharged in December 2010.

Results: When looking at LEA's, 216 LEA procedures were recorded in both HIPE and the theatre log books. Sixteen LEA's were recorded in the log book alone and 25 LEA's in HIPE alone. The proportion of positive agreement was 0.91 (95 % CI 0.88–0.94),

When looking at diabetes, 49 patients had diabetes according to both data sources and 716 were not diabetic. Two patients had diabetes as per HIPE alone and 18 patients had diabetes as per laboratory results alone. The proportion of positive agreement was 0.83 (95 % CI 0.76–0.9) and the kappa statistic was 0.82 (95 % CI 0.75–0.89).

Conclusions: We detected reasonably high levels of agreement between HIPE and medical records and we suggest that HIPE is a suitable data source for monitoring lower extremity amputations in patients with and without diabetes.

Reference:

1. ESRI. Hospital inpatient enquiry system. http://www.esri.ie/health_information/hipe/

This study has been previously published in BMC research notes (BMC Res Notes 2013 April 15;6:148. doi:10.1186/1756-0500-6-148). It has also been presented as poster presentations at the AUDGPI Annual Scientific Meeting 2013 and the Royal College of Physicians Winter Public Health Scientific Meeting 2012

Signet Cell Carcinoma of the Colon

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Introduction: Signet cell carcinoma of the colon is a rare but distinctive type of cancer that accounts for less than 3 % of all colorectal cancers. It more commonly presents in the proximal colon with advanced disease stage rendering its prognosis poorer than that of other histological subtypes.

Case: A 62-year-old man was admitted with a 2 month history of intermittent abdominal pain associated with abdominal distension, nausea, vomiting and fatigue. Physical examination revealed a distended abdomen with tenderness of the umbilical region and right lower quadrant. Abdominal radiograph described some mildly distended small bowel loops while CT imaging confirmed moderate ascites, diffuse omental infiltration and proximal colonic wall thickening. A colonoscopy was completed and revealed a pedunculated polyp and a polypoidal tumour within the ascending colon for which resection was recommended. Laparotomy revealed a peritoneal cavity carpeted in tumour deposit and small bowel serosa coated with soft tumour. A fixed mass in the region of the caecum was identified. Neither resection nor ileostomy were deemed wise due to the presence of tumour on all surfaces. An ileo-transverse bypass was the

only viable option and an area of mid transverse colon and terminal ileum with the least volume of tumour was selected with a side to side anastomosis performed. Patient recovery was swift and he was discharged without complication into the care of oncology physicians.

Discussion: Signet cell carcinoma is associated with high incidence of peritoneal contamination and rapid disease progression. Little is known about the early stages of this disease. It is unclear whether it develops from pre-existing polyps or as a de novo carcinoma. In this case, the presence of a polyp in the region of the primary tumour would suggest the possibility of such a progression from polyp to full blown signet cell carcinoma.

Overview of the Management of Chronic Kidney Disease in Roscommon Hospital

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Background: Chronic kidney disease (CKD) is a widespread issue in Ireland with increasing incidence and poor outcomes. Current literature suggests that adverse consequences can be prevented or delayed by early detection and treatment [1].

Aims: To measure current practice in CKD management in Roscommon hospital (RGH) against ten applicable recommendations in NICE Guidelines [2].

Methods: 33 inpatients (62 % male, 38 % female, aged 65–81) in RGH were randomly selected for the study, six of which had CKD, 18 of which had risk factors for CKD and nine patients had neither. The following NICE criteria [2] were assessed:

1. Urine ACR to detect proteinuria.
2. PCR to monitor proteinuria
3. Yearly measurement of eGFR
4. ACE-I/ARB offered to non-diabetic patients with CKD and hypertension
5. Stage III CKD subcategorised into stage IIIa/IIIb
6. Specialist referral offered to appropriate patients
7. Testing for CKD in patients with risk factors
8. Progressive CKD identified using three eGFR readings over 3 months
- 9 & 10 Systolic blood pressure maintained below 140/90 mmHg in CKD and 130/80 if diabetic.

Results

1. 27 % had Urine ACR
2. 0 % had PCR
3. 100 % received yearly eGFR
4. 50 % offered ACE-I/ARB
5. 0 % had CKD staging
6. 72 % offered specialist referral
7. One out of eighteen offered testing.
8. One patient identified with progressive CKD correctly
- 9&10. 100 % had optimal blood pressure control.

Conclusion: Although optimising blood pressure control and offering specialist referral were acceptable in RGH, it is vital that improvements are made towards current practice to prevent CKD's devastating consequences.

References:

1. Anderson J, Glynn LG (2011) Definition of chronic kidney disease and measurement of kidney function in original research papers: a review of the literature. *Nephrol Dial Transpl* 6(9):2793–2798. <http://www.ncbi.nlm.nih.gov/pubmed/21307172>. Accessed 4 Nov 2013
2. Halpin DA, Stevens P, Bennet L et al (2008) Chronic Kidney disease—early identification and management of chronic kidney disease in adults in primary and secondary care. NICE guidelines

The Outcome of Indeterminate Pulmonary Nodules in the Staging of Colorectal Cancer

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Aims: The value of preoperative staging chest CT in colorectal cancer remains controversial [1]. We looked at the effect of indeterminate pulmonary nodules in the staging of colorectal cancer and the effect it had upon patient outcome. The progression of pulmonary nodules from initial CT Thorax, Abdomen and Pelvis (CT-TAP) was also documented.

Methods: This is a 12 month retrospective study in a single centre. Patients were identified using the surgical multidisciplinary team lists and patient details were populated using electronic patient records and PACS system. CT-scans were reviewed to identify patients in which indeterminate lung nodules (IPN's) had been reported on initial staging CT-scan. The TNM stage of these patients was recorded together with follow up scans. A pro-forma was created to follow the outcome of these indeterminate pulmonary nodules (IPN's). Research was based on reviewing the pre-operative staging CT-TAP and deciding whether or not indeterminate pulmonary nodules were present at time of initial staging and whether any change occurred.

Results: Of the 60 patients that met inclusion criteria 23 % (n = 14) had indeterminate pulmonary nodules on initial staging, on subsequent scans 71 % (n = 10) of these remained unchanged. 7 % of patients (n = 1) with IPN's on initial staging had further growth of these nodules. The majority of patients 77 % (n = 46) had no indeterminate pulmonary nodules on initial staging.

Conclusion: For the majority of patients with IPNs no intermediate change was detected with only 7 % showing change within the course of this study. From this we can cautiously conclude that the presence of IPNs has little effect on patient outcome.

References:

1. Grossmann I, Avenarius J, Mastboom W et al (2010) Preoperative staging with chest CT in patients with colorectal carcinoma: not as a routine procedure. *Ann Surg Oncol* 17(8):2045–2050

Broken Heart Syndrome—Takotsubo Cardiomyopathy

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Case of a 55-year-old lady who presented with dysarthria, left sided hemiparesis, dizziness and nausea. She also described atypical left sided chest pain that was sharp in nature and had a recent emotional upset due to discordance in a personal relationship.

Other relevant history included alcohol excess and depression/anxiety. Family history included a strong family history of CVA.

On examination there was nil of note except some mild epigastric tenderness. Neurological and cardiology examinations were normal. Blood results showed a moderately elevated GGT and ALT.

Her ECG showed widespread T wave inversion and troponins were elevated. An echo was then carried out which showed a large left ventricular thrombus and an ejection fraction of 30 %.

She was admitted and dual antiplatelet therapy and enoxaparin were commenced to treat the LV thrombus.

Three days into admission she developed severe pain in left lower limb that awoke her from sleep. She had decreased sensation and paraesthesia in the left leg and pulses were not present. CT angiogram showed a partially occlusive embolus in the left common femoral artery. An urgent embolectomy was carried out by vascular surgeons.

She made a successful recovery with no residual deficit in left limb and was started on lifelong anticoagulation. A CT coronary angiogram showed no coronary artery disease and the LV thrombus had resolved. Her ejection fraction returned to normal at 61 %. She was followed in cardiology outpatient and haematology outpatient service.

I felt this was an interesting case demonstrating Takotsubo cardiomyopathy with the subsequent complication of an LV thrombus and embolus from this leading to an acutely ischaemic limb.

Reference:

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An Unexpected Complication of Balding

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Male pattern baldness/androgenic alopecia is related to an interplay between genetic and hormonal factors. This trait is considered to be androgen dependent requiring genetic predisposition. Inheritance is thought to be polygenic with variable penetrance [1]. Androgens play a major role in the development of male androgenic alopecia and one way to target the pathogenesis behind balding is to inhibit the effect of androgens using medications such as finasteride; an anti-androgen [2].

We report the case of a 30-year-old Caucasian male who was taking finasteride; a 5 alpha reductase inhibitor for androgenic alopecia who presented to his GP for a routine check up. On investigation he was found to have mildly abnormal LFTs. Subsequent imaging showed an 18 cm mass replacing the left lobe of his liver and it was decided to proceed with surgical resection of same. Pathological examination of the resected mass showed a 19 cm hepatic adenoma with malignant transformation. No other risk factors for the development of hepatic adenoma or chronic liver disease could be identified. Finasteride was stopped and the patient recovered well post surgery and LFTs normalised. He is currently set to have an interval monitoring CT abdomen 6 months post op. We discuss the mechanism of action of finasteride and its role as the possible causative agent in this case.

References:

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2. Vierhapper H, Nowotny P, Maier H, Waldhäusl W (2001) Production rates of dihydrotestosterone in healthy men and women and in men with male pattern baldness: determination by stable isotope/dilution and mass spectrometry. *J Clin Endocrinol Metab* 86:5762

3D Printing in Complex Acetabular Reconstruction—A ‘Hip’ Approach to Hip Replacements

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Revision hip arthroplasty requires a comprehensive appreciation of abnormal bony anatomy. Advances in radiology and manufacturing technology have made three-dimensional representation of actual osseous anatomy obtainable. These models provide a visual and tactile reproduction of the bony abnormality in question.

Life size three dimensional models were manufactured from CT scans of two patients. The first had multiple previous hip arthroplasties and bilateral hip infections. There was a pelvic discontinuity on the right and a severe postero-superior deficiency on the left. The second patient had a first stage revision for infection and recurrent dislocations. Specific metal reduction protocols were used to reduce artefact. The dicom images were imported into Mimics, medical imaging processing software. The models were manufactured using the rapid prototyping process, Selective Laser Sintering (SLS).

The models allowed accurate templating using the actual prosthesis templates prior to surgery. Acetabular cup size, augment and buttress sizes, as well as cage dimensions were selected, adjusted and re-sterilised in advance. This reduced operative time, blood loss and improved surgical decision making. Screw trajectory simulation was also carried out on the models, thus reducing the chance of neurovascular injury.

With 3D printing technology, complex pelvic deformities can be better evaluated and can be treated with improved precision. The life size models allow accurate surgical simulation, thus improving anatomical appreciation and pre-operative planning. The accuracy and cost-effectiveness of the technique were impressive and its use should prove invaluable as a tool to aid clinical practice.

Conflict of interest: None.

Disclosures: None.

Iron Deficiency Anaemia: A Case of Small Bowel Adenocarcinoma

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Case: A 64-year-old lady status post open resection of a duodenal adenocarcinoma on a background history of 18 months of recurrent symptomatic iron deficiency anaemia

Background: The patient was referred to the Upper GI Surgery Service with an 18 month history of iron deficiency anaemia refractory to iron supplementation and transfusions of red blood cells. She complained of fatigue and exertional dyspnoea but reported no rectal bleeds, malaena, altered bowel habits or weight loss. She had no history of anticoagulant, antiplatelet or NSAID use.

Investigations: Prior to presentation the patient had two normal gastroscopies with a normal D2 biopsy and two normal colonoscopies. CT was performed which showed small bowel wall thickening, just distal to DJ flexure. It was 1.2 cm thick and nodular in appearance. Push enteroscopy and biopsy led to the histological diagnosis of invasive moderately differentiated adenocarcinoma.

Results: The patient was managed via open resection of tumour located in the fourth part of the duodenum plus nodal drainage.

Conclusion: This case highlights the importance of aggressive investigation of iron deficiency anaemia despite repeated normal routine investigations. In addition, it provides a teaching point on the uncommon occurrence of small bowel adenocarcinoma. Small bowel adenocarcinoma is most commonly found in the duodenum followed by the jejunum and ileum. When it occurs distal to the duodenum definitive preoperative diagnosis is achieved in only 35–72 % of reported series due to inaccessibility [1].

Reference:

1. Neugut AI, Marvin MR, Chabot JA (2001) Adenocarcinoma of the small bowel. In: Holzheimer RG, Mannick JA (eds) Surgical treatment: evidence-based and problem-oriented. Zuckschwerdt, Munich

Fournier's Gangrene; It's Gas

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Fournier's Gangrene (FG) is a fulminant polymicrobial necrotising fasciitis of the perineum, scrotum and penis. It carries a significant mortality rate of 40 % on average with this figure rising dramatically to 78 % if there is concomitant sepsis at time of diagnosis [iii].

This is the case of a 78-year-old nursing home resident, transferred to us from another institution with a 2 day history of increasing agitation associated with poor oral intake and a 1 day history of scrotal and penile erythema. Relevant background history is noteworthy for vascular dementia (which rendered him non-communicative), a urethral stricture for which he had previously had a long term indwelling catheter (removed 4 months prior to this admission due to repeated urinary tract infections), urinary incontinence and two previous admissions for urosepsis.

Subsequent to his presentation and initial assessment, an urgent urology review was requested. At this time he was noted to have rapidly evolving duskiness of his scrotum, perineum and penis, with interval development of blistering of the skin. A clinical diagnosis of FG was made and he was prepared for urgent surgical debridement.

Intraoperative findings were significant for a proximal urethral stricture, with fistula development at the level of the bulbar urethra, tracking from the urethra into the scrotum. This proved to be the epicentre of his infection. He required bilateral orchidectomy and extensive plastic surgery input.

The disease process is discussed in detail in the discussion, along with the development of FG in this case.

Reference:

1. Yanar H et al (2006) Fournier's gangrene: risk factors and strategies for management. World J Surg 30(9):175–184

Vaccination in the COPD Population

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Background: Chronic Obstructive Pulmonary Disease (COPD) is a disease affecting thousands of patients in Ireland. Patients with COPD should be offered pneumococcal vaccination and an annual influenza vaccination, as per the 2004 NICE Guideline "Management of chronic obstructive pulmonary disease in adults in primary and secondary care".

Aim: To evaluate the uptake of influenza and pneumococcal vaccination in a selected population of patients with COPD.

Methods: 74 patients with COPD were identified as current attendees of Charleville Family Practice. A review of each patient's electronic file on the practice database was carried out. The number of patients who received an influenza vaccine in the past 12 months and a pneumococcal vaccine were identified.

Results:

Number of patients who received vaccine	Yes	No
Influenza vaccine	63	11
Pneumococcal vaccine	68	6

Conclusion:

There was a greater than 85 % uptake of both vaccinations in the COPD population studied. In order to prevent COPD exacerbations it is recommended that both vaccinations be provided to all patients with COPD. Interventions to increase the number of patients with COPD who are effectively vaccinated were discussed with the partners at the practice involved, for example sending letters to each patient outlining the benefits of vaccination and inviting them to make an appointment at the practice for vaccination. I plan to re-audit the same population in the New Year to assess the effectiveness of said interventions.

Abstract Ileostomy

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Presentation: A 36-year-old lady presented to the Colorectal Out-patient's Department with a 3 month history of severe abdominal pain and excoriation adjacent to an ileostomy site. Vitals were stable, she was afebrile and inflammatory markers were normal. On examination the excoriation encompassed most of the anterior abdominal wall. It encircled the ileostomy site; base was red with yellow slough covering most of the surface.

Past medical history: She had a history of epilepsy, depression secondary to child sexual abuse, chronic pain and reportedly had a diagnosis of Crohn's disease. She had also suffered from severe constipation, and had normal manometry, defecating proctography and transit studies. Constipation was likely caused by anismus secondary to the history of abuse. She underwent partial colectomy and formation of colostomy. She had an emergency laparotomy for bowel necrosis secondary to obstruction at the colostomy site. Post-op she developed life threatening sepsis, ARDS and ARF. She was lost to follow-up until this admission.

Hospital course: She was admitted, given IV antibiotics and brought to theatre for debridement of the area and application of a VAC dressing. Biopsies were taken of the area as it was suspected that this was pyoderma gangrenosum secondary to Crohn's disease. She was treated systemically with steroids and cyclosporine. Once her full history was known the diagnosis of Crohn's was revised and she was tapered off immunosuppression. The excoriation improved with conservative management and she was discharged home after a prolonged hospital stay.

Discussion: This lady suffered life-threatening complications from surgery for symptomatic relief, when the American Society of Colorectal Surgeons guidelines on the management of constipation don't include anismus as an indication for surgery [1]. Therefore although it is easy in hindsight to say that she should have been managed conservatively this case emphasizes the importance of careful balancing of the potential benefits and risks of surgery for symptomatic relief.

Reference:

1. Ternent CA et al (2007) Evaluation and management of constipation—diseases of the colon and rectum 50:2013–2022

A Clinical Dilemma: Device Related Infective Endocarditis in an 81-Year-Old Female

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An 81-year-old female was BIBA with a history of increasing confusion and fever, on a background of atrial fibrillation with pauses, for which she had a permanent pacemaker inserted. The pacemaker had been replaced numerous times, and had been switched from the right to the left side of the chest wall, with two leads in situ in the right ventricle.

Shortly after admission, she went into VF arrest and was successfully resuscitated. In searching for a source of sepsis, the patient underwent a TOE which showed a large irregular vegetation encasing both leads in the right atrium. The patient was commenced on vancomycin and rifampicin, and after 3 weeks of treatment underwent a repeat TOE which showed no significant interval change in the vegetation.

Infection of transvenous electrodes usually presents in a subacute manner, although occasionally, as in this case, patients can present with sepsis syndrome and shock. In particular, pulmonary embolism has been found to occur in 11–40 % of cases [1]. Two-thirds of these episodes present more than 3–6 months after device manipulation [2].

Lead removal is a technically challenging procedure, and may be assisted by telescoping laser sheaths, excimer laser sheaths, or require open surgical removal. In patients with large vegetations attached to the lead, surgical removal may be the preferred initial approach in order to minimise the risk of PE, yet this must be balanced against the increased risks of cardiomyotomy as opposed to percutaneous removal.

References:

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2. Duval X, Selton-Suty C, Alla F et al Endocarditis in patients with a permanent pacemaker: a 1-year epidemiological survey on infective endocarditis due to valvular and/or pacemaker infection

Completion of Clinical Practice Forms in Involuntary Detention of Patients Under the Mental Health Act 2001

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Background: The Mental Health Act 2001 gives the staff of approved psychiatric centres the power to involuntarily detain a person for 24 h in order to carry out an examination of their mental state, for the purpose of pursuing a detention order. Clinical practice forms are statutory documents which record this period of detention, and are an essential record to ensure compliance with the law.

Aims: To measure the completion of clinical practice forms used for both section 14 and section 23 of the Mental Health Act 2001. In particular, that the length of detention is recorded accurately.

Methods: There were 69 applications made for involuntary detention to St. Vincent's Hospital Fairview from February to July 2013, 44 under section 14 of the MHA 2001, and 25 under section 23. During the period of re-audit from Sept to Dec, 22 applications were made, consisting of 16 under section 14, and 6 under section 23. Clinical practice forms were obtained retrospectively for these applications, and the data on them was recorded, including completion of required information, type of risk assessment used, the number of admission orders that were subsequently completed, and the status of patients whose application was not upheld.

Results: The length of detention was recorded accurately on 41 % of section 14 clinical practice forms, and 46 % of section 23 forms. And intervention was made to address these low rates, which involved notifying consultant staff of the audit findings, and requesting greater compliance in completing these forms. A re-audit was then performed from Sept to Dec which showed the length of detention recorded on 75 % of section 14 forms, and 50 % of section 23 forms. Overall 73 % of section 14, and 58 % of section 23 applications were upheld.

Conclusions: Our intervention was partially successful. There compliance in completing section 14 forms increased, where those of section 23 forms did not.

Modifiable Risk Factors in Under 45-Year-Old Patients Presenting with STEMI

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Age-standardised death rates from cardiovascular disease (CVD) have decreased by two-thirds in the past 20 years [1]. This is attributable in part to improved care plans, rapid access to effective treatments and prevention programmes.

Despite advances CVD remains the most common cause of death in Ireland, currently accounting for one-third of all deaths and one in five premature deaths [1].

Lifestyle-related risk factor profiles of the Irish population is a concern. We looked at a cohort of patients under the age of 45 presenting with STEMI and assessed modifiable risk control based on European Society of Cardiology guidelines [4–6].

Setting: St. Vincent's Hospital (SVH) is a tertiary referral centre for interventional management of coronary artery disease. Patients presenting with STEMI are referred for primary coronary angiography $\pm$ revascularisation.

Methods: A retrospective study looking at patients under the age of 45 presenting with STEMI between January 2010 and September 2013. We examined medical records, ECG, laboratory results and coronary angioplasty results.

Results: Nineteen patients between 26 and 45 years of age presented with STEMI, average age 39.9 years. In the group 26.31 % ($n = 5$) had hypertension, 3 patients were on treatment at time of admission. Initial fasting lipids were elevated in 78.9 % ($n = 16$), 3 patients were on treatment at admission. The average total cholesterol was 4.56 mM and LDL 2.18 mM. Smokers compiled 63.16 % ($n = 12$). Type 2 diabetics (T2DM) compiled 21.05 % ($n = 4$). There were two new diagnoses of T2DM.

A culprit lesion was identified in all patients; an LAD lesion in 47.37 % ($n = 9$), an RCA or PLV lesion in 31.58 % ($n = 6$) and an LCx or OM in 21.05 % ($n = 4$) lesion. One patient had known CAD

and previous PCI, both stents were patent, and a new lesion identified in the LCx. Four patients had non-obstructive disease identified in the two or more vessels at time of angiography. All patients underwent angioplasty and placement of a drug eluting stent. All patients were seen at a 1 year follow-up. No patients were re admitted with CAD during this time.

Conclusion: Although a small study, it does highlight a number of CVD risk factors that were potentially targets for modification prior to presentation. Importantly, all patients were enrolled and completed the SVH cardiac rehabilitation programme, which addresses secondary prevention.

CVD must be addressed through a combination of population-based approaches. Despite increased health promotion campaigns more work is needed. In particular smokers represented 63.16 % of the group. In Ireland levels of smoking have not changed in the last 5 years, while levels of obesity and physical inactivity have increased [2]. If these trends continue, they threaten to reverse the declining CVD mortality rate.

References:

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