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SCIENTIFIC ABSTRACTS
YOUNG DOCTORS FORUM
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Scientific Committee

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BAPIO.NMC24.01- WITHDRAWN**A clinical audit on the management of open fractures using BOAST guidelines for open fractures at a major trauma centre in London.**

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AIMS: To determine whether the management of open fractures at St. George's Hospital is by the BOAST guidelines for the management of open fractures.

Evaluating whether several complications were associated with adherence to BOAST guidelines.

INTRODUCTION: Open fractures are due to the compromise of soft tissue, exposing the fracture to the external environment. Correct management is crucial for reducing morbidity and mortality. The BOA guidelines on open fractures aim to provide surgeons with a guideline to care for patients to standardise care and improve outcomes.[1]

METHODS: Data on 136 patients presenting with open fractures at St. George's University Hospital was collected and accessed through iCLIP. This audit was conducted retrospectively using existing patient data, a comparison was made to the BOAST guidelines to see if it was in adherence with it.

RESULTS and DISCUSSION: Of the 136 patients used in this audit, 18.4% of those experienced complications following surgery for open fracture repair.

- In 20% of patients experiencing complications, the BOAST guidelines on soft tissue coverage have not been met.
- Of the 25 patients who experienced complications following surgery 20 of them did not receive prophylactic IV antibiotics within the specified 1-hour period from the time of injury. This equates to 80% of patients who did not meet the BOAST guidelines on antibiotic prophylaxis experiencing complications.

CONCLUSION: To a certain extent, the BOAST guidelines are adhered to when managing patients with open fractures at St George's University Hospital. However, due to limitations with documentation and sample size in this audit, the results are not as reliable.

BAPIO.NMC24.02- WITHDRAWN**A patient presenting with Gastrointestinal bleed and diagnosed with GIST**

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BACKGROUND: Gastrointestinal stromal tumours (GISTs) are the most common mesenchymal tumours of the gastrointestinal tract that can occur anywhere in the GI tract. A great majority of GISTs occur in the stomach (54-70%) or small intestine (20-30%). Approximately 900 people are newly diagnosed with GISTs in the UK each year.

The symptoms depend upon the size, location, and metastases of these tumours. No specific causes are known, although, in most cases, GIST is associated with an activating mutation in either the KIT or PDGFRA gene.

Our case presents a 65-year-old male presenting with massive GI bleeding and was diagnosed with GISTs during the workup and was excised surgically.

BAPIO.NMC24.03**A study to evaluate whether the UHL dietary menu is in accordance with the NICE Guidelines for constipated patients who are on laxatives**

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AIM: To understand the current dietary plan of patients in the ward and compare it with the NICE guidelines for the recommended daily fibre intake for patients who are constipated.

METHODS: The patient's record was obtained via their respective files and online database (Nerve Centre). The nurses' notes were also used for every patient to refer to the daily meals that the patients were having. The amount of fibre content in the food offered to the patients was procured from the dietician directly.

RESULTS: According to the fibre intake of the audited patients as per diet chart for the last 48 hours recall, the evidence suggests only 6.1% of the patients had 20 to 30 grams of fibre in the daily diet. A majority of 67.3% of patients had 10-to-20-gram fibre. And 26.5% of patients had a mere 0 to 10 grams of fibre intake in the routine diet. The National Institute for Health and Care Excellence (NICE) guidelines clearly state, that an adult should aim to consume 30 g of fibre per day. From the above numbers, there is clear evidence emerged of an association between low dietary fibre intake and

a higher prevalence of constipation among the audited patients.

CONCLUSION: The audit highlights the significant relationship between low dietary fibre intake and constipation among the patient population. Addressing this issue requires targeted interventions, improved patient education and collaboration among healthcare professionals to implement sustainable changes in dietary habits and enhance overall digestive well-being.

BAPIO.NMC24.04

Case study of isolated renal tubular acidosis type 2 accidentally discovered after resistant diabetic ketoacidosis management.

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Background: Kidneys play a pivotal role in maintaining the acid-base balance of the body along with the lungs. Renal tubular acidosis (RTA) type 2 is considered as one of the causes of systemic acidosis caused by impairment of the ability of renal tubules to maintain acid-base balance.

Case report:

That patient was diagnosed as DKA initially at the emergency department then after admission to the ICU we found no response of treatment despite giving IV fluids and treating the cause. The patient had a high level of bicarbonate in the urine although the normal level of amino acid, phosphate, uric acid, and glucose. We found RTA type II is the diagnosis and infusion of bicarbonate was initiated. Then the condition of the patient improved significantly.

Conclusion: RTA type 2 should be considered in any case of refractory acidosis of DKA.

BAPIO.NMC24.05

A Rare Complication of Cocaine Use

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Introduction: This case report highlights a rare but potentially serious complication of cocaine use: surgical emphysema and pneumomediastinum. While conservative management is often successful for spontaneous cases without pneumothorax, the potential for severe consequences necessitates awareness and careful evaluation.

Case Report:

A 22-year-old man presented to the emergency department with sudden swelling and pain in the neck and jaw, accompanied by jaw movement

difficulty. He reported snorting cocaine and consuming excessive alcohol the previous night. Physical examination revealed palpable crepitations suggestive of subcutaneous emphysema.

A CT scan of the neck and thorax with contrast confirmed extensive surgical emphysema and pneumomediastinum extending through the neck and chest, but no other significant pulmonary findings. A barium swallow ruled out oesophageal perforation.

The patient was closely monitored and managed conservatively.

Conclusion: This case presents a rare occurrence of surgical emphysema and pneumomediastinum likely triggered by cocaine insufflation.

BAPIO.NMC24.06

A Case of Sepsis and Catastrophic Antiphospholipid Antibody Syndrome [CAPS]

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BACKGROUND: Antiphospholipid syndrome (APS) is a rare multisystem autoimmune condition characterized by vascular thromboses and/or pregnancy loss associated with persistently positive antiphospholipid antibodies (APL). CAPS is a life-threatening variant of APS which presents with rapid onset of symptoms, involvement of multiple organ systems, and thrombotic events that include large vessel and microvascular involvement. 'CAPS' can be divided into 'definite' and 'probable' based on the preliminary classification criteria. However, in a clinical setting, APL-positive patients with multiple organ thromboses and/or thrombotic microangiopathies exist who do not fulfil these criteria.

Previous APS diagnosis and/or persistent clinically significant APL positivity is therefore of great importance for the diagnosis of CAPS. There are further many mimickers of CAPS which may lead to delay and difficulty in diagnosis and complicate the treatment protocol. Management of CAPS (or strongly suspected CAPS) is treated with anticoagulation, glucocorticoids, and therapeutic plasma exchange (TPE) or intravenous immune globulin (IVIG), sometimes referred to as triple therapy.

Treatment of infections/sepsis is the most important factor to be considered as it is one of the leading causes of death in these patients. Empirical antibiotics should therefore be initiated early on to prevent undesirable outcomes.

Case Report:

Our patient, 36, female, was known to have APLA {diagnosed in 2019, was on Aspirin + with regular INR monitoring} presented to the hospital with high-grade fever, fatiguability and decreased responsiveness for two days. Social and family history were not significant. On arrival to the emergency, she had a drop in GCS went into shock, and was thus intubated. Initial investigations showed auto-immune haemolytic anaemia and ischemic hepatitis. Pulse steroids - intravenous methylprednisolone was given.

Anti-nuclear antibody by immunofluorescence (ANA by IF) was 2 +. Disseminated intravascular coagulation (DIC) workup was negative.

There was progressive deterioration with the development of embolic infarcts in the brain, persistence of anaemia (3gm/dl) and leukopenia. She was planned for (3 doses) of Rituximab but given the worsening of her renal parameters and haematuria, only one dose was given. Her uremic encephalopathy worsened, and she was maintained on plasma exchange followed by hemodialysis with leucodepleted most compatible blood products transfusion to maintain baseline haemoglobin.

CONCLUSION: Despite the initiation of empirical antibiotics, recurrent infections complicated the treatment. Given worsening status and overall deterioration planned tracheostomy was done. From the third week onwards recurrent infections with multi-drug resistant gram-negative bacilli growing in the blood and tracheal aspirate were noted. Urine culture repeatedly grew candida species. Anti-microbials were changed according to the sensitivity reports. She developed right orbital cellulitis with impending right orbital apex syndrome requiring emergency depression. Over the next two weeks new onset of black discharge from the eye was noted culture showed mucormycosis for which Amphotericin B was given. In the last two weeks, there was persistent anaemia and thrombocytopenia with a decline with each episode of infection. Subsequently, there was sequential organ dysfunction, including brain stem dysfunction, and she succumbed to the illness.

BAPIO.NMC24.07**A Case Series on Melioidosis**

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Melioidosis is caused by the bacteria *Burkholderia pseudomallei*. It has a wide range of signs and symptoms often mimicking other infections leading to its misdiagnosis or underdiagnosis.

DISCUSSION:

- The patient presented with breathing difficulty, fever, cough and vomiting. Blood cultures grew *Burkholderia*.
- The patient presented with complaints of decreased food intake, loss of appetite and dull pain over the left side of the abdomen for 1 month. CT abdomen showed non-enhancing lesions in the liver, splenic vein thrombosis and multiple splenic lymph nodes. Blood culture showed growth of *Burkholderia*.
- The patient presented with complaints of hip pain and difficulty in walking. MRI lumbar spine showed a hyperintense infective lesion. Hemilaminectomy and evacuation of the epidural abscess were done and were sent for culture. Pus culture showed *Burkholderia*.
- A patient with one episode of focal seizure 2 months ago presented with intermittent fever spikes since then for further evaluation. MRI brain showed pus collection. Right frontal craniotomy and excision were done. The tissue culture of the abscess showed *Burkholderia*.
- The patient presented with abdominal pain and splenomegaly. CT abdomen showed multiple hypodense lesions in the spleen, a few with extracapsular rupture and granulomatous peri splenic collection. Ultrasound-guided aspiration was done. The pus culture showed *Burkholderia pseudomallei*.
- The patient presented with a history of unresponsiveness for the last 30 minutes. CT CHEST showed multiple ground glass densities and consolidation in bilateral lungs. He had tachypnoea and was maintained on noninvasive ventilation / BIPAP. Blood cultures showed *Burkholderia pseudomallei*.
- The patient presented with high-grade fever with chills. CT chest showed a soft tissue density lesion with pleural thickening along with mild left pleural effusion – suggestive of mitotic or granulomatous aetiology. USG-guided aspiration and lung biopsy were done which showed *Burkholderia pseudomallei*.
- The patient was brought to the emergency with worsening headaches for the last 1.5 months, facial deviation and language disturbance/ slurring of speech and was not able to talk properly for since 1 day. MRI Brain showed a thin SDH –planned left parietal burr hole and evacuation of the

collection was done. Postoperatively, he had a focal seizure. A repeat MRI brain showed a left temporal well-capsulated abscess. The culture sent from the evacuated collection showed Burkholderia and he was treated with IV antibiotics.

- The patient presented with fever and back pain, a soft and pulsatile mass at the epigastric region and blisters in the lower limb were noted. CT abdomen showed a saccular aneurysm of the infrarenal abdominal aorta with rupture and retroperitoneal hematoma. An open surgical graft repair was done. Pus culture from the leg (blisters), tissue and blood cultures - all showed Burkholderia pseudomallei.
- The patient presented with fever, cough and weight loss. CT CHEST showed a calcified granuloma.

BAPIO.NMC24.08

Current Graft Options in Adult Liver Transplantation

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Background: Liver transplantation (LT) has become the gold standard treatment for end-stage liver failure. Survival rates have improved significantly in recent years, at over 90% and 80% at one- and five years respectively. This has led to a huge increase in demand for grafts, which cannot currently be met by supply. LT has historically relied on donation after brainstem death (DBD) grafts although donation after circulatory death (DCD), split liver, and living donor grafts are being used more frequently, despite concerns about inferior outcomes.

Methods: We searched the relevant literature to compare the outcomes of graft options in LT.

Conclusions: We found that DCD and split grafts provide comparable outcomes to DBD, whereas LDLT may provide superior outcomes. LDLT and split grafts may however be associated with a higher risk of complications.

BAPIO.NMC24.09- **WITHDRAWN**

A Recurrent Retrohepatic Abscess Secondary to a Dropped Appendicolith

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Appendicoliths can drop into the peritoneal cavity

during an appendicectomy, or more commonly because of perforated appendicitis.

We report the case of a patient with a history of recurrent retro hepatic abscesses over the 7 years due to a retained appendicolith and review the literature on perihepatic abscesses caused by retained appendicoliths.

The abscess had been drained percutaneously 4 times without retrieval of the appendicolith and eventually, the patient needed a laparotomy, drainage of the abscess, and extraction of the appendicolith.

Treatment of abscesses secondary to dropped appendicoliths may be percutaneous, laparoscopic, or via conventional open surgery, but it is important to retrieve the appendicolith if recurrent abscess formation is to be avoided.

BAPIO.NMC24.10- **WITHDRAWN**

The Most Cited Publications in Abdominal Wall Reconstruction - A Bibliometric Analysis

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Background: Abdominal wall reconstruction (AWR) is a treatment option for structural defects of the abdominal wall. The most frequently cited publications related to AWR have not been quantitatively or qualitatively assessed.

Aim: This bibliometric analysis characterises and assesses the most frequently cited AWR publications, to identify trends, and gaps, and guide future efforts for the international research community.

Methods: The 100 most cited publications in AWR were identified on Web of Science, across all available journal years (from May 1964 to December 2023). Study details, including the citation count, main content focus, and outcome measures were extracted and tabulated from each publication. Oxford Centre for Evidence-Based Medicine (OCEBM) Levels of Evidence (LOE) of each study were also assessed.

Results: The 100 most cited publications in AWR were cited by a total of 9674 publications. Citations per publication ranged from 43 to 414 (mean 96.7 ± 52.48). Most publications were LOE 3 (n = 60), representative of many retrospective cohort studies. The number of publications for LOE 5, 4, 3, 2 and 1 was 21, 2, 60, 2 and 12, respectively. The main content focus was surgical technique in 44 publications followed by outcomes in 38 publications. Patient-reported outcome measures (PROMs) were used in 3 publications, and no

publications reported validated aesthetic outcome measures.

Conclusions: Overall, 3 was the LOE for most frequently cited AWR publications, with more publications below LOE 3 than above LOE 3. Validated outcome measures and PROMs were infrequently incorporated in the studies evaluated.

BAPIO.NMC24.11

Exploring Metacognition: The Key to Exceptional Leadership

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Metacognition, the ability to monitor and control one's thinking processes, is crucial for effective leadership. The tale of Lord Krishna guiding Arjuna on the battlefield of Kurukshetra in the Bhagavad Gita exemplifies the importance of self-awareness and reflective thinking in decision-making. Metacognition involves deep reflection on one's thoughts, emotions, values, and actions, leading to enhanced self-awareness and situational awareness.

Research by Bastian and Zucchella (2022) defines metacognition as the ability to think about and have knowledge of one's cognitive processes. While not always explicitly studied in the context of leadership, metacognition significantly impacts leadership effectiveness by fostering self-awareness, situational awareness, and cognitive flexibility. Techniques such as meta-knowledge questioning, think-aloud methods, self-reflection, and mentoring programs can be employed to cultivate metacognitive abilities among leaders.

Enhanced metacognition enables leaders to overcome cognitive biases, engage in critical analysis, and make more informed decisions. Through methods like self-reflection and cognitive argumentation, leaders can improve their problem-solving abilities, handle uncertainty effectively, and foster a culture of continuous learning within their teams. Existing techniques within the British Army, such as the 7 Questions approach and mentoring programs, contribute to metacognitive development, but there are opportunities for further refinement, particularly in cultivating metacognitive argumentation among military personnel.

Leaders who understand their cognitive biases and thought patterns can make more informed decisions and adapt to changing circumstances. The synergy between metacognition and leadership enhances individual and collective performance,

guiding organizations toward success. Encouraging cognitive debates within the Armed Forces can foster greater cognitive resilience and operational effectiveness. While there may be operational constraints, exploring avenues to cultivate metacognitive abilities remains crucial for the continuous improvement of military leadership.

BAPIO.NMC24.12

Optimizing Patient Outcomes: Surgical Thermoregulation and Antibiotic Prophylaxis

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Background: Perioperative hypothermia poses significant risks and is preventable through diligent adherence to guidelines.

Aim: This retrospective study at Ashford and St Peters NHS Foundation Trust aimed to assess compliance with intra-operative temperature measurement and surgical prophylaxis administration, crucial components in preventing complications such as surgical site infections.

Methods: In the study conducted between Jul - Aug 2023 and Dec 22- Jan 23 (considered summer and winter), 246 patients undergoing hip and knee arthroplasty and fixation of neck and femur fractures were included.

Results: Intraoperative temperature was measured for 120 patients, revealing hypothermia in 40% of cases. Antibiotic prophylaxis was administered in 98% of patients, with 85% receiving it within the recommended timeframe. The correct dose, according to trust guidelines, was given in 85% and 77% of cases for teicoplanin and gentamicin, respectively.

Discussion: The findings highlight the need for continuous education for theatre staff on hypothermia, temperature control, and the importance of accurate documentation. Recommendations include implementing regular teaching sessions and annual re-auditing to reinforce protocols. Additionally, introducing software updates to prompt healthcare professionals to measure intra-operative temperature is suggested.

Conclusion: This study contributes valuable insights into peri-operative care, emphasizing the importance of adherence to guidelines for temperature management and antibiotic prophylaxis. By addressing these aspects, we aim to enhance patient safety and outcomes in surgical procedures.

BAPIO.NMC24.13-WITHDRAWN**Efficacy of CGRP Inhibitors in Preventive Pharmacotherapy for Migraine - A Network Meta-Analysis and Systematic Review**

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Objective: To assess the efficacy of CGRP inhibitors in migraine prevention by conducting a network meta-analysis (NMA) of randomized controlled trials (RCTs).

Background: Calcitonin Gene-Related Peptide (CGRP) inhibitors have emerged as a promising approach in migraine prevention, reducing the frequency of migraine attacks while avoiding the typical side effects associated with other medications. Nevertheless, a comprehensive review of the efficacy of CGRP inhibitors as preventive pharmacotherapy is still warranted.

Design/Methods: A systematic search was conducted in the PubMed/Medline, EMBASE, clinicaltrials.gov, and Cochrane databases to identify relevant RCTs on the efficacy of CGRP inhibitors in migraine prevention. A pairwise meta-analysis and network meta-analysis (NMA) were conducted using the frequentist approach, to obtain both direct and indirect comparisons of each measure, as risk ratios (RR) and mean differences (MD)

Results: A total of four RCTs were included, with a pooled population of 1690 patients with migraine. Atogepant (RR, 2.06; 95% CI, 1.55 to 2.72) and Rimegepant (RR, 1.18; 95% CI, 0.77 to 1.83) were more effective than placebo in 50% reduction of pain, with Atogepant being more effective than Rimegepant, as shown by the network estimate (RR, 1.74; 95% CI, 1.04 to 2.91). The mean difference from placebo in the change from baseline in monthly migraine days (MMD) were -1.96 days with Atogepant (95% CI, -2.90 to -1.01) and -0.80 days with Rimegepant (95% CI, -2.27 to 0.67) with network estimate showing Atogepant (MD, -1.16; 95% CI, -2.91 to 0.59) as more effective in reducing the number of monthly migraine days than Rimegepant, but was not statistically significant. The ranking probabilities ranked Atogepant as a superior option, followed by Rimegepant, for both outcome variables.

Conclusion: Atogepant and Rimegepant both exhibit prophylactic efficacy in achieving a significant reduction in migraine-related pain, with Atogepant showing superior efficacy. The ranking probabilities consistently position Atogepant as the

better choice.

Practice Gap: This study aims to evaluate the efficacy of CGRP inhibitors as preventive pharmacotherapy for migraine. The current state of research suggests that CGRP inhibitors are promising for migraine.

Our network meta-analysis of randomized controlled trials offers strong statistical evidence on the comparative efficacies of different CGRP inhibitors, specifically Atogepant and Rimegepant, in migraine prevention. Given the burden of migraine and the need for effective preventive therapies, this study holds significance in guiding clinical decisions and informing future research.

BAPIO.NMC24.14**Mannose as a potential enhancer of CAR-T cell therapy in solid Tumours**

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Despite success with B-cell malignancy, CAR-T-cells have yet to make an impact in the clinic against solid cancer. Multiple factors make the solid tumour microenvironment a hostile place for T cells. Tumour and myeloid-derived cells are avid competitors with T cells for nutrients and create toxic waste due to their increased metabolic activity, contributing to T cell exhaustion and malfunction. Notably, tumour microenvironments are glucose-depleted, hypoxic, and acidic. In exploring interventions that selectively antagonise tumour cell metabolism, we find that supplementation with hexose mannose may boost T cell function.

We utilised various in vitro techniques for assessing cell function and proliferation capacities to understand the mechanism by which mannose alters cell biology. By using in vivo models, we aimed to assess the efficacy of combining both therapies.

Our results confirmed that mannose suppresses the viability of a range of cultured human cancer cells by 1) creating an ATP deficit, resulting in their death by pyroptosis, and 2) inducing cell cycle arrest and senescence. Intriguingly, and in contrast, T cells treated with mannose upregulate key glycolytic enzymes, maintain lactate secretion even at low glucose concentrations, and did not lose viability or proliferative capacity.

Preliminary in vivo data corroborate the in vitro findings concerning the effects of mannose on tumour cells.

BAPIO.NMC24.15**Ethnic disparities in the incidence and prevalence of Multiple Sclerosis**

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Objective: This review evaluated ethnic disparities in the incidence and prevalence of Multiple sclerosis (MS).

Background: MS exhibits a well-established latitudinal gradient distribution in incidence and prevalence. Emerging evidence suggests that ethnicity may also play a significant role.

Method: Ethnicities were classified as White, Black, Hispanic, Asian, and Middle Eastern and North African (MENA). A PubMed search was conducted to identify articles on MS and ethnicity published in the English language, between 01/01/2005 and 31/05/2022.

Results: We identified fourteen studies on MS incidence and twenty-two on prevalence, which revealed that the incidence and prevalence of MS varied not only between ethnicities but also depending upon the country of study.

In the US, individuals of Black ethnicity had equivalent or greater MS incidence and prevalence compared to White ethnicity. Conversely, European papers revealed lower MS incidence and prevalence among individuals of Black ethnicity compared to those of White background. Remarkably, in both US and European research, individuals of Black ethnicity had similar or greater MS incidence and prevalence compared to those of Asian ethnicity. In Africa, MS incidence and prevalence were lower in individuals of Black ethnicity compared to White and Asian ethnicities.

In US studies, Hispanic individuals consistently displayed significantly lower MS prevalence compared to those from White and Black ethnicities, but higher prevalence than in Asian individuals. Additionally, both US and European research reported lower incidence and prevalence of MS in individuals of Asian ethnicity than in those of White ethnicity. Moreover, a European study revealed that MS prevalence in individuals from MENA backgrounds was lower than in those of White ethnicity, while another study in a MENA country reported similar MS prevalence between the two ethnicities.

Conclusions: Additional research to understand

these ethnic disparities in MS is crucial in identifying underlying causes, allowing the delivery of personalised care, and mitigating potential inequity.

BAPIO.NMC24.16- WITHDRAWN**Presumed diagnosis of TB spondylitis based on MRI imaging in a patient with subsequent diagnosis of PVL-MSSA Bacteraemia and spondylodiscitis - a case report**

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Methicillin-Sensitive Staphylococcus Aureus (MSSA) Bacteraemia, particularly when associated with Panton-Valentine Leukocidin (PVL), poses significant clinical challenges. PVL, an exotoxin secreted by 2-5% of Staphylococcus aureus strains, is known for its virulent nature, ability to destroy leukocytes, and contribute to more severe infections requiring intensive care. PVL-producing S. Aureus is the causative agent for a multitude of pathologies, including haematogenous pyogenic vertebral osteomyelitis in about half of non-tuberculous cases. The condition is often referred to as a 'chameleon' among infectious diseases because of its lack of specific symptoms, which contributes to a high mortality rate (around 7%) among hospitalised patients due to delayed or incorrect diagnosis. However, to our knowledge, the co-occurrence of PVL-MSSA and spondylodiscitis together in the same patient has not been documented in the literature.

In this case report, we identify a 63-year-old female who presented with lower back pain and associated pyrexia, believed to be precipitated by a large presacral mass with internal necrosis driven by a putative radiological suspicion of tuberculosis (TB).

Subsequent Bound Coagulase testing and MRI imaging provided a definitive diagnosis of spondylodiscitis, secondary to PVL-MSSA bacteraemia.

We offer potential explanations for this initial misdiagnosis and highlight the importance of a holistic approach when performing a thorough work-up of patients with lower back pain.

BAPIO.NMC24.17**Targeting Nrf2 with 3 H-1,2-dithiole-3-thione to moderate OXPHOS-driven oxidative stress attenuates IL-17A-induced psoriasis.**

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Background: Psoriasis, a chronic autoimmune disease characterized by the hyperproliferation of keratinocytes in the epidermis and parakeratosis, significantly impacts quality of life. Interleukin (IL)-17A dominates the pathogenesis of psoriasis and facilitates reactive oxygen species (ROS) accumulation, which exacerbates local psoriatic lesions. Biologic treatment provides remarkable clinical efficacy, but its high cost and unignorable side effects limit its applications. 3 H-1,2-Dithiole-3-thione (D3T) possesses compelling antioxidative capacities against several diseases through the nuclear factor erythroid 2-related factor 2 (Nrf2) cascade. Hence, we aimed to evaluate the effect and mechanism of D3T in psoriasis.

Methods: The effect and mechanism of D3T in psoriasis were studied on imiquimod (IMQ)-induced psoriasis-like mouse model, skewed mouse Th17 cells and human keratinocyte HaCaT cells through evaluation of psoriasis severity, histological examination, flow cytometry, cytokine assay, immunoblotting, analysis of oxidative stress and measurement of the oxygen consumption rate.

Results: We found that D3T attenuates skin thickening and scaling by inhibiting IL-17A-secreting $\gamma\delta$ T cells in IMQ-induced psoriatic mice. Interleukin-17A markedly enhanced IL-6 and IL-8 expression, lipid peroxidation, the contents of nitric oxide and hydrogen peroxide, oxidative phosphorylation and the MAPK/NF- κ B pathways in keratinocytes. IL-17A also inhibited the Nrf2-NQO1-HO-1 axis and the activities of superoxide dismutase and glutathione peroxidase. D3T significantly reversed these parameters in IL-17A-treated keratinocytes. ML-385, a Nrf2 neutralizer, failed to improve D3T-induced anti-inflammatory and antioxidative effects in IL-17A-treated keratinocytes.

Conclusions: We conclude that targeting Nrf2 with D3T to diminish oxidative and inflammatory damage in keratinocytes may attenuate psoriasis.

BAPIO.NMC24.18**Use of Chlorhexidine 4% to minimise skin microbes before joint arthroplasty in aid of preventing surgical site infections.**

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Background: The most common organism causing SSIs is the bacteria present on the skin. From the literature, it has been proved that using 4% Chlorhexidine (Hibiscrub) preoperatively significantly reduces the number of bacteria on the skin. Therefore, a care bundle was implemented which ensured the Hibiscrub along with the instruction manual was given to the patients undergoing hip and knee replacements during their preoperative assessments. This QIP was conducted to assess whether this objective was being met or not and to understand whether the patient's undergoing surgery understood the rationale behind giving the Hibiscrub.

Methodology: Data was collected from patients both retrospectively and prospectively by asking questions regarding whether they received the Hibiscrub along with the leaflet, whether they used it accurately and whether they understood why it was being given.

Inclusion criteria: Only those patients

1 who used it the night and morning before the surgery?

2 who used it directly on the skin and hair?

Results: Out of the 100 patients who were a part of the study, 93 of them received the Hibiscrub preoperatively. Of the 93, only 69 of them were given the Hibiscrub manual along with the right instructions on how to use it correctly. Also, of the 93 of them who managed to receive the scrub, only 68 of them used it accurately which is deemed to be effective as per our inclusion criteria. While assessing the knowledge of the patients, as to why the scrub is given to them pre-operatively and what are the benefits of the same, only 58 of them knew the reason behind it.

Conclusion: From our observations, we can see that there is a disparity between the patient's number of patients receiving the scrub, to the number of patients being given the right instructions and a manual to understand the same. Also, it is observed that only 73% of the patients managed to use it in a way, that it will be effective. Lastly, only 62% of them have an understanding as to why the scrub is given to them and what is the significance of it. Therefore, by making certain interventions, we believe that the scrub can be made more effective in the prevention of surgical site infections.

BAPIO.NMC24.19**Polycystic Ovary Syndrome**

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Polycystic ovary syndrome (PCOS) is a name given to a condition which affects the way a woman's ovaries work. This happens due to the hormone imbalance in the pituitary gland and the ovaries. Polycystic ovaries (PCO) are very common, affecting around 1 in 5 women. Polycystic ovary syndrome is also very common, originally thought to affect 1 in 10 women (10%) but has recently been found to be as many as 1 in 5 (20%). The term polycystic ovaries describe ovaries that contain many small 'cysts' (about twice as many as in normal ovaries), usually no bigger than 8 millimetres each, located just below the surface of the ovaries.

PCOS is associated with many risk factors which include:

- Obesity
- Diabetes
- Hirsutism (excess hair growth) or alopecia
- Increased cardiovascular problems

Common symptoms of PCOS:

- Irregular or no periods
- Excessive hair growth
- Acne
- Difficulty getting pregnant
- Weight gain
- Thinning hair

Treatment for the diagnosis of PCOS varies depending on the presenting symptoms and the possible risk factors, including being advised to make lifestyle changes to prevent symptoms from getting worse, particularly when overweight.

BAPIO.NMC24.20**Development of a Machine Learning Algorithm to Identify Cauda Equina Compression on MRI Scans**

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Introduction: Cauda Equina Syndrome (CES) can cause severe neurological damage and permanent disability when left untreated. Diagnosis requires urgent MRI scans, but ~80% of referrals lack radiological evidence, causing delays in the surgical management of true positive cases. The objective of the study was to develop and validate a machine-learning model for automated cauda equina compression detection from MRI scans.

Method: Single mid-sagittal T2 MRI scans done for

suspected CES patients from 2021-2022 were blind downloaded. Images were categorised into 4 outcome classes: normal scans, disc bulge (<25% canal stenosis), disc protrusion (DP, 25%-75% canal stenosis), and cauda equina compression (CEC, >75% canal stenosis) scans. Saliency maps and gradient descent heatmaps were generated for alongside the confidence level of the prediction for those regions upon which the classification decisions were made. A 20-layer convolutional neural network with skip connections was trained on 1680 images using 5 K-fold cross-validation.

Result: On the test set of 100 images, the model demonstrated an overall average accuracy of 97% with good discrimination between normal scans (accuracy=97%, precision=99%, recall=97%, F1 score=98%), disc bulge (accuracy=95%, precision=88%, recall=96%, F1 score=92%), DP (accuracy=97%, precision=98%, recall=97%, F1 score=98%) and CEC scans (accuracy=92%, precision=91%, recall=91%, F1 score=91%). For the individual image heatmaps, the model had high confidence in finding CEC (100%), disc protrusion (98%) and normal scans (87%).

Conclusion: The current study is the first of its kind to incorporate a deep learning framework in predicting the presence of CEC and as the volume of these referrals continues to grow, this tool will enable efficient diagnosis and management of CES thereby reducing patient harm and potential litigation.

BAPIO.NMC24.21**Streamlining of appropriate cases to be seen in the ENT Clinic by their respective doctors**

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Background: Efficient management of patient cases within the Princess Royal University Hospital's ENT Clinics, a tertiary care centre, posed challenges due to the dual oversight by Junior Doctors (Junior Doctors/SHOs) and the Senior Clinic (Registrars and Consultants). The influx of inappropriate referrals, both internally and externally, to the Junior Clinic led to patient overload, confusion among Junior Doctors, and potential delays in appropriate management.

Methods: To address this issue, Junior Doctors collaborated to identify and compile a list of cases suitable for management at their level, under the guidance of Registrars. A retrospective analysis of 50 cases over three months revealed that 60% of referrals to the Junior Clinic were inappropriate, necessitating redirection to the Senior Clinic.

Meetings among SHOs were conducted, and communication strategies, including templates and hoardings, were employed to streamline complicated and inappropriate cases directly to the Senior Clinic.

Second cycle: 50 cases were again selected across 3 months from the SHO Clinic list to note the changes being brought about along with patient and doctor satisfaction.

Result: A subsequent cycle of 50 cases over three months demonstrated a 100% adherence to the predefined list by Junior Doctors, ensuring appropriate cases were managed by them, while others were efficiently redirected to the Senior Clinic. The results highlight improved efficiency, reduced wastage of time and energy, and enhanced patient and doctor satisfaction.

Conclusion: The streamlining of ENT Clinic cases, encompassing simple to complex conditions, by both Junior and Senior doctors has proven successful in prioritising patient safety, reducing waiting times, and ensuring the right management plans are promptly instituted.

BAPIO.NMC24.22

Complicated Retropharyngeal abscess: an atypical cause of B/L Hypoglossal palsy

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Introduction: Retropharyngeal abscess is a deep neck space infection involving abscess formation in the space between the pre-vertebral fascia and the constrictor muscles [1]. Various complications can occur due to it but isolated hypoglossal nerve palsy due to it has not been described [3]. We report a rare case of retropharyngeal abscess which revealed new-onset diabetes mellitus and developed isolated 12th nerve palsy as the infection progressed.

Clinical history: A 74-year-old man presented with odynophagia, change of voice and dysarthria. Examination findings showed reduced movements of the tongue bilaterally without any atrophy and no evidence of stridor, neck swelling or difficult movements of the neck. All other cranial nerves were intact. MRI showed diffuse ill-defined mass involving nasopharyngeal mucosa extending to jugular foramina, hypoglossal canals and partly encasing the internal carotid artery. FDG PET, showed the differentials of an ill-defined mass which could be of infective origin or inflammatory cause or malignancy. Repeated Biopsies were attempted from, posterior pharyngeal wall which

showed florid fungal infection with lymphoid hyperplasia and no definitive invasive fungal disease. Moreover, Laboratory tests disclosed new-onset diabetes mellitus with ketosis. The treatment consisted of intravenous antifungals, antibiotics, surgical drainage, and debridement of the retro-pharyngeal space twice.

Conclusion: This case suggests that hypoglossal nerve palsy should be an indication for aggressive therapy of a retro-pharyngeal abscess [3]. We believe that palsy of the cranial nerve in the present case occurred because of pressure being applied to the cranial nerve in the carotid space due to a mass in the retro-pharyngeal space.

BAPIO.NMC24.23

The Effect of Psychoeducation on Sleep Quality Among Clinical Medical Students with Problematic Smart Phone Use in Bingham University Teaching Hospital, Jos, Nigeria

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BACKGROUND: Problematic smartphone use and poor sleep quality have become public health problems worldwide due to rapid modernization. In the past, modalities attempted to improve sleep quality constituted unstructured sleep-directed advice with or without pharmacotherapy which had yielded sub-optimum outcomes. It is therefore necessary to explore effective and feasible modalities for improving sleep quality among at-risk populations which in this study, were medical students.

This study aimed to determine the effect of psychoeducation on sleep quality among clinical medical students with problematic smartphone use in Bingham University Teaching Hospital, Jos, Nigeria, to sensitize the students on appropriate self-care.

METHODS: The study was conducted from November 2020 to January 2021. A total of 176 consenting clinical medical students of Bingham University Teaching Hospital, Jos, Nigeria, were recruited to participate in the first phase of this study which was a cross-sectional descriptive study. Of those recruited, 162 completed and returned the Smartphone Addiction Scale-Short Version in their various lecture halls. The second phase of the study which was a prospective cohort study was carried out on 16 study participants who were found to have problematic smartphone use and were willing to further participate in the study. This involved the assessment of the participants' sleep quality using the Pittsburgh Sleep Quality

Index at baseline and at six weeks after two sessions of psychoeducation which were two weeks apart. However, after the first session of psychoeducation, 15 participants completed the study. All statistical analyses were conducted using SPSS version 27.0 and the results were obtained using frequencies, percentages, means, standard deviation, Pearson correlation analyses and a right-tailed two-sample t-test. A standard P value < 0.05 was considered statistically significant.

RESULTS: The prevalence of problematic smartphone use in this study was 9.9% among the clinical medical students in Bingham University Teaching Hospital, Jos, Nigeria. It was found to be more common among females and those who were between the age range of 21 to 25 years. The dominant subscale reported by the participants was overuse of smartphones and problematic smartphone use was significantly associated with poor sleep quality.

The prevalence of poor sleep quality among participants with problematic smartphone use was 88% with a mean PSQI score of 7.1 ± 3.0 at baseline and 80% with a mean PSQI score of 6.0 ± 2.1 after the psychoeducation. However, it was not found to be associated with the body mass indices of the participants.

After the intervention, there was an improvement of the PSQI scores but there was not statistically significant difference between the PSQI scores obtained at baseline and those obtained after the intervention.

CONCLUSION: There is a significant burden of problematic smartphone use and poor sleep quality among the study participants. Psychoeducation made some positive impact on their sleep quality although this effect was not statistically significant. Therefore, more studies should be carried out to establish an evidence-based guideline for addressing poor sleep quality and problematic smartphone use in medical students worldwide.

BAPIO.NMC24.24

Antimicrobial Stewardship

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Antimicrobial Stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients. It is about thinking before prescribing antimicrobials if it is the right choice, right dose, right frequency, right duration, and right route. It helps find a balance between maximizing therapy for the patients and minimizing resistance to pathogens. The main idea was to Start Smart and then Focus.

Benefits of early IV to oral switch

- Reduction in the likelihood of hospital-acquired infections (e.g. phlebitis)
- More likely to receive Antibiotics at the correct times (not reliant on IV access)
- Prospect of earlier hospital discharge

Method: This QIP has completed one full cycle as per the PDSA methodology. The 'planning' stage involved collecting baseline data regarding the antimicrobial reviews at 48-72 hours, with a focus on any resulting changes made in the antimicrobial route. For the 'do' stage, a teaching presentation was delivered in the department, about educating the audience on antimicrobial stewardship, including the importance of the antimicrobial review at 48-72 hours (as per the Start Smart then focus campaign), and the national criteria for consideration of intravenous to oral switch.

For the 'study' stage, the data was recollected to analyze for any changes in the 48-72-hour antimicrobial review rate, and whether this influenced the rate of intravenous to oral antimicrobial switch. Considering the results following the first cycle, for the 'act', further interventions that will form the basis for future PDSA were suggested in the form of teachings, posters, etc.

Results: Since the focus of the QIP was IV to oral switch of antimicrobials at 48-72 hours, it was found that at baseline, 66% of patients were started on IV antimicrobials and 44% remained on IV after 48-72 hours of commencement.

A further collection of data after intervention suggested that 38% of patients were on IV at 48-72 hours which showed improvement.

Conclusions: 1. It is important to Remember to review all antimicrobials at 48-72 Hours (Stop, IV to oral switch, change, continue) with clear documentation. 2. While having IV to oral switch-remember ABCD, can the patient be safely switched to PO antimicrobials? 3. For ease of identifying the reason for starting antimicrobials, document the indication of prescribing antimicrobials

BAPIO.NMC24.25- WITHDRAWN

10-year retrospective review of ocular involvement in Toxic Epidermal Necrolysis (TEN) at a West London Hospital

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Background: Ocular involvement is present in over 50% of patients in the acute phase of Toxic Epidermal Necrolysis (TEN).

The initial ophthalmology review is considered key for the long-term course of eye disease in TEN. Gregory used the presence of epithelial defects at the lid margin, conjunctiva, and cornea to grade ocular involvement in TEN into mild, moderate, or severe to guide treatment. Mild-moderate ocular symptoms should be managed medically with immunomodulating drops, preservative-free tear drops and antibiotic drops. Severe ocular symptoms should have adjuvant amniotic membrane transplantation (AMT).

Aim: Our audit assessed the management of ocular symptoms in patients with TEN at a West London Hospital over 10 years.

Methods: The records of patients treated for TEN at a West London Hospital over 10 years were accessed on Cerner software. Data was inputted into MS Excel after review by a consultant and an F1. It was compared with our audit standard, the hospital TEN management protocol.

Results: 24 patients developed TEN over 10 years. 66% (n=16) had ocular involvement, 13% (n=3) were documented to have no ocular features and no data was available for 21% (n=5). Of the 16 patients with ocular involvement, 7 were seen by an ophthalmologist within 24 hours of a TEN suspicion. 6 patients were seen between 2-4 days and there was insufficient data for 3 patients. 44% (n=7) developed mild-moderate ocular disease and 56% (n=9) developed severe ocular disease in the acute phase. All patients were treated with steroids, lubricants, and antibiotic drops. However, documentation of ocular findings and medical management was not comprehensive. Additional agents were used on a case-by-case basis. All 9 patients with severe ocular disease acutely had AMT. 2 patients responded well to AMT with minimal ocular sequelae: however, 5 developed sight-threatening complications. No data was available for 1 patient as he died, and 1 patient refused treatment. Severe ocular sequelae with visual impairment and severe chronic dry eye were seen in 31% (n=5), respectively. The remaining 31% (n=5) had no documented sequelae and no data was available for the patient who died.

Conclusions: When TEN is suspected, the ophthalmology team should review the patient within 24 hours, and then daily during the acute phase. There should be uniform documentation of ocular findings and treatments and it should follow the grading system devised by Gregory to guide management. There should be a consensus regarding topical agents and documentation should also include details of the eye drops, strength, and

frequency and specify “preservative-free” drops. The new standards should include guidance on AMT. Details of when the AMT was done about the ocular findings should be noted. This will allow analysis into the optimal timing of planning AMT. Long-term follow-up data of ocular outcomes is needed. This should be established prospectively by setting up a registry.

BAPIO.NMC24.26

Insights into Surgical Lighting: Evaluating Surgeons; Perspectives and Implications for Educational Enhancement

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Background: Today’s research has neglected the assessment of surgical lighting over the past 20 years. This has resulted in a lack of change in the four main types: Surgical Lighting Systems, Headlights, Lighted Retractors and Operating Microscopes. In this novel report, an assessment of attitudes towards current and conventional means of surgical lighting is evaluated, whilst identifying the advantageous and disadvantageous qualities of experienced surgical staff at Barts Health NHS Trust. Through identifying drawbacks, future surgical lighting techniques can be tailored, allowing for improvement, whilst also retaining the positive qualities it has demonstrated in its history.

Methods: Using a survey (n=16), participants specifically those with significant surgical experience, were questioned on their viewpoints on a wide range of topics including:

- The current standard of surgical lighting
- Types of surgery performed, and type of surgical lighting mainstay used
- Advantages and disadvantages of lighting mainstay
- Knowledge of futuristic options including Automated Lighting
- Demand for further education on the development of surgical lighting.

Based on which surgical mainstay was selected, only questions about that surgical lighting were posed and analysed for the results. Answers to questions were presented in a variety of ways, including tick boxes, 5-point Likert Scales and longer-prose submissions.

Results: The main 3 grades of training in our sample were consultants (50%), physician associates (25%) and clinical fellows (25%), with specialties such as General Surgery, Renal Transplant Surgery and Vascular Surgery.

75% of our sample felt current surgical lighting was “adequate”, with the remaining 25% rating the current mainstay as “very dissatisfactory”. 75% of the sample hinted strongly that change was needed. The most reported disadvantages included glare, an increased number of manual readjustments and illumination issues. Our sample was in unanimous agreement that the main advantage was patient safety. Despite this, 100% of the sample were unaware of automated lighting as a possible solution to the issues. Half of the sample were keen to learn more, specifically as part of formal surgical training.

Conclusions: The reliability of the current state of surgical lighting has been reflected in this article, as well as the need for improvement. As technology inevitably advances, surgery and healthcare should not fall behind. This project has identified issues with manual rearrangement and light quality, specifically glare and illumination. These drawbacks are detrimental to both patients and surgeons. For example, manual rearrangements can be a nidus for surgical site infections (SSIs) whilst glare is a significant contributor to eyestrain in surgeons. Research efforts into the automation of surgical lighting are ongoing, and technical approaches used in different fields, such as Artificial Intelligence (AI), 3D Tracking Systems and Thermal imaging all have the potential to improve upon the drawbacks highlighted in the literature, as well as in this report.

One recommendation for driving change is surgical education delivered as part of formal training programmes. Lack of awareness of technical approaches to improve surgical lighting was evident in the survey and theatre teams should be at the forefront of delivering a brighter future for patient outcomes.

BAPIO.NMC24.27

Audit of Abbreviations in Consent Forms of Trauma Patients

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AIM & BACKGROUND: The purpose of this completed audit cycle was to establish the number of consent forms that contain commonly used medical short forms & abbreviations, including which abbreviation was used most frequently, aiming to judge the compliance with the Royal College of Glasgow as well as GMC Good Medical Practice Guidelines.

METHODS: Retrospective data was extrapolated from individual scanned paper records via hospital numbers provided by the audit department of the

trust. The data was then input into a Microsoft Excel sheet to carry out a basic statistical analysis. The demographic sample was patients within the acute admissions unit of the Department of Trauma and Orthopaedics at Poole Hospital.

RESULTS: Through the statistical analysis, it was discerned that 25% of the consent forms filled within the patient sample contained medical abbreviations. It also filled the maximum number of consent forms, which were used to target interventions that were placed at strategic locations before carrying out the 2nd audit cycle.

CONCLUSIONS & IMPLICATIONS: The importance of the audit is underscored by the GMC Good Medical Practice as well as RCS Glasgow guidelines which conclude that the use of abbreviations can cause confusion and ineffective communication leading to mistrust, misunderstanding and can have potential legal consequences. The findings of the re-audit indicate efficacy at 2 levels ie. Minimising the use of abbreviations as well as improving information governance practice within the cohort of junior doctors who were the target of the interventions.

BAPIO.NMC24.28

How do Treatment Pathways Impact Survival In Patients With Stage 1 Non-Small Cell Lung Cancer: A Comparative Study Of Stereotactic Body/Ablative Radiotherapy And Surgical Options

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Background: Lung cancer, which accounts for the most amount of cancer deaths globally, can be split into 2 subclasses. Non-small and small cell lung cancer. Non-small cell lung cancer is 4 times as prevalent as small cell lung cancer. Surgery is seen as the gold-standard treatment option for patients with non-small cell lung cancer. Surgery can be divided into 3 different procedures: lobectomy, segmentectomy and wedge resection. Difficulties arise however as many patients are unfit for surgery due to comorbidities and age. In such cases, stereotactic ablative/body radiotherapy (SBRT) is utilised. SBRT, which is a relatively new invention has been speculated to be comparable to surgery. As many SBRT patients have more comorbidities and are older than surgical patients in general, many physicians find a comparison of both treatments difficult.

This dissertation aims to compare the overall survival and disease-free survival rates between treatment cohorts to determine if one leads to

higher survival.

Methods: A comprehensive review was undertaken of 4 databases: PubMed, MEDLINE, Embase and NHS Knowledge Network. Data on patient characteristics, study type and survival was obtained and CASP checklists were undertaken to review paper quality.

Results: 14 papers were included in this paper. All of which were retrospective cohort studies. This included 188,834 patients with 103,451 surgical and 15,383 SBRT patients. Surgical patients overall had higher overall survival rates, and the difference in overall survival rates between surgery and SBRT grew larger as time progressed after treatment. For disease-free survival surgery, they were also led to higher survival rates as a general trend.

Conclusions: Surgery leads to a higher proportion of non-small cell lung cancer patients surviving after treatment in comparison to SBRT. It can also be said for patients who become cancer-free after survival, that SBRT leads to a higher proportion of cancer reoccurrence. However, SBRT remains a viable treatment option for inoperable patients as whilst SBRT wasn't comparable, it aided in the control and end of cancer.

BAPIO.NMC24.29

Developing a standard operating procedure for documentation of neuromuscular observations in Paediatric Limb Injuries

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BACKGROUND: The purpose of this single audit cycle was to comprehend the current outdated system used at Poole Hospital for documentation of Neuromuscular Observations to judge compliance with GIRFT guidelines.

METHODS: Scanned electronic patient records were accessed to collect retrospective data via the hospital's intranet to access clerking pro forma. The data was then input into a Microsoft Excel sheet to carry out a basic statistical analysis. This was used to discern if the method of documentation adhered to GIRFT guidelines, particularly for supra-condylar upper limb fractures. The patient sample was filtered across a 6-month time bracket to have a substantial sample of 118 patients in this cycle.

RESULTS: The data that emerged indicated that there were constant inconsistencies in the documentation of neuromuscular observations. Firstly, this implied that only 76.3% of paediatric admissions with limb injuries had any

neuromuscular observations recorded. If they were, they were incompatible with the guideline. Secondly, it indicated that there is an immediate need to educate not only doctors but also nursing staff since the data revealed that a majority of the monitoring done in the initial stages of admission is done by nursing staff.

CONCLUSIONS: The manifold implications of a breach in the GIRFT guideline include difficulty interpreting the range of variance of documentation of Neurovascular observations, which raises the possibility of driving up the burden of litigation on the trust. Keeping this in mind, a pro forma was developed and included as part of a standard operating procedure, which was written keeping in mind the element of convenience for both medical as well as nursing staff. The SOP is in the process of being approved by the Practice Development Group of the trust which will allow it to be accessed by all medical staff via the intranet.

BAPIO.NMC24.30

Effectiveness of anatomy teaching at Sheffield Medical School during the COVID-19 pandemic.

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Background: Effective anatomy teaching is crucial for medical students to develop a comprehensive understanding of the human body and its functions. However, the COVID-19 pandemic necessitated rapid adjustments in teaching methods, posing challenges for medical schools worldwide. This study focuses on evaluating the effectiveness of anatomy teaching delivered to first-year medical students at the University of Sheffield during the pandemic.

Methods: A mixed-method approach combining quantitative and qualitative data collection was employed. A focus group discussion with phase 2a medical students provided insights into changes in anatomy teaching methods. Subsequently, a questionnaire was developed, comprising both closed-ended and open-ended questions, to gather feedback from phase 2a students who completed phase 1 during the pandemic. The questionnaire was distributed via the medical school's online platform, Minerva, and participants were assured of anonymity and informed consent. Ethical approval was obtained from the University of Sheffield's Ethics Department.

Results: Twenty-eight responses were collected from phase 2a medical students. Findings revealed that students perceived the aims and objectives outlined in the anatomy handbook to be clear, with

the majority utilising online anatomy teaching videos provided by the Medical Teaching Unit (MTU). Participants largely found these videos effective in aiding their learning. However, 50% of students felt that the allocated one hour per week for anatomy teaching at the MTU was insufficient. While opinions on the effectiveness of prosections varied, many students expressed a preference for more hands-on learning experiences, such as dissections. Despite this preference, the majority of students identified academic doctors as facilitators during anatomy teaching sessions and deemed their teaching effective.

Conclusions: The study underscores the importance of adapting anatomy teaching methods to meet the evolving needs of medical students, particularly during challenging circumstances like the COVID-19 pandemic. While online resources were utilised and deemed beneficial, there remains a strong preference among students for hands-on learning experiences, such as dissections. Increasing opportunities for practical learning within the MTU and providing more teaching hours may enhance students' understanding and retention of anatomical knowledge. Additionally, rotating facilitators and incorporating a variety of teaching styles could further support student learning. These insights can inform the development of more effective anatomy teaching strategies at Sheffield Medical School and potentially other institutions facing similar challenges.

BAPIO.NMC24.31

Ethics of SSRIs to treat depression and eating disorders in teenage girls and its relationship to Weight loss?

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Unexpected weight loss is a commonly reported side effect in several SSRI medications used to treat psychological conditions such as depression and anxiety disorders: notably Fluoxetine (in addition to, but less commonly, sertraline) (Serretti & Mandelli). The consequential change in body mass could potentially lead to false improvement of depressive symptoms due to an improved perspective on body image and conforming to a more desirable appearance of wanting to be thinner, which is often the goal in those struggling with eating disorders and body dysmorphia (Aggarwal, 2016). This feeds into the cycle of mood being determined by how thin the patient is deemed to be by themselves and others therefore providing positive reinforcement to fuel the negativity and obsession associated with body

image.

Resultantly, the underlying mental health issues (such as bulimia or depression) may remain unaddressed, having been masked with the improved mood from losing weight, which would appear to have solved the pathology on a surface level. The root cause of the patient's psychiatric disorder or exploration of their depressive thought patterns remains yet to be uncovered and could increase greatly if the medication is ever stopped, inadvertently creating dependence, and subjecting the patient to other potential side effects (such as nausea, which can also cause weight loss due to a reduced appetite) which may not be entirely necessary.

Fear of reverting to a weight the patient may associate with their depressive symptoms may cause them to request increases in the doses of their medication to exacerbate the desired effects. However, it may be unethical to withhold anti-depressive treatments to those who need it, especially regarding such a vulnerable population of teenage girls for example, in which there is a prevalence of 20.8% struggling with eating disorders (NHS, 2023). The risk of self-harm behaviours and suicides may increase if support is refused. This is especially important when considering that medication provides a faster solution to managing symptoms of psychological disorders compared to other methods such as CBT, which is not as readily available.

It is imperative to prevent this phenomenon by exploring the reasons why one may request SSRIs and offering alternate therapies such as CBT alongside counselling and support.

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BAPIO.NMC24.32**Prevalence of antimicrobial resistance of typhoidal Salmonella**

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Background: The temporal trends in the development of antimicrobial resistance (AMR) among Salmonella Typhi and Salmonella Paratyphi in India have not been systematically reported.

Objectives: We aimed to study the prevalence of antimicrobial resistance of typhoidal Salmonella in bacterial isolates from patients with enteric fever from January 2022 to November 2023 at PSH, Vadodara, Gujarat.

Methods: All patients attending the outdoor/indoor facility of PSH, Vadodara, and their resistance patterns among 70 individual S. Typhi isolates.

Results: Blood samples were collected from 100 patients and analysed for the presence of salmonella typhi. Altogether, ten Salmonella serotypes were identified among the confirmed 78 isolates, and the predominant serotypes were Salmonella typhi (66%). Phenotypic antimicrobial resistance was detected in 65 of the isolates and the highest resistance was against ciprofloxacin 60% followed by sulphonamides 30%. Resistance to three or more drugs, multi-drug resistance (MDR) was detected in 20% of the isolates.

Conclusion: This study has highlighted a high prevalence and diversity of species in typhoid fever. In addition, it has demonstrated high levels of antimicrobial resistance in isolates. This could be because of overuse or misuse of antimicrobials in poultry production.

BAPIO.NMC24.33**A Rare Presentation of Ruptured Strangulated Incisional Hernia - Case Report**

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BACKGROUND: Spontaneous rupture of hernia is a very rare complication and usually occurs in long-standing and large incisional hernias. Rupture of incisional hernia demands emergency surgery. This case abstract reports a 62-year-old female with a rupture of a strangulated incisional hernia following a tubectomy.

METHOD: A 62-year-old female presented to the casualty with a discharging ulcer over the lower abdomen for the past 10 days with abdominal distension and vomiting for the past 2 days. The patient had a previous history of untreated incisional hernia following tubectomy for the past 20 years. On examination, an ulcer of size 12x8x3cm was noted in the suprapubic region with a sloughed out hernial sac exposing the gangrenous bowel as its content. On CT imaging, there was herniation of ileal loops through a defect in the anterior abdominal wall.

The patient was taken up for emergency laparotomy. Per operatively, gangrenous and sloughed out ileal loop was noted as the content of the hernial sac. The gangrenous bowel segment was resected, a Double barrel ileostomy was performed and debridement of the skin of the anterior abdominal wall was done. Loose tagging sutures were applied for closure.

RESULT: The 2-3cm incision for a tubectomy procedure has led to an Incisional hernia, which left untreated for 20 long years has led to an increase in the size of the sac, strangulation and ultimately rupture of the herniated sac. Early surgical intervention can prevent complications of hernia such as strangulation, bowel obstruction, adhesions, bowel incarceration and rarely rupture.

CONCLUSION: Spontaneous rupture of incisional hernia is a scarcely documented complication and an acute presentation. Hence this case report is being presented for its rarity and to emphasize on the fact that early identification and treatment of incisional hernia may prevent such a dire complication and improve the outcome of the patient following surgery.

BAPIO.NMC24.34**Pulmonary Involvement In Electrocutation - A Unique Case Study**

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India accounts for the greatest number of electrocution-related deaths in the world. Fatal electrocution is usually a result of the current passing through the body or head causing cardiac arrest or damage to vital centres in the brain. Visceral injuries from electricity exposure are rare in lung involvement is extremely rare since the lung is filled with air, as it is a bad conductor of electricity. Only 10 such cases are documented in the literature.

In this case report we discuss one such unique case with lung injury and/ or edema after high voltage

exposure. A 25-year-old healthy male without any co-morbidities presented to the emergency department in a drowsy state with a history of exposure to a 10,000-volt electrical current when his head encountered an overhead electrical wire while he was working on the terrace. His vitals were normal except for an increased respiratory rate. Chest radiograph demonstrated bilateral diffuse infiltrates and computed chest tomography revealed bilateral consolidation in all lobes. Electrocardiogram, Echocardiogram, Cardiac enzymes, Coagulation studies and sputum culture showed no abnormalities. The patient was treated with adequate oxygen without the need for mechanical ventilation, volume resuscitation and supportive measures. He completely recovered by Day 7.

This is the first reported case of bilateral lung oedema and/or an injury after electricity exposure without cardiac arrest in Tamil Nadu. Electrical injuries account for nearly 5% of admissions to major burn centres. The suspicion of electricity-induced pulmonary oedema should arise in patients exposed to high or low-voltage electrical current presenting with respiratory symptoms and positive imaging. Lung injury can be fatal and needs early intervention.

BAPIO.NMC24.35

Enhanced Health in Care homes-A collaborative approach within the NHS

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Introduction: In the context of an ageing population and increasing demands on healthcare systems, optimising health outcomes for residents in care homes is a critical priority. The poster presents a collaborative initiative within the National Health Service (NHS) aimed at enhancing the health and well-being of individuals residing in care homes.

Methods: This project engaged multidisciplinary teams comprising healthcare professionals, caregivers, and administrators to develop tailored interventions addressing key health determinants. A comprehensive needs assessment was conducted across participating care homes, identifying prevalent health issues, barriers to care, and areas for improvement.

Every care home:

- is aligned to a PCN
- has a named clinical lead (who is responsible for overseeing the implementation of the framework)
- has a weekly home round supported by the care home MDT
- has established protocols between the PCN, care

home and system partners for information sharing, shared care planning, use of shared care records and clear clinical governance.

Every person living in a care home, within 7 working days of admission or re-admission:

- has participated in a comprehensive personalised assessment of needs undertaken by the MDT
- has participated in the development of their personalised care and support plan (PCSP) with a member of the MDT
- care home residents should be identified and prioritised by their PCN as people who would benefit from a structured medication review (SMR).

Results: The results of this collaborative effort highlight significant improvements in several health indicators, including reduced hospital readmissions, better management of chronic conditions, and enhanced quality of life for residents. Interventions ranged from implementing personalized care plans to fostering stronger links between care homes and NHS services.

Discussion: By fostering a culture of collaboration and innovation, this initiative demonstrates the potential for the NHS to improve health outcomes in care homes. The success of this approach underscores the importance of tailored, person-centred care models, as well as the value of inter-professional teamwork in achieving holistic healthcare for vulnerable populations.

Conclusion: The collaborative efforts showcased in the poster illustrate the positive impact of an enhanced health approach within care homes. Through ongoing partnerships, the NHS can continue to innovate and improve the quality of care for older adults, ensuring dignity, autonomy, and well-being in their later years.

BAPIO.NMC24.36 - WITHDRAWN

Smoking and COVID-19 Correlation in Tribal Populations: A Retrospective Cross-Sectional Investigation

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Background: The COVID-19 pandemic, caused by SARS-CoV-2, primarily affects the respiratory system and spreads through airborne droplets. Older individuals with comorbidities face higher complications and mortality risks. This study explores the correlation between COVID-19 and risk factors like smoking, known for respiratory ailments. Smokers may be more susceptible due to the upregulation of ACE2 receptors, vital for SARS-CoV-2 entry into cells. Dysregulation of the Renin-Angiotensin System pathway contributes to

increased morbidity. Smokers, prone to respiratory infections, may experience severe COVID-19 complications. Understanding this link is crucial given the immunocompromising effects of smoking. The study aims to uncover associations between smoking and COVID-19 outcomes, emphasizing the need for targeted interventions in this vulnerable population.

Method: The study was conducted in the tribal areas of Dhule, Maharashtra, India in July 2021, focused on individuals visiting the outpatient and inpatient departments of the hospital. A survey was also conducted among the tribal population who had a history of COVID-19. Acknowledging the cultural diversity, particularly in smoking habits, the study aimed to ascertain a correlation between COVID-19 occurrences and smoking prevalence within this community. Patient-control matching was executed based on age, sex, and comorbidities. This research endeavours to contribute valuable insights into the relationship between COVID-19 incidence and smoking patterns in the specific cultural context of Dhule's tribal areas.

Results: The study observed a predominance of males (82.66%) and a notable age distribution, with most cases in the 30-50 age group. Among participants, 57.3% were smokers, with varied smoking habits such as filter cigarettes, hookah, ganja, and bidi. Pre-existing respiratory conditions like asthma and COPD were present in 16% and 13.33%, respectively. Comorbidities associated with COVID-19 included diabetes, hypertension, and obesity. Notably, there was a positive correlation between the number of cigarettes smoked, smoking duration, and the severity of COVID-19, with a significant association with ventilator requirement and breathlessness. Oxygen requirement, however, showed no significant association with smoking. The study suggests a complex relationship between smoking history, COVID-19 severity, and treatment requirements, emphasizing the importance of considering smoking as a factor in disease management.

Conclusion: A robust correlation between COVID-19 severity and systemic effects of smoking is evident in the tribal sample. The age group of 30 to 50 represents over 60% of the population. Among smokers, filter cigarette use is predominant (29.3%), with a significant portion smoking bidis (16%). Asthma is prevalent (60%), and the primary complaint is cough (37.33%). In the smoking population, 5 to 10 years of smoking history is common (28%) and smoking more than 2 packs a day is prominent (25.3%). Hypertension stands out as the highest comorbidity, emphasizing the unique smoking-associated characteristics in this tribal

sample.

BAPIO.NMC24.37

Audit: Oral Nutritional Supplementation (ONS) for disease-related malnutrition in primary care

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Background: ONS is a medical intervention that should only be prescribed for patients who are classed as malnourished or at risk of malnutrition and be initiated after dietary intervention (eg: Food First strategies) has shown no improvement in ones nutritional status. ONS contains similar nutrients to food and there is nothing in standard ONS which cannot be obtained from food. A recent systematic review has discovered that the cost of prescribing ONS is high with little evidence base to back this up.¹ With cost-effective treatments being at the forefront of the NHS ethos, it is crucial that ONS is being prescribed in line with regional guidelines.

Methods: This audit investigates how ONS is being prescribed within a Bristol Primary Care Centre and how it compares to the regional BNSSG guideline². A search of the patient database was performed to identify those who have been prescribed ONS within the last 6 months in a primary care setting. These patients were assessed to see whether necessary Food First advice was provided in the initial consultation and if calculation of the well-known Malnutrition Universal Screening Tool (MUST) was completed to guide eligibility for ONS. According to the BNSSG guideline, monthly follow-up is required for those on ONS to assess for treatment effectiveness and regular recalculations of MUST scores should influence re-prescription.

Results: 52 patients were prescribed ONS at this centre within the last 6 months. However, to make this audit more specific to the question at hand, those who prescribed ONS in secondary care or by a specialist dietician, as well as those under palliative care, were excluded. This left 30 patients, from which only 4 patients were offered or trialed Food First advice, and an initial MUST score was recorded for 5 patients. Although prescriptions were acutely issued monthly to allow for a medication review to take place, only 2 people were being reviewed regularly with recalculation of their MUST scores. The rest of the patients were receiving repeat prescriptions without assessment of their nutritional status.

Conclusions: The use of MUST within a primary care setting is of great benefit. It allows clinicians to confidently initiate ONS prescriptions as well as

monitor its effectiveness. This is further demonstrated by the importance MUST hold within the regional BNSSG guidelines. Awareness of such a screening tool including the importance it plays in prescriptions, along with awareness of offering Food First advice in the initial setting, is lacking within a primary care setting. Therefore, there needs to be an increase in awareness of the MUST as well as the role Food First advice plays in the treatment of those patients who are malnourished or at risk of malnourishment. To initiate change, there has been teaching within the Primary Care Centre to increase awareness, as well as the familiarisation of the BNSGG guideline. This guideline has also been made easily accessible as a resource within the Centre to assist in future ONS prescriptions and reviews.

1 Thomson K, Rice S, Arisa O, Johnson E, Tanner L, Marshall C, *et al.* Oral nutritional interventions in frail older people who are malnourished or at risk of malnutrition: a systematic review. *Health Technol Assess* 2022;26(51)

2 <https://remedy.bnssg.icb.nhs.uk/formulary-adult/chapters/9-nutrition-and-blood/95-nutrition/>

BAPIO.NMC24.38- WITHDRAWN

Evolving perspectives in reverse cardio-oncology: A review

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Background- cardiovascular disease (CVD) and cancer are leading causes of mortality worldwide, traditionally linked to adverse effects of cancer therapies on cardiovascular health. However, reverse cardio-oncology, a burgeoning field, shifts this perspective to examine how cardiovascular diseases influence the onset and progression of cancer. This novel approach has revealed a higher likelihood of cancer development in patients with pre-existing cardiovascular conditions, attributed to shared risk factors such as obesity, a sedentary lifestyle, and smoking. Underlying mechanisms like chronic inflammation and clonal hematopoiesis further illuminate the connections between cardiovascular ailments and cancer. This comprehensive narrative review, spanning a broad spectrum of studies, outlines the syndromic classification of cardio-oncology, the intersection of cardiovascular risk factors and oncogenesis, and the bidirectional dynamics between CVD and cancer. Additionally, the review also discusses the pathophysiological mechanisms underpinning this interconnection, examining the roles of cardiokines, genetic factors, and the effects of cardiovascular therapies and biomarkers in cancer diagnostics.

Lastly, it aims to underline future directives, emphasising the need for integrated healthcare strategies, interdisciplinary research, and comprehensive treatment protocols.

Methods- This literature review on reverse cardio-oncology, conducted from November 15th to November 28th, 2023, encompassed a broad spectrum of studies, including observational, case-control, cohort, and randomised controlled trials, to ensure a comprehensive understanding of the field. The literature search spanned several databases, including PubMed, EMBASE, Google Scholar, the Cochrane Library, CINAHL, SCOPUS, and Scielo, with publications covered up to December 16th, 2023.

Results- This is a comprehensive narrative review with no new experimental results present.

Conclusions- Looking ahead, reverse cardio-oncology is poised for groundbreaking advancements through multidisciplinary research and personalised medicine approaches. Novel concepts, such as the utilisation of biomarkers for early detection and the exploration of targeted therapies based on genetic and molecular profiling, are promising avenues. This review has added to the available literature by pinpointing the complex interplay between cardiovascular disease and cancer, highlighting shared risk factors and pathophysiological mechanisms such as chronic inflammation and genetic predispositions. Future research should emphasise the development of integrated treatment protocols that address the co-occurrence and mutual influence of CVD and cancer, ultimately leading to enhanced patient care in this evolving field.

<https://www.sciencedirect.com/science/article/pii/S0146280624000288>

BAPIO.NMC24.39

Optimising the management and clinical outcomes of patients with tunnelled dialysis catheters and related bloodstream infections

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Infection rates among haemodialysis patients can be up to 26 times higher than in the general population, partly due to the increased use of tunnelled dialysis catheters (TDCs) for haemodialysis. This leads to high morbidity and mortality among this cohort and increased healthcare costs. In August 2022, a notable increase in TDC-associated bloodstream infections (BSIs) was observed in our inpatient unit.

This quality improvement project aimed to evaluate the management of these patients according to trust guidelines and to identify any patient education factors contributing to the development of BSIs, with the overall goal of reducing morbidity and mortality from TDC-associated BSIs.

Data from patients admitted with TDC-associated BSIs (January 2022 – January 2023) were collected using an electronic case report form. This included demographic and clinical data as well as data relating to guideline adherence. Additionally, a mixed-methods, paper-based patient survey was conducted by unit staff with patients at one of their regular haemodialysis sessions across the five regional dialysis units.

In 2022, there were 13 admissions for TDC-associated BSIs from five dialysis units. The mean patient age was 58 years (IQR=44-72), and 77% (10/13) were male. Among these, 46% were infected with *Staphylococcus aureus* (6/13), including one methicillin-resistant strain. The mortality rate was 23% (3/13). Blood cultures were taken for all patients, but only 38% (5/13) were paired blood cultures. A consultation with a microbiologist occurred for 85% (11/13), with 77% (10/13) having subsequent follow-ups. Follow-up was conducted with 70% (7/10) of those who survived to discharge, averaging 22 days post-discharge (IQR=11.5-25). However, data on pre/post-BSI patient information provision and re-education post-BSI remains unclear.

A survey of 76 patients in routine dialysis sessions revealed that 75% (57/76) either did not recall receiving or did not receive TDC care information. Of those who did, 84% (16/19) read it. While 83% (49/59) were aware of the need to keep their TDC clean and dry, 54% (41/76) showered with it, and 59% (24/41) of those used pouches. Additionally, 53% (40/76) could not recall any infection symptoms, but 78% (59/76) knew how to respond to an infection. Preferences for receiving patient information varied.

Compliance with trust guidelines was inconsistent. Improvements are needed in ensuring paired blood cultures, prompt follow-up, re-education after discharge, and effective patient information dissemination. Few patients receive information, yet most are willing to engage with it. Potential improvements include re-educating staff during doctor changeover periods and providing GPs with information about not providing shower pouches to TDC patients. We plan to revise patient information materials, offering them in several languages and formats. A re-audit of guideline compliance and a repeat patient survey will be conducted post-

implementation to assess the impact of these interventions.

BAPIO.NMC24.40- WITHDRAWN

Medical Educator's Attitudes and Experiences of Teaching Clinical Skills Online to Undergraduate Medical Students: Learning from COVID-19 and Future Implications

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Introduction: Traditional hands-on instruction of clinical skills in undergraduate medical education faced a paradigm shift with the emergence of COVID-19. Online teaching through virtual learning environments swiftly replaced traditional methods, necessitating an urgent reassessment of clinical skills education. Despite this, a knowledge gap persists regarding the effective delivery and integration of online clinical skills teaching within established medical curricula. Online teaching is an educational method utilising internet connection and technology to deliver training synchronously (e.g. video conferencing, interactive virtual classes) or asynchronously (e.g. multimedia resources).

This study investigated UK based medical educators and their experiences in teaching clinical skills in both synchronous and asynchronous online environments enforced by social distancing. We aimed to better understand how aspects of online teaching can be strategically employed within the current landscape of medical education to optimize practical skills acquisition.

Methods: A cross-sectional study design employing a semi-structured piloted survey was utilized. This survey was hosted through the online survey platform EU Qualtrics and approved by the Education Leads Advisory Group of the Medical Schools Council for further distribution to medical educators. The results were analysed by simple frequency analysis using SPSS with accompanying thematic analysis of open-ended questions.

Results: This study gathered responses from 22 medical educators of various seniority across 11 UK universities. Before the pandemic, educators had low levels of knowledge regarding online teaching. During the pandemic, synchronous sessions were often conducted remotely, with F2F teaching rarely resuming under strict measures. Educators believed that online teaching, particularly for non-practical skills, offered engagement and flexibility. The majority preferred a blended approach and felt that F2F was the most effective means of skills teaching, emphasizing the importance of supervision and hands-on practice. Educators acknowledged the benefits of online learning,

emphasizing the need for proper resources and training for successful integration into clinical skills teaching.

Conclusion: During the pandemic, clinical skills educators quickly adapted to deliver clinical skills in a synchronous online capacity. Educators preferred these approaches for non-practical skills, seeking to retain F2F clinical skills teaching to counter technological challenges and limited digital fluency. Moving forward, educators felt that a blended approach harnessed the benefits of online teaching while retaining the advantages of traditional F2F methods. These findings may inform future developments in the delivery of clinical skills teaching.

BAPIO.NMC24.41

Improving communication in a Trauma & Orthopaedic MDT

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Background: Communication between Doctors and the rest of the MDT is crucial for quality healthcare provided to patients. Good communication is shown to limit adverse events, reduce the length of admission and increase patient satisfaction with the care provided. This was identified as an area of improvement in a busy Orthopaedic Ward in a DGH.

Methods: A stakeholder map, fishbone diagram and driver diagram were all utilised to identify issues around poor communication with the medical team and the remainder of the MDT. This highlighted ideas for change that could be implemented. These ideas resulted in a change in the form of a board meeting that was held each morning and allocating patients (to ward doctors) by location and not consultants.

Results; After the second PDSA cycle, there was an average increase of 129.76% in communication between the medical team and the remainder of MDT when doctors attended board rounds. This increased by a further 4.22% when staffing levels were increased, resulting in a total improvement in communication between the medical team and the remainder of the MDT of 139.45%. This improvement significantly beat the target originally set of improving communication between the medical team and the remainder of the MDT by 75%.

Conclusions: All members of the MDT must be represented at board rounds. There was a strong desire from both the therapies and nursing teams as well as most of the junior doctors working on the

ward to improve communication between each other and therefore most people were receptive to the changes.

However, as the junior doctors were now being allocated by bay and not consultant it made it more difficult for consultants and registrars to get an update on their patients and have a junior available to go and see their patients with them when undertaking physical reviews between clinics and operations. To help negate this, consultants and registrars were emailed with the planned changes and the reasons behind them. Also, if a consultant wanted to quickly review their patients the junior doctors would try to make themselves available to see patients bay by bay with the senior doctor and if this couldn't be done, one junior doctor would see all of the patients regardless of whether they were allocated to the patient.

A handover document has been created that will be given to the rotating Foundation Doctors before commencing their T&O placement It details how patients are to be allocated and that board rounds should be attended each morning.

It is hoped that this project will be presented regionally in case there are similar issues at other trusts.

BAPIO.NMC24.42

Investigating what change in score in the ALSFRS-R results in a perceivable change in patient-reported quality of life

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Background: Amyotrophic lateral sclerosis (ALS), a type of motor neuron disease (MND), is a heterogeneous neurodegenerative condition resulting in the deterioration of both upper and lower motor neurons. The average current life expectancy from the date of symptom onset is around 3 years but this varies greatly between people with the condition. The ALS Functional Rating Scale (ALSFRS-R) is a questionnaire used by research scientists and clinicians to monitor the advancement of the disease. It is also the most used tool to assess the efficacy of treatments trialled for patients with MND. The ALSFRS- R consists of 12 questions scored from 0, where there is no function, to 4, where the function is normal. The questions assess bulbar, fine motor, gross motor, and respiratory functions to determine overall global function, giving a total score out of 48. By comparing an individual's ALSFRS-R scores at consecutive appointments, scores can be used to monitor the rate of disease progression.

The study aimed to determine whether small

numerical changes in ALSFRS-R scores between assessments had a significant difference and impact on a patient's quality of life. Patient-reported overall health-related quality of life (HRQoL) was scored using the Global Change Questionnaire. On their second visit participants were asked to rate their HRQoL as 'worse', 'about the same' or 'better' relative to their previous appointment. These scores were then compared to their ALSFRS-R scores.

Methods: 122 participants were included in this study. The difference in ALSFRS-R score between the two visits was calculated and participants' HRQoL responses were grouped into three categories: better, worse and about the same. The correlation between ALSFRS-R score difference and patient global change in perception was assessed through a Kruskal-Wallis test.

Results: ALSFRS-R score was 31.09 on the first visit and 27.81 on the second visit. There was a mean decrease of 3 points between visits, correlating to 61 (50%) of patients feeling 'worse' than their first visit. Kruskal-Wallis test revealed a significant correlation between ALSFRS-R score and HRQoL ($p=0.004$).

Conclusion: The significance of statistical data from the study concludes that changes in ALSFRS-R score can be indicative of changes in health-related quality of life. Repeating this study on a larger cohort of MND patients would be desirable. This would both corroborate the findings of this study and further estimate the threshold of ALSFRS-R score change associated with a perceived change in quality of life. Such an estimate, known as the minimal important difference, would be invaluable in assessing treatment efficacies, particularly those with high burdens such as unpleasant side effects.

BAPIO.NMC24.43

Disparities in the Management of Type 1 Diabetes Mellitus

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Background: Despite rapid technology advancements to manage type 1 diabetes (e.g., monitoring, insulin delivery), their adoption among diverse ethnic and socio-economic groups is not well studied. This project aims to investigate the uptake of flash/continuous glucose monitoring and insulin pumps in patients with T1DM.

Methods: We did a retrospective study from January 2021 to December 2022, focusing on adults with confirmed type 1 diabetes. We excluded

patients with type 2 diabetes, pregnancy-related type 1 diabetes, or unclear diabetes type. Data, including demographics, ethnicity, social deprivation scores, diabetes duration, and glucose monitoring/insulin delivery methods, was gathered from the hospital's electronic system.

Results: We studied 1160 type 1 diabetes patients at our hospital, aged 18-90 (mean age: 41.8). Most were female (56.55%). Ethnic distribution: 62.24% Caucasian, 9.66% South Asian, 4.05% Afro-Caribbean, 1.81% mixed, and others unspecified. Social deprivation scores (available for 1156): 76% less deprived (IMD 1-5) and 23.7% more deprived (IMD 6-10). Median diabetes duration: 18 years. Mean HbA1c (1138 patients): 67.6 mmol/mol. Glucose monitoring: 86.03% used flash/continuous monitoring, 3 had no documentation, and others used finger prick. Subset analysis: 27.76% used insulin pumps, 3 had pancreatic transplants, and others used pen for insulin delivery. Ethnicity-based analysis showed that 86.98% Caucasian, 82.14% South Asian, and 76.6% Afro-Caribbean were using CGMs for glucose monitoring. Similarly, 28.53% Caucasian, 23.21% South Asian and 6.68% Afro-Caribbean showed insulin pump usage.

Conclusion: Most hospitalised patients are from less deprived areas, possibly due to referral issues or patient willingness to attend. Technology adoption for diabetes management is lower in the Afro-Caribbean population. However, our study is retrospective and single-centred, limiting our ability to explore the reasons behind these observations.

BAPIO.NMC24.44

A Retrospective Analysis of Medication Reconciliation Practices in Surgical Patients at District General Hospital

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Aims: The National Institute of Clinical Excellence (NICE) states that a full medicine reconciliation should be conducted within 24 hours or sooner if clinically necessary. We aimed to assess the compliance with medication reconciliation in our surgical unit according to NICE standards.

Methods: We performed a closed-loop prospective audit on the timeframe of patients' regular medication prescribing timeframe. We audited whether patients who were admitted through emergency take had their regular medications prescribed within 12h, 24h, >24h from the

admission date or not prescribed at all during their hospital stay. Our implementation actions included staff education and posters in the surgical admission unit. A comparison was conducted between the first and second-cycle patient groups using Fisher's exact test.

Results: A total of 652 patient records were reviewed. Patients who had no regular medications or were discharged the same day were excluded from the analysis (n= 220). The first (March 2023) and second cycle (July 2023) included 202 and 230 patients respectively. We observed a significant improvement in the proportion of patients who had their regular medication prescribed within 24 hours (34% to 73% for the 1st and 2nd cycle respectively, $p < 0.0001$). During the first cycle, 30% of patients did not have their regular medication prescribed whereas this event occurred in only 4% of patients during the second cycle ($p < 0.0001$).

Conclusions: In the realm of recent advancements and research in medicine, our implementation of educational practices yielded noteworthy progress in standardizing medication reconciliation for surgical patients. Sustained educational efforts are imperative to uphold and enhance the attained standards.

BAPIO.NMC24.45

Variable Rate Insulin Infusion Prescription and Monitoring in ITU – Audit

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Background: VRII is used in inpatients who are either nil by mouth and have difficult glucose control or are severely and acutely unwell. An audit was carried out regarding VRII prescription and monitoring in the ITU setting of a tertiary care hospital. Good glycaemic control is important and often difficult in ITU patients due to issues with stress hyperglycemia, patients with NBM and on continuous feeds, and critically ill leading to difficulties in achieving good blood glucose control.

This audit aimed to check if the requirements of VRII prescription were met (ongoing feed/substrates), if continuation/stopping of other diabetic medications/insulin was being considered, the frequency of blood glucose monitoring, the events of hypoglycemia on VRII and eventually develop guidelines for VRII for ITU.

Methods: The audit was a retrospective study involving ITU patients over 6 months who were admitted to ITU for at least a week and were started on VRII, excluding patients with burns, or those

with DKA or HHS. 51 patients were randomly selected, and their case/patient notes were reviewed.

Results: Of the 51 patients, 37% were medical and 63% were surgical. 76% of patients were on VRII for more than 48 hours, and 24% of patients were on it for less than 48 hours. 65% of the patients were non-diabetic/not previously known diabetics; 35% were known diabetics of which 17% were T1DM and 83% were T2DM. 25% of patients were on oral hypoglycemic agents/oral diabetic medications before admission to ITU, while 75% were not on any oral medications. Of the 25% who were on OHAs before ITU, only 54% had their oral diabetic medications paused when started on VRII. All the T1DM patients were on basal insulin before admission, but only 67% had their basal insulin prescribed/continued when started on VRII. Only 2% of patients had hourly blood glucose monitoring done whilst on VRII. 10% of patients had at least one hypoglycemic event whilst on VRII. Only 22% of patients had their HbA1c checked on or during the admission and only 33% of patients were referred to the diabetes team.

Conclusions: The audit captured data from a good mix of medical and surgical patients. Although 65% of patients were not known diabetics, they still required VRII for blood glucose control highlighting the significance of undiagnosed diabetes in the community, and the impact of stress hyperglycemia in ITU. Having HbA1c done on admission to ITU will help bridge the gap of undiagnosed diabetes cases. The requirements for VRII prescription were not being met i.e. pausing of OHAs and prescription of basal insulin for T1DM. It also highlighted the importance of regular blood glucose monitoring, as the lack of it can lead to hypoglycemic events. As there are no national guidelines for VRII for ITU patients, there is a need for one (at least on the local Trust level) to address these issues.

BAPIO.NMC24.46

Study of Pulmonary Function in Patients with Type 2 Diabetes Mellitus

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Background: Type 2 diabetes mellitus (T2DM) affects various organs of the body causing micro and macrovascular disease. It is known to affect the eyes, kidneys, heart, nerves and blood vessels, but its effect on the lung which is a highly vascular

organ, is not yet thoroughly studied. Previous studies have reported that pulmonary functions (PF) are compromised in T2DM and histopathological changes have been observed in lungs in T2DM. The current study was planned to assess PF (FEV1, FVC, FEV1/FVC, PEFR, MMEFR) in T2DM patients using spirometry and to compare them with age and gender-matched healthy volunteers (HV).

Methods: This was an observational case-control study in which 60 T2DM and 60 normal healthy subjects with age and gender-matched were enrolled. Subjects with a history of smoking, any acute/chronic medical illness or on drugs which can alter PF were excluded from the study. Following detailed history, examination and routine investigations, all enrolled subjects underwent spirometry tests to evaluate PF as mentioned above. Data analysis was done using SPSS software and data is presented as Mean \pm SD. P value < 0.05 was considered statistically significant.

Results: Age, height, and weight of both the groups were comparable as statistically there was no difference between them $p > 0.05$. Our study showed that all pulmonary parameters, that is FEV1, FVC, and PEFR were significantly reduced except FEV1/FVC in patients of type 2 DM as compared with healthy controls $p < 0.05$. Among T2DM, 76% had normal PF as assessed by spirometry, 18% had restrictive, 4 % had obstructive and 2 % had a mixed pattern of PF. HbA1c and duration of T2DM were found negatively correlated with PF.

Conclusion: The present study suggests that PF is deranged in T2DM and should be assessed with advancing T2DM to detect early PF changes. Future prospective studies should be planned for the involvement of lungs in T2DM independent of any lung disease. DM being a systemic disease, also affects the lungs causing restrictive types of ventilatory changes probably because of glycosylation of connective tissue, reduced pulmonary elastic recoil and inflammatory changes in the lungs.

BAPIO.NMC24.47

Are patients with Acute Sore Throat Investigated following the NICE Guidelines?

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Background: Acute sore throat is a common complaint in primary care. Although usually self-limiting, antibiotics are prescribed for severe cases of bacterial aetiology. Adherence to antibiotic guidelines is imperative to prevent the spread of

antimicrobial resistance.

Aims: This audit aims to assess if Great Harwood Medical Centre is adhering to the NICE NG84 Guideline: Sore Throat (acute), Antimicrobial Prescribing.

Methods: This is a retrospective audit that was conducted using data from 39 patients with acute sore throats between June and September 2021. The standard and criteria were based on the NICE Guidelines.

Results: Out of the 39 patients, 41% had documentation of a Centor Score. Only 5 out of the 39 patients scored 2 or below. Out of these 5 patients, 60% did not have an antibiotic prescription on their record.

Conclusion: The audit demonstrated a shortfall in adherence to the NICE NG84 guideline. Recommendations have been made to improve adherence and enhance care.

BAPIO.NMC24.48

Navigating glaucoma diagnosis with artificial intelligence: prospects, obstacles, and future directions

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Background: Glaucoma is one of the leading causes of irreversible blindness globally. Early detection is crucial; yet half of glaucoma cases remain undiagnosed. Whilst previous reviews have primarily focused on the application of artificial intelligence (AI) in Ophthalmology for education, surgical training and treatment, the potential of this technology as a diagnostic or screening tool is limited in current literature.

Aims: This review aims to provide an overview of the current state of research by exploring key areas: limitations of existing screening tools, benefits and challenges of artificial intelligence, the integration of AI with telemedicine and future directions.

Methods: A comprehensive search for original publications was conducted using the Medline and Embase databases. The included studies had a varying risk of bias and applicability, according to the QUADAS-2 evaluation.

Results: AI can serve as a triaging tool, offering a plethora of advantages such as improving accessibility, enhancing disease management and reducing wait times. Integrating telemedicine with AI offers the potential for remote collection of

patient data, early disease detection, clinical forecasting, disease progression tracking, and optimised treatment planning. Nevertheless, potential limitations that hinder its incorporation into clinical practice include some medico-legal considerations, underrepresentation of certain patient populations in AI models, limited external validation of studies and the 'black box' phenomenon.

Discussion:

AI holds the potential for streamlining glaucoma diagnosis but necessitates collaboration, transparency and further research before seamless integration into clinical practice. Future studies should investigate the accuracy and applicability of AI in diagnosing glaucoma across diverse patient groups, including paediatric cases, encompassing different types and severity levels. Crucially, patient autonomy and privacy should underpin all research.

Conclusions: The diagnosis and follow-up of glaucoma are complex processes involving vast amounts of data, particularly with the extensive use of imaging modalities. This makes it a natural fit for the application of AI technologies. Although artificial intelligence has shown the potential to redefine the delivery of eye care, it should be regarded as a tool to aid clinicians instead of replacing them. In conclusion, the adoption of AI into healthcare models may alleviate the existing limitations of access and timely management of patients with glaucoma globally.

BAPIO.NMC24.49

Frailty factors and comorbidities in Benign paroxysmal positional vertigo

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Introduction: Benign paroxysmal positional vertigo is a condition characterised by the displacement of the calcium crystals within the vestibular system leading to the symptoms, of nausea, vertigo, vomiting, and dizziness. Whilst BPPV itself is not life-threatening, the symptoms can cause secondary complications and lead to falls, injuries, and in severe cases, head injury. The diagnosis and treatment for BPPV are manoeuvres, which in some patients especially the elderly cannot be performed adequately leading to untreated BPPV. This study aims to assess whether patients are being affected by frailty factors and comorbidities which is hindering their treatment.

Methods: This study was part of a prospective service evaluation done at Guys Hospital Balance

Clinic. The research focused on collecting details from patients receiving care at the vestibular clinics, focusing on their history, current treatment, and plans regarding BPPV.

Results: 52 patients were recruited for this study with an average age of 67.23. Out of 47 patients who had positional testing, only 33 were successful with 50% of the remaining being limited due to pain, 25% reduced neck range, 12.5% were apprehensive, 6.25% had reduced mobility and 6.25% had further contraindications. 43 patients had the PRM attempted, 8 had declined and 12 were unsuccessful. 30.77% of the patients had a mechanical restriction of reduced neck range, and a further 28.57% had pain that limited them from the PRM. 23.08% of patients had reduced mobility and 15.38% were apprehensive.

Discussion: The average age of this sample size was 67.23 which reflects the strategic effort to capture this cohort of patients and represent the elderly population. Nearly one-fourth of the patients had fallen in the last year and 16% had either minor or major Injury. In total 32.69% of patients experience frailty factors or other comorbidities which is preventing them from receiving full treatment for their BPPV.

Conclusion: This study has shown the impact that frailty factors such as neck pain, reduced mobility, apprehension, etc can have on both positional testing and the PRM. Multiple attempts are needed for the treatments to be effective and in most patients, this is not possible. Further research needs to be conducted to investigate how patients with limitations can benefit from these treatments.

BAPIO.NMC24.50- WITHDRAWN

Hepatopulmonary Syndrome - a unifying diagnosis in unexplained hypoxaemia with MASLD

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Background: Hepatopulmonary syndrome (HPS), also known as Platypnea-Oxthodoexia Syndrome (POS) is a rare liver-related lung injury with adverse prognosis characterised by intrapulmonary vascular dilatations and shunts which results in impaired gas exchange. Patients with HPS are usually asymptomatic, resulting in under-recognition of the disease and a delay in diagnosis. Work-up includes arterial blood gas, calculating the Alveolar-arterial (A-a) oxygen gradient. A gradient of ≥ 2 kPa or 2.7 kPa in those aged over 65 in an upright position on room air, is the defined cut-off. Transthoracic bubble contrast

echocardiography is recommended as the first-line investigation. Type 1 HPS patients typically display smaller diffuse vascular dilations while type 2 patients have larger, discrete intra-pulmonary vasodilation (IPVD) comparable to arteriovenous malformations (AVMs). There are no proven medical treatments and liver transplant remains the ultimate option to reverse this condition.

Case Summary:

We report a lady in her late 60s, who presented constipation and was incidentally investigated for hypoxia. Past medical history included NAFLD/MASLD, Hypertension, Type 2 diabetes mellitus, previous recurrent gall stones and ex-smoker. She had previous admission with hypoxia and on-and-off symptoms of shortness of breath for about 5 years. She underwent CTPA twice during her admissions given high d-dimers. Chest x-ray was normal, blood tests did not show infection.

Fluctuation in oxygen saturation on air was noted in supine (90-93%) and upright position (84-85%) favouring platypnea. Arterial gas showed pO₂ of 8.9 kPa. The A-a gradient was 4kPa, normal for her age being 2.8kPa. Physical examination showed stigmata of chronic liver disease, ejection systolic murmur on the aortic area and Grade 1 clubbing. Transthoracic echo showed moderate aortic stenosis. Further, a bubble echo confirmed the possibility of a right to left intrapulmonary shunt with bubbles seen entering the left atrium via the pulmonary vein 7-8 beats after injection and no evidence of intracardiac shunt. Following the above findings and a multi-disciplinary team discussion, the diagnosis of HPS was confirmed in this case. She was discharged with a target oxygen saturation of 85-92% on air and will be followed up for evaluation of the option of liver transplantation. She is being enrolled on 'The NAFLD Bioresource, part of the NIHR Bioresource - A Research Study to Characterise Novel Clinical and Genetic Phenotypes and Understand the Natural History of NAFLD.'

Discussion: Common causes of hypoxia in this patient like infection, COPD, and Pulmonary embolism were ruled out. Moderate aortic stenosis could also contribute to her symptoms in this case. Portopulmonary hypertension due to intracardiac shunts, intrapulmonary vasodilation or arteriovenous malformations should be considered and investigated further in such cases.

Conclusion: In a patient of MASLD presenting with unexplained hypoxemia, should consider the possibility of underlying intrapulmonary or intracardiac shunt.

Abbreviations - MASLD (Metabolic dysfunction associated with steatotic liver disease), NAFLD

(Non- alcoholic fatty liver disease), COPD (Chronic obstructive pulmonary disease).

BAPIO.NMC24.51

Audit of Anticoagulation Therapy for Stroke Prevention in Atrial Fibrillation

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Background: Atrial fibrillation (AF) is a type of tachyarrhythmia that produces an asynchronous rhythm that increases the likelihood of strokes. National Institute of Clinical Excellence (NICE) Guidelines for stroke prevention state that for an AF patient with a CHA₂DS₂VASc score ≥ 2 , a direct-oral anticoagulant (DOAC) should be prescribed. Patients on a DOAC should have yearly renal monitoring.

Aim: To assess the adherence of a General Practice (GP) to NICE for the prescription of direct oral anticoagulants (DOACs) for the prevention of strokes and annual renal monitoring of AF patients and, if necessary, make recommendations to improve adherence.

Methods: The standards set for the prescription of DOACs were 95% and 100% for annual renal monitoring. EMIS codes were used to identify patients. Inclusion and exclusion criteria were applied and 39 eligible patients with a CHA₂DS₂VASc score ≥ 2 were included. Compliance rates were then compared to these standards.

Results: 92.3% of patients were prescribed DOACs from 2021-2022 and 88.9% of those patients had their renal function tests in the last 12 months.

Conclusion: The surgery did not meet the standards of 95% and 100%. This was attributed to patients who had a recorded contraindication such as GI bleeding and patients being prescribed warfarin. It is commendable that the GP surgery managed to achieve a high compliance rate, notably for the first criteria, which was attributed to incentivisation from the QOF targets and regular monitoring by the pharmacists, strategies that could be employed in other practices. Recommendations have been made to have annual weight checks, install EMIS reminders and educate patients before prescription.

BAPIO.NMC24.52**A Retrospective audit on Secondary Prevention of Cardiovascular Disease Using Statins in Primary Care**

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Background - cardiovascular disease (CVD) refers to a group of disorders affecting the heart and blood vessels. CVD poses a significant health challenge in the UK, with recurrent CVD events contributing to preventable deaths. The National Institute for Health and Care Excellence (NICE) specifies atorvastatin 80 mg for the secondary prevention of CVD and recommends annual medication reviews for patients on statins.

Aim - To assess and improve general practice (GP) adherence to the NICE guideline [CG181] recommendations about statin prescribing and annual medication reviews.

Methods - This retrospective audit was conducted using criteria translated from the NICE guidelines. Standards were established through discussion with the supervisor. Patients were identified on the EMIS web using predetermined inclusion and exclusion criteria and were recorded on an Excel document where compliance rates were calculated.

Results - 14 out of 34 patients (41.2%) with a diagnosis of CVD between 1.11.2021 and 1.11.2022 were prescribed atorvastatin 80 mg. Out of the 32 patients with a diagnosis of CVD (between 1.11.2021 and 1.11.2022) and prescribed a statin, 25 had documented evidence of an annual medication review between 1.11.2022 to 1.11.2023.

Conclusion -The practice did not meet the standards set for both Criteria 1 and 2. Factors such as patient intolerance, side effects, patient preference, and human error may have contributed to the low compliance rate for Criterion 1. In Criterion 2, human factors, including missed appointments, patient delays, and lack of knowledge, might explain the failure to meet set standards. These findings were discussed in the practice meeting, and recommendations were made to improve compliance rates.

BAPIO.NMC24.53**Radiation-Induced Hypothyroidism in Head & Neck Cancer: A Prospective Study**

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Background: Head and neck cancer is a prevalent form of cancer globally, with over half a million cases reported each year. Radiotherapy is the cornerstone of treatment for most head and neck cancers both as a primary modality and adjuvant treatment. Despite its effectiveness in controlling cancer locally, radiotherapy often leads to late side effects, such as hypothyroidism, impacting survivors' quality of life. The risk of hypothyroidism increases with higher radiation doses to the thyroid gland. The National Comprehensive Cancer Network (NCCN) advises that thyroid function tests be conducted every 6–12 months following radiation therapy (RT) for neck cancers. However, the significance of hypothyroidism is frequently overlooked by clinicians, leading to a lack of routine assessment of thyroid hormone levels before and after RT in clinical practice.

Aim- This observational study aimed to ascertain the incidence of hypothyroidism after radiation therapy for head and neck cancers and to identify the threshold for its occurrence.

Methods: This prospective, hospital-based observational study was conducted at MNJ Institute of Oncology and Regional Cancer Centre (INDIA) and included 100 newly diagnosed patients with non-thyroid, non-metastatic head and neck cancer planned for radiotherapy. Inclusion criteria involved patients with normal pre-treatment thyroid profiles and good performance status, while exclusion criteria comprised patients with metastatic disease, abnormal pre-treatment thyroid profiles, or prior radiation to the head and neck region. Thyroid profiles, including Free T4 and TSH, were assessed before treatment initiation and at various intervals post-radiotherapy.

Results: All patients who underwent radiotherapy for head and neck cancer at the institution underwent thyroid function testing before and periodically up to 1 year after radiotherapy. Among the 100 patients studied, 24 developed hypothyroidism during the follow-up period. Of the diagnosed cases, 10 were subclinical hypothyroidism, while 14 were clinical hypothyroidism. There was no spontaneous recovery observed in the subclinical hypothyroidism group. Statistical analysis revealed no significant association between age, surgery, radiotherapy technique, and the development of hypothyroidism. However, gender was found to be correlated, with females exhibiting a higher propensity for hypothyroidism compared to males.

Conclusion: The study underscores the significance

of periodic thyroid function testing for patients undergoing radiotherapy whose radiation field includes the thyroid gland and if there is any evidence of clinical hypothyroidism, appropriate hormonal management should be given because this can affect the quality of life of cancer survivors. Notably, the duration of follow-up is crucial for accurately diagnosing radiation-induced hypothyroidism and although a longer follow-up is needed, efforts should be directed towards minimizing the incidence of hypothyroidism in head and neck cancer patients' post-radiotherapy.

BAPIO.NMC24.54

Hereditary C1q deficiency

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Background: Hereditary C1q deficiency is a rare genetic condition inherited in an autosomal recessive manner, characterised by defects in the complement system resulting from mutations in one of the three C1q genes. To date, only around 77 cases have been documented. This deficiency in the immune system leads to the development of SLE-like disease due to the inability to effectively remove apoptotic cells and an increased vulnerability to infections as the classical complement cascade fails to activate in response to antibodies. Additionally, C1q deficiency is associated with skin rashes, glomerulonephritis, and occasionally neuropsychiatric symptoms.

CASE REPORT:

Reporting a case of a 17-year-old boy from Pakistan who first presented with presumed juvenile SLE which improved with hydroxychloroquine and mycophenolate treatment. His re-presentation, was a month later with bilateral necrotic facial ulcers with facial edema extending to the neck, progressing to a thromboembolic disease requiring surgical tracheostomy, multiple facial debridement, and anticoagulation. ANA was positive in childhood but negative in the 1st admission while dsDNA was negative. Complement factors C3 and C4 were normal. Total complement activity was deficient and C1q antigen was undetected. Genetic testing confirmed pathogenic homozygous mutation in the C1qA gene. The treatment was constituted initially with FFP to replenish the C1q levels and subsequently with alternate-day Octaplas with long-term anticoagulation given the history of thromboembolism.

CONCLUSION: Clinical symptoms mimicking SLE, normal complements, negative ANA, and dsDNA suggest the possibility of C1q deficiency. Complement levels screening is advised in such

cases. In general, genomic investigations of rare diseases help in confirming the diagnosis and personalize the treatment. Given the rarity of C1q deficiency, there is limited understanding regarding its management and individual disease progression. Treatment involves regular administration of fresh frozen plasma or pooled human plasma, along with allogenic transplantation to replace deficient C1q.

BAPIO.NMC24.55

Breastfeeding by mothers living with HIV in the Manchester Metropolitan Area; a case series.

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Current British Human Immunodeficiency Virus Association (BHIVA) guidance recommends pregnant women living with HIV avoid breastfeeding. If women breastfeed, the guidance states only women with undetectable viral loads should limit exclusive breastfeeding to 6 months with monthly viral load testing throughout the breastfeeding period. Infant testing guidance is monthly viral load tests up to 2 months after stopping breastfeeding including a viral load test at 2 weeks old. Literature regarding vertical transmission rates in developed countries and rates of transmission when a mother has an undetectable viral load while breastfeeding is unknown. This report aims to describe adherence to BHIVA guidance and viral loads of women and infants.

Methods: A retrospective observational study at a sexual health clinic in the Manchester metropolitan borough was carried out. Data collection utilised online electronic systems such as Chameleon, HIVE and Inform. Data collected included maternal demographics, mode of delivery, viral load at recommended appointments, duration of breastfeeding and pregnancy or natal complications.

Results: Between January 2010 and June 2023, 11 women living with HIV breastfed their infants. 48 pregnant women with undetectable viral loads did not breastfeed. Demographics displayed an age range of 25-45 years old, median age being 30-35 years old. Residency status showed 4 UK residents, 2 UK nationals, 1 asylum seeker and 4 unknown statuses. Economic status showed 4 women from low-income housing, 4 from stretched society housing, 1 from a steadfast community, 1 from a thriving neighbourhood, and 1 with unavailable data. All 11 women were of black ethnicity. 4 women had caesareans and 7 had vaginal deliveries. Only 1 woman breastfed during two different pregnancies and another woman had twins. 2 infant complications occurred: tongue tie

and jaundice with weight loss. One woman had mastitis. Duration of breastfeeding was 6 months for 5 women, 5 months for 4 women, 4 months for 1 and 1.5 months for 1 woman.

Maternal viral load testing showed 10 women remained undetectable (< 200 copies/ml) throughout breastfeeding. 1 woman's viral load increased to 9780 copies/ml after 5 months of breastfeeding. 8 women missed at least one viral load testing appointment; reasons were not reported in notes. Infant viral load testing showed all 13 infants had undetectable loads throughout breastfeeding. No infant had tested at 2 weeks as per guidance. 11 of the 13 infants missed another viral load test. Only 6 infants were tested at 1 month after stopping breastfeeding.

Conclusion: This report found no transmission of HIV from mother to infant for the 11 women included. 5 of the 11 women missed at least 1 appointment, all infants missed their appointment at 2 weeks and subsequently, 11 of the 13 infants missed an additional test. BHIVA guidance exists to reduce risk for infants and support mothers however frequency of testing is unattainable with only one baby and mother pair attending all recommended appointments. Revision of testing frequency and breastfeeding duration guidance is needed as it does not reduce risk, increases costs and is a deterrent for breastfeeding which has many benefits.

BAPIO.NMC24.56

Improvement in Standards of Medical Clerking Documentation - QIP

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'Data recorded or communicated during admission, handover and discharge should be recorded using a standardized proforma.' (Generic Medical Record Keeping Standards by RCP London). One of the tertiary care hospitals moved from a paper-based system to a computer-based system for documentation and paper notes; this also included the notes of medical clerking on admission. Clerking on the paper system was on a standardised clerking proforma, but with the move to the computer system, there was no proforma for medical clerking. Several important parameters of clerking were left out after the move to the computer system due to the lack of a standardized documentation structure. This had the potential to cause issues in the quality of healthcare being offered to the patients and had the potential for causing patients safety concerns.

A QIP was carried out, spanning over 3 cycles, which

initially examined the aspects of medical clerking after its move to the computer system. Following that, a clerking proforma was introduced. Subsequent cycles looked at the level of improvement in aspects of medical clerking audited earlier.

Methods: The 3 cycles involved a retrospective analysis of medical clerking notes. 60 patients' notes were audited in each cycle, ensuring that there was no patient duplication, and no two patients were clerked by the same doctor. The patients taken in each cycle were all admitted to the medicine 17 days before each cycle. Only patients admitted to medicine via ED were considered. Any aspect of medical clerking missed in over 20% of clerking notes was deemed as needing improvement. The aspects which improved by 10% with the introduction of the template were considered significant.

Results: Aspects like clerking location, relevant family history, social history, smoking and alcohol history, drug history, allergies, travel history, cognitive screening, observations, examination documentation including neurological, CVS, abdominal, investigations documentation including blood tests, ECG, imaging and documentations about target saturation levels and ceiling of care were deemed as needing improvement as they were being missed out. With the introduction of the template, over the 2 cycles, the improvement in most of the aspects was significant. The aspects and percentage improvement are as follows: clerking location (65%), family history (17%), social history (26%), alcohol history (13%), smoking history (20%), drug history (15%), allergies (35%), travel history (32%), cognitive screening (36%), observations (29%), neurological exam (36%), CVS exam (12%), blood tests documentation (18%), documentation about imaging (25%), documentation about target saturations (32%), ceiling of care documentation (10%). The remaining aspects were either already being documented in above 80% of clerking notes, or the improvement with clerking proforma was not significant.

Conclusions: The introduction of clerking proforma improved the standards of medical clerking and helped to bring it more in line with the national guidelines of medical record keeping. This QIP also showed a direct correlation between the use of a standardized clerking proforma and the quality of documentation in medical clerking.

BAPIO.NMC24.57**Investigating the presence of p19 in FCx neurons and its relationship to other markers of senescence in the Ageing Brain**

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Background: Characteristic pathological features of Alzheimer's disease including neurofibrillary tangles (NFTs) and β -amyloid plaques, do not provide an all-encompassing explanation for dementia, so other possible reasons of cognitive decline, such as senescence, (stress-induced process of cell cycle arrest where cells secrete neuroinflammatory molecules) are an important subject of research. This study aimed to investigate p19 expression in Frontal Cortex (FCx) neurons of ageing brains and to demonstrate its correlation with other markers of senescence, to establish p19 itself as a senescence marker.

Methods: Immunohistochemistry was used to stain 30 FCx slides from a cohort of samples provided by CFAS (Cognitive Functions and Ageing Studies) to detect p19. These positive cells were manually quantified to generate data which was compared with data from other senescence markers to detect correlations.

Results: p19 was found to have a varied distribution throughout samples as some cells had expression visible in both cytoplasm and nuclei and others had expression visible only in cytoplasm. It was found that p19 has no correlation with three other senescence-associated markers (p21, γ H2AX, H3K9me3) and also has no relationship with Braak or Thal status.

Conclusion: It can be hypothesised p19 may participate in an independent senescence pathway or may have a role in other ageing-related biological processes, as no correlation with other markers was established. Further research needs to be undertaken to firmly identify p19 as a marker of senescence.

BAPIO.NMC24.58**A Comprehensive Approach to Susac Syndrome in a Young Female with Neurological Symptoms - A Case Report**

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Background: Susac Syndrome (SuS), a rare autoimmune microangiopathy characterised by a

clinical triad of Branch Retinal Artery Occlusion (BRAO), sensorineural hearing loss, and encephalopathy, presents diagnostic challenges, especially when compounded with comorbid conditions. This case report explores the manifestations of this syndrome in a 24-year-old female with a predominance of neurological symptoms and diabetes. Despite its rarity, SuS is proven to be a treatable condition, highlighting the importance of early recognition and intervention that can substantially improve patient health outcomes.

Methods: At the healthcare facility where this patient was seen, the diagnostic journey began with a thorough assessment of the patient's symptoms. These symptoms included severe headache, memory loss, loss of peripheral vision, vertigo, slurred speech, and difficulty walking. Reaching a diagnosis of Susac syndrome consisted of various investigations, including Magnetic Resonance Imaging (MRI) of the brain, ophthalmic examinations, and audiometric evaluations. To ensure a holistic patient-centred approach, a multidisciplinary team comprising neurologists, ophthalmologists, and endocrinologists collaborated to develop the correct diagnosis for the patient.

Results: The patient's complex presentation and the numerous differential diagnoses fitting her symptoms warranted a comprehensive diagnostic workup. Imaging using an MRI of the patient's brain identified microinfarcts in the corpus callosum, characteristic of Susac Syndrome. The peripheral vision loss was investigated, and an ophthalmic examination revealed BRAO. Audiometry confirmed the patients' bilateral sensorineural hearing loss. Early treatment with immunomodulatory therapy, including intravenous high-dose corticosteroids and intravenous immunoglobulin, ensured better outcomes for the patient. The patients' headaches resolved, improvement in peripheral vision was noted, and partial hearing recovery resulted from the early treatment. Follow-up imaging proved clinical improvement by reducing the number and size of the previously seen microinfarcts.

Conclusion: This case report highlights the complexities of diagnosing Susac Syndrome, especially with comorbid conditions like diabetes. The beneficial health outcomes seen with the patient after early recognition and treatment underscore the necessity for a holistic workup and a multidisciplinary approach to curb disease progression. Due to the intricate nature of the disease and the broad differentials possible for the condition, it is difficult for physicians to diagnose

the syndrome and prescribe early treatment correctly. Due to its treatable nature, further research should be conducted to better understand the condition's early signs and symptoms and start aggressive treatment to achieve favourable outcomes.

BAPIO.NMC24.59

Impact of Social Media on Academic Performance and Mental Health of Medical Students

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Introduction: Society has been transformed by social media into a worldwide forum. Social media have become inextricably linked to our daily lives, and their use among students has increased dramatically in the previous decade, with inconsistent statistics on their impact on academic achievement and mental health. The use of social networking sites (SNS) is on the rise, as is the prevalence of anxiety and depression among young people. More usage of SNSs and dependence on them was linked to anxiety and depression, according to a study conducted in Kolkata, West Bengal.

Objectives: To estimate social media usage among medical students. To estimate the impact of social media usage on the Mental health and Academic performance of medical students.

Methodology: This descriptive cross-sectional study included a sample of 200 medical students from the first phase to the final phase of MBBS. The participants were selected randomly using a simple random sampling method from the college attendance register. The study stool had the following sections: Demographic and academic details of participants. Structured Questionnaire for assessment of the use of SNSs. Structured Questionnaire for assessment of academic performance Assessment of anxiety-State Trait Anxiety Inventory (STAI) Assessment of depression-Beck's Depression Inventory (BDI) Participants were screened for state anxiety using a specific cut-off (39/40) as outlined in the STAI manual for college students. The BDI for screening depression was used as per the guidelines.

Results: All 200 participants agreed to use social media, with 59.7% using three or more platforms. YouTube was the most used platform (97.5%), followed by Snapchat (97.0%), WhatsApp (62.7%), Telegram (62.2%), and Reddit (60.2%). Entertainment was the primary reason for social media usage (55.7%), followed by communication

(30.8%) and education/professional activities (11.9%). On average, participants spent 2-4 hours per day on social media, with 37.8% admitting to using it first thing in the morning. Additionally, 85.1% reported using social media for academic purposes. However, social media negatively impacted the academic performance for 59.2% of participants, and 61.7% reported negative effects on their mental health. Furthermore, 62.7% of participants admitted to feeling addicted to social media. The study linked 147 participants (73.5%) to anxiety, with varying levels of depression, including mild mood disturbances (9.5%), borderline clinical depression (7%), moderate depression (6.5%), and severe depression (3.5%). These findings highlight the significant presence of social media among medical students, with potential implications for academic performance and mental well-being.

BAPIO.NMC24.60

Audit: Comparing 'Effective Radiation Dose' Delivered during a CT Scan vs 'International Diagnostic Reference Levels'

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Background: The global adoption of computed tomography (CT) scans across all departments in secondary and tertiary care hospitals has surged due to their increased accessibility, diagnostic efficiency, and procedural simplicity. Daily CT scan volumes now surpass monthly figures from just a few years ago. However, the rapid evolution of imaging technologies challenges established protocols and the proficiency of radio-diagnostic technicians.

Aim: to estimate the 'Effective Radiation Dose' delivered to patients referred for diagnostic C.T. scan examinations and compare them against the International Diagnostic Reference Levels (DRL).

Methodology: In a retrospective study, we randomly reviewed 70 CT scan dose reports from a 256-slice Siemens Somatom Flash C.T. Scan machine. We standardized and calculated the mean 'Effective Radiation Dose' for various CT scan types (e.g., CT Brain Plain, CT Brain Contrast, Pulmonary Angiogram) and compared the results against 'International Diagnostic Reference Levels'.

- **Standard:** To follow the ALARA Principle (As Low As Reasonably Applicable) for all types of studies without compromising the image quality.
- **Target:** The standard should be achieved in 90% of cases.

- Effective Radiation Dose: CT Dose Index + Length of the Scan + Tissue Weighing Factor
- International Diagnostic Reference Levels: Defined by the International Commission on Radiation Protection and reviewed by the American College of Radiology in 2016.

Results: Statistically significant elevations were observed in the mean 'Effective Radiation Dose' delivered across all CT scan types except CT Thorax Plain, surpassing the recommended levels and contributing to adverse deterministic and stochastic health side effects in the longer run. The highest difference in dosage was in CT Lower Limb Angiogram and the lowest difference was in CT Brain Plain.

Conclusion: The factors contributing to these unnecessarily high doses of radiation exposure were addressed and interventions directed towards doing no further harm were implemented, such as regular equipment quality control checks and small group training of the radio-diagnostic technicians on the ALARA Principle. The department protocols were revised and placed in prominent places. In addition, optimizing the area of coverage and reducing the number of scans per run by the clinician's request were followed. A re-audit will assess compliance and progress. We will present the possible factors leading to the target being met or not after re-audit.

BAPIO.NMC24.61- WITHDRAWN

Acute Medical Events in the Older Population Sustaining Major Trauma

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In high-income countries, emergency departments (ED) are seeing a shift in the major trauma population. High-energy trauma in the younger population is no longer the most common cause of major trauma, it is now the older demographic who sustain major injury from low-energy trauma. The injury severity and complications remain impactful, with 1/3 of patients sustaining a traumatic brain injury. Following the analysis from the national clinical audit for major trauma - the Trauma Audit Research Network (TARN), research into this issue has been indicative in preventing ED from being overwhelmed. An ageing population is increasing healthcare demand in the UK, and research surrounding this public health issue is becoming increasingly important.

Aim: This study aimed to investigate the incidence of prior acute medical events (AME) in the major trauma population, specifically over 65-year-olds.

689 eligible patients from the TARN database from the Northern General Hospital in Sheffield, presenting between 1st January 2020 and 31st December 2020. These participants were all more than 64 years old at the time of injury. An AME was an acute illness event that occurred less than two weeks before the major trauma incident, which was new and not a result of major trauma.

Methods: This was a retrospective cohort study, that used Emergency Department notes and discharge summaries to identify an AME status in a cohort of older people sustaining major injury and admitted to the Northern General Hospital in Sheffield in 2020. Data was collected in a new database and analysed in SPSS. Descriptive analysis compared the characteristics and survival of acute medical events. An assessment using ROC curves compared the specificity and sensitivity of the existing TARN and the newly created model to predict patient survival.

Results: Two hundred and seventy-five 41.2% (95% confidence limit 37.5-45.0) of the study cohort had sustained AME, with infection being the most common type of AME pathology (41.8%). The most severely injured body region was head injury 32.4%, in AME patients who were also more likely to be injured through a low-level fall. There was no significant 30-day mortality difference in older major trauma patients with and without prior AME (12.4-12.6%) and this remained after adjustment for confounding variables measured in logistic regression models. There were no significant differences in the specificity and sensitivity between models, this finding was robust to the inclusion of frailty in the model and reclassification of AME. AME appears important in the genesis of major trauma through low falls in older people, affecting 41.2% of older major trauma patients and tending to cause head injury.

Conclusions: This initial analysis suggests that the nature of AME does not impact acute care mortality over and above the injuries sustained. Additional research in defining the pathology of an AME and its impact on mortality is needed as older trauma is complex and requires more understanding. This will have a wider impact on our understanding of older people's major trauma as a public health issue. In turn, this research will contribute to the best practice for this population in emergency medicine.

BAPIO.NMC24.62**QIP- Statin Use in Newly Diagnosed Chronic Kidney Disease**

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Background: Chronic kidney disease (CKD) poses a significant risk factor for cardiovascular disease (CVD), necessitating the initiation of statin therapy to mitigate this risk. However, despite guidelines recommending statin commencement in CKD patients, adherence to these guidelines remains suboptimal, leading to potential gaps in patient care. Atorvastatin 20 mg is recommended as the preferred initial high-intensity statin because it is clinically and cost-effective for the primary and secondary prevention of CVD.

Objective: The project aims to identify newly diagnosed chronic kidney disease (CKD) patients for the past 2 months who have started on lipid-lowering medications or have had discussions regarding the commencement of lipid-lowering medications. The standard is set at 100%. All newly diagnosed CKD patients must have discussed starting lipid-lowering medications as they can improve their cardiovascular outcomes in the next 10 years and align with NICE guidelines. This project looks at the discussion rate before and after interventions which will show if there are improvements.

Methods: Utilising the Plan-Do-Study-Act (PDSA) framework, interventions were implemented, including education sessions for healthcare providers and the development of standardised protocols. Data on statin initiation rates and adherence to guidelines were collected pre- and post-intervention to evaluate the effectiveness of the interventions.

Results: Pre-intervention data revealed inconsistencies in statin initiation practices, with a significant proportion of eligible CKD patients not receiving statin therapy. On implementation of interventions, there was a notable improvement in statin commencement rates, with a greater adherence to NICE guidelines. Through these changes, the standard was raised from 74% to 82%.

Conclusion: Through the implementation of targeted interventions, this quality improvement project successfully enhanced the initiation of statin therapy in newly diagnosed CKD patients. By improving adherence to NICE guidelines, this initiative has the potential to reduce cardiovascular

risk and improve patient outcomes in this high-risk population. Ongoing monitoring and continued efforts to optimize practice are essential for sustaining these improvements over time.

BAPIO.NMC24.63**Role of FeNO in Predicting Responsiveness of Inhaled Corticosteroids in COPD: Systematic Review.**Reshma Ramesh¹, Andrea Georgiou², Timothy Harries³

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Background: Fractional Exhaled Nitric Oxide (FeNO) plays a key role in airway function regulation. It is used to monitor airway inflammation in asthmatic patients. Higher FeNO is seen in atopic asthma and is also used to evaluate eosinophilic airway inflammation. FeNO levels are elevated in stable COPD, potentially favouring a diagnosis of asthma-COPD overlap. Smokers tend to have lower FeNO compared to non-smokers. Due to the non-invasive nature of FeNO measurement and the low intra-subject variability, it is a reliable marker for eosinophilic inflammation in asthma. Use in COPD is challenging due to smoking and the use of inhaled corticosteroids affecting FeNO levels. An optimal value of FeNO for prescribing and monitoring ICS use has not been identified. The systematic review aims to bring together evidence for this association.

Methods: A systematic review was conducted of randomised controlled trials and observational studies studying the association between ICS by FeNO use. All studies examining this association were included, including a study conducted in patients with Asthma-COPD Overlap (ACO). Databases such as Ovid Medline, Embase, Cochrane, Web of Science and CINAHL were searched. Systematic screening, full-text reviews and data extraction were done based on inclusion and exclusion criteria. Appropriate quality assessments were carried out for the selected studies.

Results: 8690 studies were identified, 342 texts were screened fully, and 6 studies were included for the final review. Of these, one was a randomised controlled trial and the other five were non-randomised interventional trials, including three single-arm pre-and-post-intervention trials and two trials with controls. One study was done on subjects with asthma-COPD overlap. Three studies found a statistically significant correlation between FeNO and FEV1 after ICS use, and three studies also

found significant correlations between FeNO and COPD scores after ICS use.

Conclusions: Measurement of FeNO is non-invasive and standardised with results available at the point of testing. Due to the small sample size and short duration of studies, exacerbation frequencies were not measured. Despite this, the review suggests FeNO to be a potential biomarker for marking steroid response in COPD, but further research by stratifying patients with FeNO levels to assess the impact on acute exacerbations is needed to adapt its use in routine clinical practice.

BAPIO.NMC24.64

Acute phase proteins in the diagnosis of suspected testicular torsion: Review

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Background: Testicular torsion is a surgical emergency which demands prompt diagnosis and rapid intervention. Diagnosis of testicular torsion can be challenging given the time constraints and lack of accessibility to diagnostic resources. This project aimed to critically evaluate the utility of acute phase proteins in the diagnosis of testicular torsion through a review of the existing literature, with hopes of future point-of-care test development.

Methods: A rigorous search of databases and registries including MEDLINE, EMBASE, and Cochrane Library was conducted to identify relevant studies up to November 2023. The eligibility criteria included (but were not limited to) studies assessing the performance of any acute phase proteins on male patients presenting with acute scrotum, with a focus on their performance in early detection. 772 articles were screened, of which 2 were eligible. A hand search of the reference list of these articles generated an additional 3 relevant articles for inclusion. In total, 4 full-text articles and 1 article based on abstract alone, were included in this review. The risk of bias in the included studies was analysed using QUADAS-2. This review adhered to the PRISMA guidelines, ensuring a systematic and transparent approach.

Results: All but one of the included studies found that CRP was significantly higher in patients with epididymitis than in those with testicular torsion. Some studies also identified procalcitonin, ESR, haptoglobin and the patient's age as potential diagnostic parameters in the differential diagnosis of the acute scrotum. Despite some level of

heterogeneity between the studies, they all suggested that although acute phase proteins may not indicate the presence of testicular torsion, they may be useful in excluding testicular torsion when assessing the acute scrotum.

Conclusion: The literature indicates there is some, although limited, evidence supporting the use of acute phase proteins in the differential diagnosis of acute scrotum. Certain markers, particularly CRP, are valuable in the diagnostic pathway of testicular torsion through the distinction between inflammatory and non-inflammatory causes of acute scrotum. However, further research on larger sample sizes is required to establish the most effective acute-phase protein. This will enable the implementation of point-of-care tests for testicular torsion within clinical practice.

BAPIO.NMC24.65- WITHDRAWN

Fanconi syndrome secondary to Cystinosis

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Introduction: Nephropathic cystinosis is a rarely occurring inherited metabolic disorder leading to progressive renal failure and a range of extra-renal co-morbidities including endocrinopathies that require regular monitoring. There is no definitive cure for Cystinosis. Nevertheless, early introduction of cysteamine treatment and other supportive measures can adequately retard the occurrence of complications and improve prognosis.

Case Report:

We report a case of an 18-year-old boy who presented with complaints of abdominal pain, vomiting, polyuria, and failure to thrive. He was weak, wasted, had a low BMI and normal to low blood pressure. Investigations revealed hypokalemia, alkaline urine, and metabolic acidosis on arterial blood gas analysis. Consequently, his symptoms were attributed to underlying renal tubular acidosis. Later slit lamp examination revealed cystine crystals in the cornea confirming the diagnosis of Fanconi syndrome secondary to Cystinosis.

Conclusion: Because of the non-availability of cysteamine in our country, the boy was started on supportive, symptomatic treatment of cystinosis, to maintain an adequate fluid and electrolyte substitution and safeguard the acid-base balance, provide nutritional support, prevent the development of rickets, and ensure adequate substitution of needed hormones.

Keywords: Hypokalemia, Metabolic acidosis,

Fanconi syndrome, Nephropathic cystinosis.

BAPIO.NMC24.66

Case Report - Pancreatic Neuroendocrine Tumour

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Introduction: Insulinoma is a benign tumour of the pancreas. Only a small percentage of cases one case per million patients develops malignant insulinoma. Due to the rarity of the disease, very little data is available regarding successful treatment modalities and therefore these patients have poor prognoses with a median survival period of almost 2 years.

Case Report:

An elderly man presented with symptoms of recurrent hypoglycemia and weight loss. The examination was completely normal except that he was thin and emaciated.

Biochemical investigations confirmed hyperinsulinism. CT scan abdomen confirmed a lesion in the tail of the pancreas with nodular metastases in the liver, lung, and thyroid gland.

Biopsy confirmed lesion was synaptophysin and chromogranin positive with features consistent with metastatic well-differentiated neuroendocrine tumour. He refused surgery and therefore, started on medical therapy.

Conclusion: The man responded to the therapy temporarily, octreotide injectables. This was evident by the improvement in his blood glucose levels on monthly follow up.

Keywords: Malignant insulinoma, Hypoglycemia, Neuroendocrine Tumor, Octreotide.

BAPIO.NMC24.67

Audit: Correlation of Breast Imaging Reporting and Data System -BIRADS 4 and BIRADS 5 Lesions with Histopathological Findings

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Background: Breast cancer remains a significant global health concern, with notable incidence rates in the UK. The BIRADS (Breast Imaging Reporting and Data System) developed by the American

College of Radiology (ACR), categorises breast imaging results into several standardized categories, aiding in consistent communication and management recommendations for breast cancer detection and diagnosis. The system ranges from 0 to 6, with each category providing specific guidance on the likelihood of malignancy and the appropriate follow-up actions.

The BIRADS classification system serves as a crucial tool in determining the type of management plan and in turn the survival rate and quality of life of the patient. Therefore, this retrospective audit aimed to assess the reliability of the BIRADS classification system and evaluate its correlation with histopathological findings in patients categorized as BIRADS 4 and 5.

Methods: A total of 129 patients presenting with breast abnormalities and categorized as BIRADS 4 and 5, underwent evaluation between January 1st and December 31st, 2022. Of these, 81 patients underwent biopsy, meeting the inclusion criteria of being females aged 35 and above. Patients under 35 years, pregnant or lactating women and those with BIRADS 1, 2, or 3 lesions were excluded.

Results: Among the 129 patients, 48 were lost to follow-up or underwent biopsies elsewhere. The remaining 81 patients were included in the analysis. The comparison between the biopsy results and BIRADS classification showed 48% true positive cases for BIRADS IV and 52% true positive cases for BIRADS V.

Conclusion: The audit validates the sensitivity of the BIRADS classification system. Therefore, it helps in opting quicker for histopathological investigations and guides the clinical decision-making in patients with suspicious breast lesions. These findings contribute to the body of knowledge aimed at improving breast cancer diagnosis and management strategies.

BAPIO.NMC24.68- WITHDRAWN

Indications for Plain Abdominal Films from the Emergency Department

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Background: The IREFER system is a set of guidelines published by the Royal College of Radiologists (RCR) to help determine the best, safest and most appropriate imaging investigations. Doncaster and Bassetlaw Teaching Hospitals recently implemented the IREFER system to facilitate appropriate referrals to their imaging department, which receives a high number of requests creating an inflated workload for

radiographers and radiologists.

Aim: This audit investigated the indications for plain abdominal films (AXR) referrals from the Emergency Department (ED) and if they were concordant with the IREFER guidelines.

Method: Request forms for the last 50 patients referred by ED for AXR were searched for on the Hospital Database. Data items collected included.

- Number of images
- Indications for imaging
- Image report
- Final diagnosis

The indications for referral were compared with the guidelines to investigate if referrals were warranted.

Results: 92% of requests were justified, falling short of the 100% target. The top 3 compliant indications for referral included bowel obstructions (58%), constipation (18%), and small foreign body ingestion (10%). However, a high number of referrals (37%), underwent further imaging suggesting inappropriate initial imaging requests exposing patients to unnecessary radiation- 1 AXR is equivalent to the radiation dose of 35 Chest X-rays.

Conclusion: 3 recommendations have been made to reduce the number of incorrect referrals.

1. Circulation of educational posters throughout the hospital reiterating the guidelines and outlining examples of both correct and incorrect AXR referrals
2. Implementation of a robust vetting procedure encouraging radiographers to discuss inappropriate requests with backup from the Duty Radiologist (or equivalent)
3. Reaudit in 12 months to assess the effect of the IREFER system as part of a wider quality improvement project of services.

These interventions will reduce inappropriate requests, promote the selection of correct imaging modalities optimising patient care, and simultaneously reduce pressures on the imaging department.

BAPIO.NMC24.69

Descriptive analysis of primary sclerosing cholangitis in patients with inflammatory bowel disease in a paediatric population: A single Centre study

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Background: PSC-IBD has a chronic progressive course, and patients are at higher risk of hepatic

decompensation and colorectal neoplasia.

Aims: To review the clinical presentation and outcomes of children with PSC-IBD at a tertiary referral centre.

Methods: A nine-year (2014-2023) retrospective analysis of medical records at a tertiary paediatric centre was conducted. Laboratory markers, clinical presentations, imaging, histopathology, and relevant clinical outcomes were investigated.

Results: The study sample, comprising 15 patients, exhibited a mean age of IBD diagnosis at 11.4 years, while the mean age of PSC diagnosis slightly increased to 12.3 years. 60% of patients had Ulcerative Colitis (UC), 33.3% had Crohn's disease (CD) and 6.7% had IBD undetermined (IBD-U). Of the patients with UC, the disease presentation varied; pancolitis (50.0%), left-sided colitis (20.0%) and right-sided colitis (10.0%). A positive family history of IBD or autoimmunity was present in 46.7%. The predominant presenting complaints were related to underlying IBD and included abdominal pain (60.0%), diarrhoea (86.6%), and bleeding per rectum (60.0%). All patients exhibited raised faecal calprotectin, with a mean value of 1587. LFTs revealed raised GGT (93.3%), ALT (80.0%) and unconjugated bilirubin (80.0%). Inflammatory markers were raised; CRP (33.3%) and ESR (66.7%). The primary diagnostic modality for PSC was MRCP (73%) with liver biopsy required to clarify the diagnosis in 27%. Radiological findings found common bile duct (CBD) dilatation (MRCP 50.0%, USS 42.9%), intrahepatic duct dilatation (MRCP 41.7%, USS 28.6%) and stricturing (MRCP 16.7%) as the most prevalent. Histopathological changes seen on liver biopsy included: portal fibrosis (83.3%), lymphoplasmacytic infiltrate (83.3%) autoimmune hepatitis (50.0%), periportal eosinophilic infiltrate (33.3%) and onion-skin fibrosis (16.7%). Pharmacological therapy included steroids (20.0%), biologics (53.3%), and azathioprine (66.7%). Infliximab was the predominant biologic (40.0%). Ursodeoxycholic acid was prescribed in 80.0%. Colectomy was required in one patient due to severe IBD, unresponsive to multiple biologics. No patient progressed to colorectal carcinoma or hepatic decompensation.

Conclusion: Patients with PSC-IBD presented with colitis symptoms. All our patients were diagnosed with PSC incidentally on routine blood tests. Ultrasound was a useful modality for initial screening, but MRCP/liver biopsy was needed for diagnostic confirmation. Regular IBD surveillance and monitoring helped to prevent unfavourable outcomes. It is important to entertain the diagnosis

of PSC as it is an important prognostic factor for poor outcomes related to intestinal and hepatic neoplasia.

BAPIO.NMC24.70

Personalised care and support planning in Antenatal Unit- Risk Assessment: Audit

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Introduction: Audit done as part of regular audit cycle to assess risk assessment in antenatal check-ups done.

Background and standards: NICE guidelines recommend that at each antenatal appointment, it is crucial to conduct a comprehensive risk assessment inquiring about the woman's general health, and potential risks such as venous thromboembolism, gestational diabetes, pre-eclampsia, and fetal growth restriction. Additionally, creating a safe space for open dialogue allows for addressing various topics like previous traumatic births or mental health concerns. Regularly reviewing and adjusting the care plan throughout pregnancy is necessary, especially to identify women requiring additional support. The assessment should acknowledge that women's needs evolve during pregnancy and should encompass both physical and mental health aspects, considering their medical history. Lastly, proper documentation and collaboration between the maternity unit and the woman's GP is crucial for sharing information and addressing potential complications effectively.

AIM: Risk assessments are to be done as part of PCSP (personalised care and support planning) at each ante-natal visit, namely at: booking visit, 16 weeks, 28 weeks, 32-34 weeks, 36 weeks, 38 weeks, and 41 weeks. This is to ensure better delivery and post-natal outcomes. We aim at achieving 80% assessment at each visit.

Methodology population

Pregnant women of all ages and parity booked under different midwife teams DATA COLLECTION Data was collected retrospectively from patient notes from women who had delivered during the audit period. Data was input into Microsoft Excel and analysed. Time duration :3 months. Patient notes were audited against 7 points of ante-natal check-ups and the percentage of risk assessment accomplished was calculated.

Results:

- 40 patient notes were studied retrospectively, and risk assessments done at each visit were assessed.

- Desirable assessment levels were met in booking the visit

- Booking visit showed 90% assessment achievement

- In the 28 weeks and 36 weeks 75% and 70% of patients had been risk assessed.

- Subsequent visits showed a marked decline in the percentage of women assessed.

- It was seen many women were assessed in check-up discussions, but the risk assessment forms were not duly filled and signed.

Comparison with the previous cycle

Period: 2022 Duration: 3 months sample size: 20

Assessment points checked booking/ 28 weeks / 36 weeks.

Current cycle sample size:40

Assessment points checked - 7 booking/16 w/28w/32-34w/36w/38w/41 w.

The overall increase in the percentage of assessment was noted in corresponding ante-natal visits.

Conclusion: The required criteria of 80% assessment has not been met in any visit except for the booking visit.

Action plan:

1. Identify possible causes for decreased risk assessment at each visit.

2. increased awareness regarding the necessity of doing risk assessment on all visits as a need to improve post-natal outcomes which has been highlighted by the MBRRACE 2023 report on maternal deaths.

3. Liaise with the community care providers and address issues.

4. Introduce changes in the risk assessment sheet placement in the antenatal notes.

5. Include guidance information in communication newsletters.

BAPIO.NMC24.71

Navigating Tobacco Cessation: A Grounded Theory Approach to Facilitators and Barriers

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Background: With the tobacco pandemic killing approximately 8 million people year worldwide, it is one of the worst risks to public health. Of those fatalities, almost 7 million are directly related to tobacco use, and over 1.3 million are caused by second-hand smoke exposure for nonsmokers. Perspectives of the tobacco users and non-users can help us understand the facilitators and barriers to cessation of tobacco use and hence the current study was conducted.

Methodology: A cross-sectional qualitative in-depth interview was conducted among 15 tobacco users and 15 non-user adults above 18 years who attended the OPDs of different departments or were admitted as inpatients in a tertiary care centre located in Bengaluru, India for 2 months. A one-to-one interview was conducted using an interview guide. The interviews were audio-recorded and transcribed into English. The data were coded, and code frequency analysis was done. Subthemes and themes were identified and constructed.

Results: Age, psychological factors, perceptions and awareness about the effects, environment, real-life incidents, setting an example (role model), stigmatization, support and peer pressure from friends, media advertisements on effects of tobacco on health and creating stereotypes, academic pressure, availability and awareness about health care facilities, expenditures, governmental policies and regulations, easy accessibility and availability were identified as certain factors affecting the cessation of tobacco use. Under intrinsic factors, the 'individual factors' were one of the themes identified which consisted of physical and psychosocial factors, awareness, and perceptions within the individual as subthemes. Extrinsic factors with a total of nine important themes i.e. inherent properties of tobacco per se, family, friends, society and media, education system, workplace, health care facilities, governmental policies and regulations were identified which were found to influence the intrinsic factors.

Conclusion: Globally, tobacco smoking is still a major public health concern that contributes to avoidable illness and death. Evidence-based strategies for promoting facilitators and addressing barriers are crucial to lowering the morbidity and mortality due to tobacco consumption.

BAPIO.NMC24.72- WITHDRAWN

Absence Seizures in an Adolescent with Iron Deficiency Anaemia- A Case Report

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Background: Fifteen-year-old female presented to the Emergency Department with a four-year history of vacant episodes. Episodes were described as staring into space, often associated with shaking in arms and legs. The patient noticed feeling warm before the episode. She also complained of extreme fatigue and headaches starting with the episode and exacerbating afterwards. After initial episodes, the patient attended their GP, where she was diagnosed with iron deficiency anaemia and was started on Ferrous Sulfate 200 mg once daily. The episodes

were also thought to have been caused by iron deficiency anaemia. The episodes have become more frequent recently, affecting the patient multiple times in a day.

Evidence on the association of iron deficiency anaemia and seizures is controversial. Anaemia can contribute to seizures through multiple processes including a reduction in gamma-aminobutyric acid inhibitory neurotransmitters, alterations in neuronal metabolism and a reduction in brain oxygen and energy metabolism (1). While some studies have found iron deficiency anaemia as a contributing factor to seizures, others have failed to find an association. Iron deficiency has been associated with simple febrile seizures but not other types of seizures (2).

Methods: Collateral history was taken from the mother along with the history taken from the patient. Written consent was obtained from the mother and the patient for the case to be published or presented.

Results: Blood samples, including FBC, TFT, U&E and iron studies, were sent to the Laboratory. Anaemia was well controlled with Hb and Iron (15.5 mg) within normal ranges. The patient was referred to the Children's Outpatient Assessment Unit for further investigations. A formal diagnosis of absence of seizure was made and the patient was discharged following safety netting.

Conclusions: While iron deficiency anaemia may manifest with symptoms resembling vacant episodes, it is crucial to distinguish it from absence seizures. Through appropriate patient monitoring during follow-up consultations and thorough assessment of presenting complaints, individuals with absence seizures and iron deficiency anaemia can receive more effective treatment. Furthermore. Healthcare practitioners should critically analyse evidence before integrating controversial research discoveries into daily clinical practice.

BAPIO.NMC24.73

Preventing Falls in Care Homes: Strategies and Practices in Liverpool, UK

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Background: Falls among elderly residents in care homes represent a significant public health concern, posing risks to both individual well-being and healthcare systems. As the global population continues to age, the prevalence of falls in care home settings has garnered increasing attention, highlighting the urgent need for effective prevention strategies. Falls not only result in

physical injuries but also contribute to psychological distress, loss of independence, and reduced quality of life among affected individuals. In addition, fall-related healthcare costs impose a substantial burden on healthcare systems worldwide.

Aim: to explore the key components of fall prevention in care homes in Liverpool, examine current challenges and best practices, and underscore the importance of collaborative efforts in promoting resident well-being and reducing the incidence of falls.

Methods: The approaches elicited by the care homes in North Liverpool Network encompass regular reviews and evaluation of residents, environmental modifications, staff training programs, individualized care plans, utilization of assistive technologies, continuous quality improvement, medication management, exercise, and mobility programs, fall alarms and monitoring systems. Additionally, community partnerships and interdisciplinary collaborations play a pivotal role in fostering a holistic approach to fall prevention.

Results: The results of falls prevention efforts in care homes are multifaceted and can vary based on the specific interventions implemented, the characteristics of the resident population, and the overall organizational culture within the care home. Here are some key results commonly observed because of falls prevention initiatives such as a reduction in falls rate, decreased fall-related injuries, enhanced resident confidence and independence, improved staff knowledge and skills, reduced healthcare costs, positive organisational culture, and resident satisfaction.

Conclusion: Falls represent a significant challenge within care homes, but proactive strategies and interventions can effectively mitigate the risk and enhance resident safety and well-being. Continuous quality improvement and ongoing evaluation are essential components of effective falls prevention programs, ensuring that care homes remain vigilant in addressing evolving resident needs and optimizing care delivery. This is a primer for policymakers, healthcare professionals, and caregivers, emphasizing the importance of proactive measures in ensuring the safety and dignity of older adults residing in care homes.

BAPIO.NMC24.74

Outpatient Antibiotic Treatment Outcomes in Diabetic Foot Infection

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Background: With the ongoing increase in number of people affected with diabetes globally, diabetic foot infection constitutes a major public health concern and a devastating diabetic complication. The poor outcomes relating to diabetic foot infection often lead clinicians to prescribe extended courses of intravenous (IV) antibiotics which contribute to antibiotic resistance, side effects and increase the cost of management.

Aim: Analysis of outcomes for diabetic foot infection patients treated with outpatient parenteral antibiotics in Ashford and St Peter's Hospitals.

Methodology: We conducted a retrospective analysis of electronic patient health care records for all adult patients who received outpatient parenteral antibiotics for the treatment of diabetic foot infection from August 2021 to August 2023. We collected data on patient demographics, relevant investigations, specialist reviews, choice and length of IV antibiotic treatment and infection outcomes.

Results: 59 patients were included in the analysis (48 male, 11 female. Mean age 65 +/- 16.8 years). 93% (n=55) of patients were treated for diabetic foot osteomyelitis. Microbiology culture was available for 86% (n=51) of patients and the most prevalent pathogen was staphylococcus species (36%). The most common antibiotic of choice was Flucloxacillin and Teicoplanin. 48% (n= 28) of the patients had an extended course of IV antibiotics than initially anticipated and 44% (n=26) of the patients received IV antibiotics for longer than 6 weeks. 36% (n=21) of the cohort experienced an adverse event secondary to IV antibiotic treatment. 21% (n=12) of the patients required surgical intervention (amputation or debridement). The 1-year mortality was 8.5% (n=5). The infection outcomes were: 27% (n= 16) cured, 36% (n=21) improved and 37% (n=22) failed treatment.

Conclusion: Extended IV antibiotic treatment is associated with a high risk of adverse events and limited treatment success. Clinicians should consider utilising oral antibiotic alternatives in order to limit this risk. Additionally, timely

debridement can serve as an effective strategy to reduce the overreliance on antibiotic treatment.

BAPIO.NMC24.75**Cardiac Enhanced Recovery After Surgery (ERAS) – Patients' perspectives, expectations and Quality of Life**

Evangelos Anastasakis (FY2)

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Mortality after cardiac surgery has been reported, analysed and addressed extensively in the last twenty years through a national database. However, complications, recovery and quality of life are not well addressed. Patients are increasingly concerned about the impact of surgery on their overall recovery and quality of life. This is important particularly in the era of expanding cardiological procedures, which can provide good short-term outcomes, but inferior mid and long-term outcomes. Patients expect more minimally invasive treatment options with faster recovery times. The cardiac Enhanced Recovery After Surgery (ERAS) protocol provides a bundle of care aiming at minimising peri-operative complications and improving quality of life and post-operative recovery.

This study aims to 1) evaluate the effectiveness of patient education and prehabilitation, 2) compare expectations for recovery to post-operative experience and 3) compare quality of life pre-operatively and post-operatively, in patients undergoing cardiac surgery with a full enhanced recovery after surgery (ERAS) protocol.

Methods

Single-centre, prospective cohort study of patients undergoing elective or urgent cardiac surgery between November 2022 – October 2023. Participants completed a pre-operative (after consenting to surgery) and post-operative (6 weeks to 6 months) survey. Domains assessed were 1) preoperative concerns, education and prehabilitation 2) sources of information in the peri-operative period 3) rate of recovery compared to expectations 4) symptom burden 5) quality of life compared to expectations 6) surgical satisfaction. Quality of life was assessed using the patient-Reported Outcomes Measurement Information System (PROMIS) global health measure and surgical satisfaction was measured using a surgical satisfaction questionnaire (SSQ-8) modified for cardiac surgery. The ERAS protocol was continuously audited to ensure acceptable compliance $\geq 70\%$ as defined by ERAS society.

Results

193 patients completed the pre-operative survey. 110 (57%) have completed the post-operative

survey to date. Patients over-estimated the incidence of post-operative mortality (9%), myocardial infarction (12%), stroke (11%), wound infection (14%) and bleeding (12%). Expectations of pain in the first post-operative week, were significantly higher than actual evaluations (7/10 vs 6/10; $p < 0.05$). The timespan to independence with activities of daily living was under-appreciated: 47% predicted independence at 1 week post-operatively but only 18% reported this. Exercise tolerance improved significantly post-operatively (2 vs 3 flights of stairs before breathlessness; $p < 0.05$). Complete symptom resolution was achieved in 43% with shortness of breath, 60% with chest pain, 50% with dizziness, 61% with palpitations, 85% with loss of consciousness, 60% with excessive sweating and 60% with leg swelling. Surgical satisfaction post-operatively was high. Physical health scores and mental health scores were improved at 6 weeks post-operatively. Compliance to the ERAS protocol was excellent throughout.

Conclusion

Cardiac surgery with the use of the cardiac ERAS protocol has early benefits to quality of life and symptom control. Surgical satisfaction is also high. However, patient education needs to be optimised to enhance recovery

BAPIO.NMC24.76**Factors Affecting Length of Stay in COVID-19 – a retrospective study**

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Background – COVID-19 is an unprecedented pandemic that crippled the healthcare delivery systems across the world. Daily increase in the number of cases leading to hospital admissions and severe cases requiring ventilator support and ICU stay with high mortality rate was a challenge to healthcare, in terms of bed shortages, ventilator shortages, imposing great financial losses to masses and hospitals alike.

This study aims to enumerate the factors affecting the length of stay in COVID 19 patients including radiological factors.

Methods – This is a retrospective cross-sectional study, done from March to May 2021. All data was collected from patients who were RT-PCR tested positive for COVID 19. HRCT was performed to assess severity of the cases. Collected data was analysed using SPSS 21.0.

Continuous variables were expressed as mean and standard deviation. Chi square test was used to analyse the association between the categorical variables.

Results –In our study the mean age was 46 with male preponderance 51.4%. 26.4% of the study population had at least one comorbidity, 20% had 2 and about 10.7% had more than 2 comorbidities, and 42.9 % of the study population had no comorbidities. Severity of the disease was assessed using CT Severity Score (CTSS). Variables included in our study such as age of the patient, sex of the patient, presence or absence of comorbidities, admission to wards/ICU, requirement of O2 support through O2 mask, NIV or Mechanical ventilator were found to be significantly associated with the length of stay in COVID-19 patients.

Conclusion – Patients and hospitals incurred huge costs during the COVID-19 pandemic due to multiple factors including length of stay in the hospital. Comprehending these variables is essential for prediction accuracy for the purpose of resource allocation and provision of optimal health care.

BAPIO.NMC24.77

Mycophenolic acid as an anti-cancer agent - A Literature review

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Background: Drug repurposing, the practice of identifying new therapeutic indications for existing drugs, has gained attention in recent years due to its potential to accelerate drug development and reduce costs. Mycophenolic acid (MPA), most commonly used as an immunosuppressant for transplantation and autoimmune diseases, has emerged as a candidate for repurposing in oncology. Because of MMF's established safety profile and regulatory approval, researchers are exploring its potential as an anti-cancer agent.

Methods: This review examines the literature on MMF's repurposing in oncology, focusing on its mechanisms of action, preclinical and clinical evidence, and challenges. A comprehensive search strategy was employed

to identify relevant studies, encompassing preclinical investigations elucidating MMF's anti-cancer effects and clinical trials evaluating its efficacy and safety in cancer patients. Key search terms related to MMF, cancer, drug repurposing, and clinical trials were utilised to identify literature.

Results: Preclinical studies have demonstrated MMF's ability to inhibit cancer cell proliferation, induce apoptosis, and suppress tumour growth and metastasis in vivo and in vitro. MMF exerts its anticancer effects by inhibiting inosine monophosphate dehydrogenase (IMPDH) and modulating key signalling pathways implicated in cancer progression, such as PI3K/AKT and JAK2/STAT3. However, clinical trials in humans evaluating MMF's efficacy in cancer treatment have yielded mixed results, with some studies reporting promising outcomes in specific cancer types, while others have raised concerns regarding limited efficacy or safety issues.

Conclusions: Despite challenges in translating preclinical findings to clinical practice, MMF holds promise as a repurposed drug for cancer treatment. Its well-established safety profile and regulatory approval provide a solid foundation for further investigation. Future research efforts should focus on optimising dosing regimens and investigating MMF's precise mechanisms of action in cancer cells. Overall, MMF represents a compelling candidate for repurposing in oncology, offering potential for improved outcomes and innovative therapeutic strategies in cancer treatment.

BAPIO.NMC24.78

A review of return to ward ultrasound scans for acute scrotal pain

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Background: Patients presenting with acute scrotal pain to emergency departments in the UK often are managed in one of three ways; surgical emergency exploration to assess for torsion, return to ward ultrasound scan (USS), or discharge following examination. The facilities for point of care scrotal ultrasound

assessment are uncommon in many UK hospitals, so patients judged not to be at immediate risk are often given an appointment for an urgent USS and asked to await further assessment and treatment afterwards. There is currently limited national guidance on when acute USS should be offered. The return to ward system can result in long waits for patients awaiting results and further review, delayed treatment and increasing pressure on resources for un-necessary testing. Our urology department decided to review the cases of return to ward scans to see if we could improve patient outcomes and reduce pressure on services

Methods: The patient numbers of the most recent 100 scrotal USS requested by the surgical and paediatric assessment units were retrieved from the hospital database. These were hand reviewed along with the patient notes to see the indication for the request, initial suspected diagnosis and management, time for patient review after scan, confirmed diagnosis and any change in management plan

Results

Of the 100 scan requests, 49 of them did not meet NICE recommendations for USS indications. Of these; 44 were suspected epididymo-orchitis, 3 were suspected torsions with 1 suspected missed torsion and 1 suspected intermittent torsion. 60 of the scans had a different diagnosis to that initially suspected after examination; 36 due to a different pathology, and 24 due to a normal scan. 39 patients had the same diagnosis after the scan as after the examination, 15 of which had additional findings e.g. epididymo-orchitis with abscess. Of the 39 with the same diagnosis, 20 had a change in management, 17 of which had no initial management documented other than USS and review. The average time taken to review an adult patient post scan was a little over 3 hours (193 minutes) with a range from 1 minute post scan results to 23 hours and 45 minutes until the patient next has a review documented in their notes. The review time range for paediatric patients post USS is from 15 minutes to 7 hours and 15 minutes. 3 paediatric patients were not reviewed after their scan, including one who left before being seen due to the long wait time.

Conclusions: Return to ward USS is a useful tool for the assessment of acute scrotal pain but at present it is being used ineffectively and inappropriately. It has been helpful in getting the correct diagnosis, and management for patients. It has frequently been used when not needed however. This has led to an increase in departmental pressure, delayed or inappropriate treatments and longer patient waiting times. As a result of this investigation, new local guidelines have been developed for acute scrotal pain assessment and further teaching has been given to the clinicians in the appropriate teams

BAPIO.NMC24.79

Are we CURBing Community Acquired Pneumonia?

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OBJECTIVE: Community Acquired pneumonia (CAP) accounts for about 29000 deaths per annum in the UK, with 5-15% of the patients dying within first 30 days of hospital admission. There is also the risk of antimicrobial resistance associated with inappropriate antibiotic prescribing. While research into community acquired pneumonia paused nearly 30 years ago due to poor funding, there are a lot of changes we can make in hospital to treat CAP with the current guidelines, especially when it comes to antimicrobial prescribing.

This QIP was done with NICE guidelines as a reference, to see the quality of treatment CAP patients get in hospital starting with calculating the right CURB-65 scores as they lay the foundation for treatment of CAP.

METHODOLOGY: This is a retrospective audit done with the help of data collected from patients who were admitted over the last few months in the UHB trust. The data was analysed on an excel sheet.

RESULTS: It was concluded that only 13.3% of the patients received the treatment according to the CURB scores with the right antibiotics being prescribed for the appropriate severity of the disease. Failing to calculate CURB scores at the front door resulted in poor adherence to

guidelines including prescribing incorrect antibiotics, failing to take blood cultures and failing to test for atypical pathogens.

CONCLUSION: Once the first cycle of the audit was concluded, posters and teaching sessions were implemented to educate and improve the quality of treatment of CAP in hospital and in the community. Ground work has been laid for data collection for the second cycle of the audit.

BAPIO.NMC24.80

Delayed Cord Clamping Implementation in Low- and Middle-Income Countries: A Scoping Review

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Neonatal anaemia is a major public health concern in low- and middle-income countries (LMICs). Delayed cord clamping (DCC) is a safe and cost-free intervention that can increase iron levels and prevent iron-deficiency anaemia in neonates. This scoping review aimed to synthesise published literature on DCC implementation in LMICs, describe current implementation strategies and identify barriers, facilitators, and recommendations for implementation.

Methods: Five electronic databases were searched from inception to July 6, 2023. A mixed-methods approach was applied. Qualitative content analysis was used to classify the results, following Proctor et al.'s categorisation of implementation outcomes. Barriers, facilitators, and recommendations were also identified and grouped into four main themes. Results were then described quantitatively.

Results: 1,473 records were screened, and 38 studies were included in the review. 15 of these publications (39%) mentioned a specific implementation strategy for DCC. Using the categorisation by Proctor et al. defining the

eight implementation outcomes, the most frequently mentioned outcomes across eligible studies were penetration (n=36, 95%), adoption (n=22 studies, 58%), and feasibility (n=18, 47%). Only one article discussed appropriateness, and none addressed cost. Across the studies, barriers, facilitators, and implementation recommendations were discussed to varying degrees, and four main themes were identified: (1) Knowledge and Education, (2) Financing and Resources, (3) Governance and Policy, and (4) Information Systems and Monitoring.

Conclusion: The categorisation of implementation outcomes proposed by Proctor et al. proved useful in assessing the implementation of DCC within LMICs. Further research on DCC implementation at a national and regional level is needed for the results to be generalisable and applicable. Additional literature gaps have been identified, such as the lack of studies assessing intervention cost, sustainability, and appropriateness. The development of targeted interventions to improve the implementation of DCC in LMICs is required.

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A Retrospective Analysis of the Impact Of COVID-19 on Upper Gastrointestinal Elective Procedures and Cancer Mortality Across Different Regions in England

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Background: The COVID-19 pandemic saw a decrease in the number of upper gastrointestinal procedures performed. This study aims to use open access data to investigate the impact of reduced upper gastrointestinal procedure rates on upper gastrointestinal cancer mortality (C15-17) rates across different regions in England.

Methods: A national retrospective cohort analysis was performed, comparing the annual procedure and mortality statistics of different regions between 2013-2021. Data used for analysis include upper gastrointestinal procedure counts, upper gastrointestinal cancer death counts, population estimates. An analysis of raw counts, calculated incidence

rates and age-adjusted incidence rate ratios were completed.

Results: A 29.7% reduction in upper gastrointestinal procedure rate was observed from 2019 to 2020 in England. It also shows that in 2021, service level had recovered to 3.54% above the 2019 rate. Geographical data showed much variation across different regions in England and highlighted that the regions with the highest prepandemic rates saw the largest decline in 2020. Upper gastrointestinal cancer mortality rate has seen a steady annual decline during the 9-year study period.

Conclusion: Despite the decrease in procedure rate in 2020, no attributable increase in upper gastrointestinal mortality rate has yet been observed in the English population. This warrants further investigation into the topic.

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Ecological Study Of English Regional Variation in Procedures and Diagnoses Of Lower Gastrointestinal Cancers Through the COVID-19 Pandemic

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Background: The COVID-19 pandemic's widespread impact on Lower Gastrointestinal (GI) diagnostic procedures in England has been well documented, as well as the resulting delays in cancer diagnoses and their effects on patient outcomes. Furthermore, the variation in cancer outcomes between different regions of England is a widely reported issue.

Aims: This study aims to evaluate the impact of reduced Lower GI procedures on Lower GI cancer mortality rates and examine regional variations in Lower GI cancers through the COVID-19 pandemic.

Methods and materials: Data spanning 2013 to 2021 was obtained from the Office of National Statistics and NHS Digital and managed with RStudio. During the study period, 7,468,087 Lower GI procedures were performed, and 127,771 deaths from Lower GI cancer (C18-C21) were reported. Demographic data, combined with the observed counts, facilitated

the calculation of incidence rates and the generation of age-standardized ratios.

Results: From 2019 to 2020, the incidence rate of Lower GI procedures decreased by 36.88% (95% CI: 36.58% - 37.18%). Linear regression analysis of age-standardized ratios indicated a non-significant, weak negative correlation ($\beta_1 = -0.01524$, p-value = 0.306) between Lower GI procedures and cancer mortality. Furthermore, a chi-squared analysis demonstrated no statistically significant differences in the annual variability of Lower GI cancer deaths across England's integrated care boards (ICBs) through the COVID-19 pandemic (2018-2021).

Conclusions: The findings of this study, indicate that the pandemic-related reduction in Lower GI procedures did not significantly impact Lower GI cancer mortality rates. No significant changes in the distribution of Lower GI cancer deaths across England at the level of ICB's Future research should focus on monitoring the recovery of Lower gastrointestinal procedures rates and assessing the pandemic's ongoing effects on Lower GI cancer mortality.

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Does Shaking Cause Metaphyseal Fractures? Prevalence of Metaphyseal Fractures in Infants with and Without Evidence of Abusive Head Injury

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Background: Metaphyseal fractures (or classic metaphyseal lesions, CMLs) were first linked to abuse in 1957 by Caffey and have since been identified as a highly specific marker of physical abuse in infants. The mechanisms suggested for their causation include direct torsional and tractional forces and indirect acceleration forces as the infant is shaken. This study tests the hypothesis that shaking is a cause of CMLs.

Methods: We performed a retrospective review of all radiographs of infants and children < 2 years of age investigated for suspected child abuse over a period of 15 years. Those who had a skeletal survey for

inflicted injury and a computed tomography head scan were identified and number and type of fractures and presence of features of shaking were extracted from the reports and medical notes. Statistical analysis (independent t-test and linear regression) of the data was performed. The level of significance was set at $P < 0.05$.

Results: Of 380 eligible children < 2 years, 166 had at least one of the following: fracture at other location (n=68), shaking feature (n=67), skull fracture (n=65) or CML (n=12). Of those with CMLs, only two were found to have features of shaking and there was no significant association between the presence of CMLs and the number of shaking features ($P=0.195$).

Conclusions: While 40.4% of recruited infants had at least one feature of shaking, only 7.2% had CMLs, with no statistically significant number of CMLs in the shaken compared to the non-shaken group. Results suggest that shaking is unlikely to be a mechanism for CMLs. Validation in a larger cohort may be warranted.

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Enhancing Adherence in LocSSIPs Completion Prior to Abdominal Drain Insertion in ITUs: A Retrospective Study

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Introduction: A retrospective study was conducted to assess the adherence in filling LocSSIPs prior to abdominal drain insertion in Intensive Care Units (ITUs) across the EKHUFT trust. This study spanned from October 2022 to October 2023, encompassing all three hospital sites within the trust.

Methods:

Patient Inclusion: All patients with abdominal drain insertion during the specified period.

Data Identification: Utilized the ICCA electronic system. Data Collection: Employed a SNAP tool to gather information on LocSSIPs completion, including sign-in, time-out, medications usage, staff involvement, and sign-out.

Results: Comprehensive Data Analysis: Examined LocSSIPs completion for each aspect. Identified Non-Compliance: Recorded instances where specific elements were not completed. Improvement Strategies: Educational Initiatives: Emphasize the importance of checklists and provide training on new electronic systems. Procedure-Specific Considerations: Tailor checklists to ICU procedures, omitting irrelevant details. Supervision Acknowledgment: Introduce a drop-box for procedure supervision in the LocSSIP form.

Recommendations:

- Enhance Communication: Discuss LoCSSIPs in the daily huddles, and the consultant will check LoCSSIPs during the ward rounds to make it 100%. Encourage bedside nurses to seek handovers during time-out.
- Relevant Details Only: Streamline checklists for ICU drains, excluding unnecessary information.
- Drain Lot Number Reminder: Include a tick box during sign-in to prompt entry before clearing up.

Conclusion: The study outcomes provide valuable insights into the adherence patterns of LocSSIPs completion prior to abdominal drain insertion. Understanding non-compliance areas is crucial for implementing targeted improvements and promoting a culture of safety and procedural excellence in ITUs.

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Pulmonary Embolism in Haemorrhagic Stroke, - Treatment Dilemma

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Introduction: Dilemma of treatment of pulmonary embolism in a patient of recent haemorrhagic stroke. Stroke is the third leading cause of death and morbidity globally. Of them 13% are haemorrhagic stroke and 0.5-5% of these patients are noted to have pulmonary embolism. Treatment of pulmonary embolism usually involves thrombolysis or anticoagulation depending on circulatory status. The mortality rate of

untreated PE is 30% and when treated mortality rate is 8%. However, in patients with stroke, PE treatment is not straight forward.

Case Report: 85-year elderly female was brought by the ambulance into the hospital with unwitnessed fall, long lie on her right side, LOC, no past medical history, chronic smoker and non-alcoholic. Noted to have mild cognitive impairment on MOCA and MMSE. On examination has slurring of speech, no nystagmus, no facial droop, moving all limbs, no focal neurological deficit, GCS 15/15 at presentation and hemodynamically stable with ejection systolic murmur. CT head revealed acute haemorrhage involving the right pons and extending to the cisterns. Reviewed by the Stroke team advised for Intermittent Pneumatic Compression stockings and CT Angiogram which revealed no evidence of intracranial aneurysm or active extravascular contrast extravasation.

Discussed with the neurosurgeons and a diagnosis of Traumatic Brain injury with SAH was made with no surgical need as would likely recover spontaneously. X ray pelvis done showed possibility of impacted right femoral fracture. On day 4 patient developed oxygen required and ECG showed sinus tachycardia with S1, Q3, T3 changes and Wells score of 6. CTPA was done showed saddle embolism with bilateral emboli, moderate emboli burden and right heart strain, left lobe pulmonary infarct with severe three vessel coronary artery calcification and aortic stenosis.

Management and Outcome: Discussed with Haematology team who implied thrombolysis is contraindicated as recent intracranial bleed, would usually start anticoagulation 2 weeks from bleed and suggested consideration for Inferior vena cava (IVC) filter to prevent further clot extension from lower limbs. Discussed with Interventional radiology consultant, implied patient frail to undergo IVC filter insertion. Neurosurgery input indicated no risk-free option, risk of intracranial bleed vs life threatening PE, advised to go with clinical judgement as to what is likely more life threatening at this stage. It was decided to monitor and anti-coagulate at day 14. However, the patient was hypotensive, tachycardic despite fluid

resuscitation and in respiratory distress. Upon discussion with family, it was decided to keep patient comfortable.

Discussion: One of the secondary complications of stroke is Pulmonary embolism due to impaired mobilization. In case of haemorrhagic stroke PE management is tricky. There are clear guidelines of contraindication of thrombolytics in recent stroke, however no clear guidelines as to treatment options for PE when thrombolysis is contraindicated. There are case studies where thrombolytics were administered with good patient outcome in similar cases. A multidisciplinary team approach is ideal in such instances with consideration of patient clinical condition, clinical judgement, and family involvement.