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8

Post-Operative Outcomes Following Implementation of the Team InteGrated Enhanced Recovery (TIGER) Protocol

Raul Castillo[1], Michael Lasky[2], Ryan Montgomery[1]

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Abstract

Introduction:

Since their development, Enhanced Recovery After Surgery (ERAS) protocols have greatly improved patient outcomes following surgical procedures. The Team InteGrated Enhanced Recovery (TIGER) Protocol is an ERAS protocol that utilizes a multimodal and interdisciplinary approach to patient care. Our Objective was to compare the post-operative outcomes of our TIGER ERAS protocol with traditional perioperative approaches for both hepatobiliary procedures and radical cystectomies.

Methods:

The TIGER protocol was implemented in 100 hepatobiliary procedures – the outcomes of which were compared to those of 100 similar cases performed before the protocol's development.

Our protocol was also used in 15 radical cystectomies (RCs) – the results of which were compared to 20 RC performed prior to protocol implementation. When evaluating the effects of our protocol, we examined the following quality improvement measures: total length of hospital stay, post-operative pain, ICU admissions, amount of intraoperative fluid administered, required milligrams of morphine equivalent (MME), and hospital costs.

Data from the hepatobiliary cases were analyzed via t-tests and chi-squared test, while data from the RC cases were analyzed using a Mann-Whitney U test hypothesis. In all analytics, a p-value of less than 0.05 was considered statistically significant. Results: When implemented for hepatobiliary procedures, the TIGER protocol reduced the average length of hospital stay by 32% and ICU admissions by 42%. Average pain scores in the first 24 hours post-op were also consistently lower in our TIGER protocol group. When implemented for urologic procedures, median length of hospital stay was reduced by 4.5 days, median intraoperative fluid administration was reduced by 2125 cc, median MME was reduced by 138 MME, and median hospital case cost was decreased by $4,860.

Conclusion:

After implementation of the TIGER ERAS protocol, surgical patients at our institution showed marked improvement in their course of recovery when compared to patients who underwent the same procedures without implementation of this protocol. Use of the TIGER protocol also benefitted the hospital system by decreasing the costs of these procedures and patient care.

References:

1. Gustafsson, U. O., et al. "Guidelines for perioperative care in elective colonic surgery: Enhanced Recovery After Surgery (ERAS®) Society recommendations." World journal of surgery37.2 (2013): 259-284.

2. Lassen, Kristoffer, et al. "Consensus review of optimal perioperative care in colorectal surgery: Enhanced Recovery After Surgery (ERAS) Group recommendations." Archives of surgery 144.10 (2009): 961-969.

3. Ljungqvist, Olle, Michael Scott, and Kenneth C. Fearon. "Enhanced recovery after surgery: a review." JAMA surgery152.3 (2017): 292-298.

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yes

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Poster keywords

ERAS, Enhanced Recovery, Post-Op, Missouri, TIGER Protocol

9

Perioperative Paracetamol Audit

Richard Seglenieks
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Abstract

Introduction: Paracetamol is an inexpensive and readily accessible analgesic agent commonly used perioperatively. Oral (PO) paracetamol is considerably cheaper than intravenous (IV) paracetamol and is associated with less waste (e.g. packaging). Administration of IV paracetamol is also associated with a small but potentially catastrophic risk of venous air embolism.This audit collected data at a single site to determine the proportion of patients receiving paracetamol perioperatively and the routes of administration. A comparison of costs was also performed.

Methods: A retrospective electronic chart review was performed at St. Vincent's Hospital, Melbourne, Australia. All elective non-cardiac surgical cases in the main operating theatres from Monday 7 December to Friday 11 December 2020 were included.

Results: Data were collected for 147 eligible patients. Of these, 71 (48.3%) received at least one dose of paracetamol in the immediate preoperative, intraoperative or immediate postoperative periods.

Only 7 (9.7%) doses were PO, with 65 (90.3%) IV – one patient received both PO paracetamol preoperatively and IV paracetamol postoperatively. Preoperatively, four (2.7%) patients were prescribed paracetamol, all administered PO. Intraoperatively, 27 (18.4%) patients received paracetamol, all administered IV. Postoperatively, 69 (46.9%) patients were prescribed paracetamol in the post-anaesthetic care unit (PACU). Of these, 41 (59.4%) patients received a dose of paracetamol, with 38 (92.7%) doses IV and 3 (7.3%) PO. In our institution, paracetamol costs $0.015 for two 500mg tablets for PO administration and $0.8 per 1g vial for IV administration. The IV formulation is thus 53.33 times more expensive than the PO formulation. If all perioperative paracetamol doses were given PO instead of IV then this would represent a total saving of $51.025 over a 5-day period for elective surgical cases.

Conclusion: Just fewer than half of all patients in this study received paracetamol perioperatively. Paracetamol was rarely given preoperatively and the overwhelming majority of doses were administered IV. While the relative cost differential between PO and IV paracetamol is large, the absolute difference is small and thus the financial benefit of changing from IV to PO dosing is also reasonably small. In combination with waste reduction and avoiding the risk of air embolism, though, there are several benefits to giving paracetamol PO instead of IV.

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yes

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Poster keywords

perioperative, paracetamol, audit, sustainability, cost

10

Unexplained brief apnoea following general anaesthesia for gynaecological surgery

James Blair, Grace O'Connell, Zbigniew Kirkor
Shrewsbury and Telford Hospitals NHS Trust, Telford, United Kingdom

Abstract

Background:

Respiratory function can be impaired following general anaesthesia and mechanical ventilation, even in healthy adults [1]. Postoperative pulmonary complications (PPCs) are common and increase patient mortality following anaesthesia for surgery [2]. Examples include atelectasis, pneumothorax, bronchospasm, pneumonia and pulmonary oedema [2]. PPCs increase both short and long-term mortality following major surgery with 14 to 30% dying within 30 days postoperatively [2]. Incidence of PPC can range from <1 to 23% with respiratory failure being the most common [2].

Case:

We report an unusual case of unexplained respiratory depression and brief apnoea in a patient with an undiagnosed inflammatory autoimmune condition. A previously healthy 31-year-old female presented to the Early Pregnancy Assessment Unit with vaginal bleeding and crampy abdominal pain at eight weeks gestation. Following a pregnancy viability scan, a missed miscarriage was diagnosed and she was booked to undergo an Evacuation of Retained Products of Conception. Shortly after an uneventful surgery and anaesthesia, the patient became unresponsive, apnoeic and started exhibiting oxygen desaturation. Bag-valve-mask ventilation was quickly commenced with 100% oxygen and it took 15 minutes for the patient to regain satisfactory spontaneous respiratory effort and rate. Inter-individual differences in enzyme activity involved in the metabolism of opioids has been suggested as a possible cause for her respiratory arrest.

Conclusions: This report highlights the importance of pre-operative assessment in the identification and management of modifiable risk factors for postoperative pulmonary complications. There is a need for further research to obtain conclusive evidence of efficacy for many of the interventions used in the prevention of postoperative pulmonary complications and to achieve consensus on the use of scoring systems for identification of risk.

References: 1. Karcz M, Papadakos MD. Respiratory complications in the postanesthesia care unit: A review of pathophysiological mechanisms. Canadian journal of respiratory therapy 2013; 49: 21-29. 2. Miskovic A, Lumb AB. Postoperative pulmonary complications. British Journal of Anaesthesia 2017; 118: 317-334.

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Poster keywords

case report, apnoea, general anaesthesia, postoperative pulmonary complications, opioid metabolism

11

The Virtual Perioperative Assessment and Resultant Successful Management of a Neuroendocrine Tumour: a Case Presentation

Sophie Shinnors, Medhat Eldereny, Pádraig Ó Scanaill
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Abstract

Background: The SARS-CoV-2 pandemic has had a significant impact on the structures of patient preassessment clinic [1]. Virtual or telemedicine assessments have successfully been used to continue outpatient activity [2]. Introduction: Neuroendocrine tumours of the small intestine are a common cause of carcinoid syndrome[3]. Patients are at risk for developing a carcinoid crisis perioperatively. This may present as haemodynamic instability; flushing; and bronchospasm. International recommendations suggest patients undergo extensive preoperative evaluation[4]. Treatment is with long-acting somatostatin analogues (SSA) to control excessive hormonal secretion and symptoms. SSAs are also used perioperatively to mitigate carcinoid crisis[3,4].

Case Discussion: A 47-year-old gentleman was referred to our preoperative assessment clinic, prior to elective resection of a metastatic carcinoid tumour at the terminal ileum. Preoperatively, he had been commenced on SSA therapy (Octreotide) for symptom control, along with Peptide Receptor Radionuclide Therapy. During a virtual assessment, it became evident, that despite SSA therapy, his symptoms were not controlled. He reported flushing, dyspnoea, chest pain and gastrointestinal symptoms. Following this, a decision was made to admit him preoperatively for an octreotide infusion and a multidisciplinary perioperative management plan was put in place. Surgery was performed successfully under general anaesthesia. Several aliquots of octreotide were utilised intraoperatively to maintain haemodynamic stability. He was admitted to the High Dependency Unit post operatively for an octreotide infusion. Conclusion: Synchronous telemedicine and perioperative admission proved very effective in the preoperative remote management of this case, while following national infection control guidelines during SARS-CoV-2. Could remote perioperative patient assessment have a continued role past the non-pandemic period?

References: 1.Lu A, Schmiesing C, Mahoneye M et al. COVID19 preopeative assessment and testing: from surge to recovery. Ann Surg. 2020;272(3): e230 - 235 2.Collins, P.M., Madden, A., O'Connell, C. et al. Urological service provision during the COVID-19 period: the experience from an Irish tertiary centre. Ir J Med Sci (2020). https://doi.org/10.1007/s11845-020-02352-x 3.Kaltas G, Caplin M, Davies P et al. ENETS Consensus Guidelines for the Standards of Care in Neuroendocrine Tumours: Pre- and Perioperative Therapy in Patients with Neuroendocrine Tumours. Neuroendocrinology. 2017 Sep; 105(3): 245–254. 4.Vaughan DJ, Brunner MD. Anesthesia for patients with carcinoid syndrome. Int Anesthesiol Clin. 1997 Fall; 35(4):129-42.

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Poster keywords

preassessment clinic, telemedicine, remote assessment, remote management

12

Outcomes in frail versus non-frail surgical patients requiring medical input

David Lim
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Abstract

Introduction: The ageing global population is seeing a rise in the average age of surgical patients, often with more comorbidities and higher prevalence of frailty. Preoperative frailty has been associated with increased mortality, morbidity, readmission rates, length of stay and healthcare expenditure across a range of surgical specialties (1). Various tools exist to measure frailty (1), with the clinical frailty scale (CFS) being the most pragmatic in a busy surgical inpatient setting.

Methods: Retrospective analysis over a 12 month period (February 2020 to January 2021) on inpatient activity in a tertiary metropolitan teaching hospital in South Australia. The Perioperative Medicine service at Lyell McEwin hospital reviews elective & emergency surgical patients preoperatively for optimisation and postoperatively to assist with managing complications. There is no existing shared care model and often referrals are reactive to an identified issue by the surgical team. Analysis was based on the unit's database which is managed by the Perioperative Registrar who is an Advanced Physician Trainee (ie. relatively senior position, usually 1 year away from completing specialty training) ensuring accuracy of clinical information. This captures referrals, demographic data and postoperative outcomes. Our interest was in frailty as defined by the CFS, and whether this was associated with poorer outcomes. Patients who had CFS scores completed were divided into frail vs non-frail groups and health outcomes were analysed.

Results: 392 patients were identified: -245 (63%) had CFS completed. o154 patients (63%) had CFS score ≤4 = non-frail o91 patients (37%) had CFS score ≥5 = frail The outcomes for frail vs non-frail groups are summarised below: Incidence of complications: 1. Cardiac: 26 (28%) vs 33 (21%) 2. Respiratory: 49 (54%) vs 47 (30%) 3. Acute Kidney injury (AKI): 43 (47%)vs 53 (34%) 4. Unplanned ICU stay: 14 (15%) vs 26 (17%) Inpatient progress & discharge destination: 1. Request for medical takeover: 30 (33%)vs 25 (16%) 2. Approved for medical takeover: 21 (70%) vs 14 (56%) 3. Died in acute hospital: 6 (7%) vs 1 (<1%) 4. Transferred to subacute facility: 28 (31%)vs 25 (16%) 5. Transferred to nursing home: 20 (22%) vs 1 (<1%) 6. Discharged home from acute hospital: 37 (41%) vs 127 (83%)

Conclusion: Frailty as defined by the CFS was associated with increased mortality and morbidity (cardiac, respiratory & renal). Efforts to improve completion rates of CFS scoring could assist with improved identification of perioperative frailty which may lead to better management pathways and possibly improved health outcomes.

Reference(s): 1. Dhesi JK, Lees NP, Partridge JS. Frailty in the perioperative setting. Clin Med (Lond). 2019;19(6):485-489. doi:10.7861/clinmed.2019-0283

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Poster keywords

frailty, clinical frailty scale, CFS, frail surgical patient

13

Medical Emergency Team (MET) Calls In Post-Operative Orthopaedic Patients - An Overview.

Pramod Vasantharao, Denise Glennon
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Abstract

Background: Medical-Emergency-Teams (MET) are a valuable resource in a hospital setting. Post-operative orthopaedic patients are commonly amongst the leading cohort of patients necessitating MET-Calls. This audit aimed to identify the leading causes of MET-calls amongst orthopaedic patients.

Methods: A retrospect audit was carried out on all MET-calls during a 7-month period in patients admitted to the orthopaedic ward at a tertiary hospital in metropolitan Perth, Western Australia. Data was collected by the authors from case-notes using a data-collection form based on the Queensland Department of Health(NSQHS) Standard 9 Audit-Tool.

Results: 48 MET calls occurred in 35 patients (N=48). The average age was 74.7 years. Amongst the operative cohort, the most common procedures underwent were; total hip replacements - 20 (47%), total knee replacements – 8 (19%) and hip-hemiarthroplasty – 3 (7%). The frequency of MET-calls per operation type were; total hip replacement – 17%, total knee replacement – 9% and hip-hemiarthroplasty – 5%. Of the 38 MET-calls for post-operative patients, 25 (66%) were for a low systolic blood-pressure (SBP < 90 mmHg). 24(96%) of these patients were asymptomatic and were managed with intravenous hydration and remained on the ward. Only 1(4%) was transferred to the high dependency unit (HDU) for vasopressor support.

Discussion: Asymptomatic hypotension was found to be the leading cause of MET-calls in this group of post-operative orthopaedic patients. Conventional management options for MET-Calls for post-operative hypotension include fluid therapy whilst remaining on the ward or admitting the patient to HDU for vasopressor-support. However, a third option of using oral alpha-adrenergic agents such as Midodrine may help counter the hypotension in a ward setting. Pilot studies have demonstrated a clinically significant rise in systolic-blood-pressure post-administration of Midodrine in post hip and knee-arthroplasty patients. [1]

Conclusion: Asymptomatic hypotension is a common occurrence in post-operative orthopaedic patients. Research into interventions designed to address this including postoperative Midodrine protocols for patients undergoing elective lower-limb arthroplasty is warranted. We plan to trial such a protocol and re-audit to ascertain whether this can reduce the incidence of post-operative hypotension requiring MET-calls.

References: 1. Smits M, Lin S, Rahme J, Bailey M, Bellomo R & Hardidge A . Blood Pressure and Early Mobilization After Total Hip and Knee Replacements: A Pilot Study on the Impact of Midodrine Hydrochloride. JB & JS Open Access [Internet]. 2019 [Cited 2021 Feb 6]; 4(2):e0048.

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Poster keywords

Post-operative hypotension, Peri-operative medicine, Orthopaedics, MET Calls, Midodrine

14

In Patients with Isolated Chest Trauma, Implementation of Multidisciplinary Ward Rounds and Opiate Sparing Erector Spinae Blocks are Associated with Improved Outcomes, a Trauma Unit Experience

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Abstract

Introduction: Data from UK trauma networks report that most patients with isolated chest trauma are treated in district general hospitals (DGHs) and trauma units (TUs) rather than in major trauma centres (MTCs). Despite this, there are few mortality and morbidity data outside MTCs, and no published outcome studies on such trauma from the UK. Despite recommendations for more integrated MDT and geriatric specialist involvement, there is no UK published evidence of MDT uptake or effect, for either TU or MTC patients with isolated chest trauma.

Methods: We report a TU 2-year experience of an integrated MDT pathway for isolated chest trauma with prospective data collection between April 2018 and December 2019. From January 2019, all patients were admitted to a single ward with previous thoracic nursing experience. With a dedicated in-patient perioperative team (which includes a consultant intensivist and geriatric nurse consultant), we instigated a 5 day per week peri-operative MDT and pain team ward round, promoted use of erector spinae block (ESBs) analgesia over intravenous patient analgesia (PCA) and developed a detailed chest trauma guideline to cover ‘front and back end’ care of these patients. We report demographics, mechanism and type of injury, chest trauma score, mortality, unplanned ITU admission from the ward, hospital complications, length of stay (LOS), discharge destination, type of analgesia used and pain scores.

Results: There were 180 patients treated for isolated chest trauma during the study period. Mean age was 72 years, and 81 (45%) patients were female. 167 (92.8%) experienced rib fractures with 42 (23.3%) cases resulting in flail segments. Mean chest trauma score was 22.1. 39 (21.7%) patients developed a chest infection and 8 (4.4%) died. 109 (60.6%) of patients experienced no significant hospital acquired complications. Patients spent an average of 8.8 days in hospital. In 2018 ESBs were used in <5% of patients but this rose to 28% in 2019. There were significantly fewer ITU admissions, episodes of AKI, delirium, and opioid toxicity in 2019 in comparison to 2018. Day 2 pain scores were significantly improved in 2019 which was associated with the increased use of ESBs.

Conclusion: We demonstrate a TU experience in managing patients with significant isolated chest trauma with lower mortality than MTC reports. We show that single ward management combined with the implementation of a dedicated daily perioperative and pain ward round is associated with improved outcomes, fewer ITU admissions, increased use of ESBs, less opioid toxicity, all without increasing LOS

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Poster keywords

Silver trauma, Chest trauma, Myofascial blocks, Elderly trauma, Compliations and outcomes

15

Introducing an electronic patient questionnaire into the preoperative assessment clinic

Kate Bosworth, Christina Tourville, George Madden
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Abstract

Introduction: As the NHS works towards becoming totally digitalised by 2024, as part of the NHS long term plan, services are required to develop paperless systems. (1) The preoperative assessment questionnaire in our trust was traditionally completed on paper by the patient prior to seeing the preoperative assessment nurse, however as the trust works towards electronic patient records there was a need for this to become digital. Other reasons for this change included:

1. To support virtual and remote assessment of patients
2. To add decision support
3. Making information more accessible
4. Allowing for improved data collection and analysis
5. Allowing for automated referrals
6. To save paper and become more environmentally friendly.

An electronic patient questionnaire was introduced in November 2020 to the preoperative assessment clinic (POAC). It is completed by the preoperative assessment nurse during the clinic appointment. The aim of this project was to determine whether introduction of the electronic patient questionnaire affected the duration of the nursing POAC.

Method: Data was collected prospectively by POAC nurses before and after the implementation of the electronic patient questionnaire. Data collected included: duration of nursing clinic consultation, consultation type (face-to-face or telephone), ASA status and specialty. Data was collected for 26 consecutive days both before and after the introduction of the electronic patient questionnaire. Data was analysed using Mann-Witney U test for non-parametric data.

Results: Data was collected for 808 patients prior to implementation of the electronic patient questionnaire and for 882 patients following its introduction. Results demonstrated that implementation of an electronic patient questionnaire in POAC led to a statistically significant reduction in overall appointment time from 34.64 minutes to 33.74 minutes ($p=0.007$). This reduction in mean duration of appointment was seen in all categories of ASA grade but greatest for patients who were ASA 2,3 or 4. The most noteworthy reduction in appointment duration by specialty was in orthopaedic patients where the mean duration of appointment reduced from 58 minutes to 34 minutes after implementation of the electronic questionnaire.

Conclusion: POAC nursing assessment consultation times were statistically significantly reduced following the introduction on an electronic patient questionnaire. By integrating an electronic patient questionnaire into the nursing assessment we aim to reduce the total time spent in the POAC by the patient, which is especially important in the time of Covid-19.

References: 1. The NHS Long Term Plan. National Health Service. Found at: https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf accessed on 5/3/21

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Poster keywords

Electronic, Questionnaire, Preoperative, Assessment, Clinic

16

Pre-operative cardiopulmonary exercise testing (CPET) assessment in radical cystectomy

Kathleen Lockhart, Rosemary Carroll, Albert Tiu, Alison Blatt
John Hunter Hospital, Newcastle, Australia

Abstract

Introduction: Radical cystectomy, gold standard for localised high risk bladder cancer, carries significant morbidity and mortality rates. Baseline fitness has been linked to perioperative outcomes in major abdominal surgery and cardiopulmonary exercise testing (CPET) has been increasingly adopted for pre-operative risk evaluation and optimisation of comorbidities. This study aims to assess how the introduction of CPET has affected patient outcomes and the time from diagnosis to surgery in our local health district.

Methods: A prospective database of patients undergoing radical cystectomy in our local health network was maintained. A retrospective analysis of two years (2018- 2020) included 38 patients. Of these, 14 patients had CPET pre-operatively and a direct comparison was performed.

Results: The mean time from diagnosis to cystectomy was 95 days in patients who didn't have CPET compared to 110 days for those who did (p=0.32), with comparable rates of neoadjuvant chemotherapy (NAC) (62.5% and 64.29%). Average length of stay was 18.6 days compared to 13.87 (p=0.16), favouring the CPET group. The CPET group also had a lower readmission rate within 30 days (13.33% compared to 21.05%, p=0.35). Overall cause-specific mortality within the study timeframe was 36.84%. Within the CPET group, eight had an anaerobic threshold (AT) of <11mL/kg/min (range 6.3-10.5): of these, 50% had Clavien-Dindo complications of grade 2 or higher and the 90 day mortality rate was 37.5% (cf. 0% in those with AT>11 mL/kg/min in this series).

Conclusion: CPET is a valuable risk evaluation tool. This study suggested that CPET contributed to a clinically non-significant delay to surgery however resulted in reduced length of stay and readmission rates. We found CPET AT <11mL/kg/min is associated with higher rates of patient morbidity and perioperative mortality.

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Poster keywords

cardiopulmonary exercise test, cystectomy, bladder cancer, fitness, perioperative mortality

17

Analgesia for day surgery: Room for improvement

KATE STODDARD
Great Western Hospital, Swindon, United Kingdom

Abstract

Introduction: A wider range of procedures are now considered suitable for day surgery, and effective audit is necessary to monitor the quality of care delivered.[1] Laparoscopic cholecystectomy (LC) and foot/ ankle surgery are the most frequently performed day case procedures in our centre and expected to have significant pain intensity.[1] We audited patient outcomes following these procedures against the 2019 AAGBI consensus statement and the RCOA proposed targets for best practice.[1,2]

Methods: Over a 30-day period in 2019, patients undergoing day case LC or foot/ ankle surgery were asked to take part. Other day case procedures and/ or patients <18 years were excluded. Patients were phoned postoperatively on days one, three and seven by day surgery nurses, completing a proforma approved by the audit department. They were asked about analgesia, pain scores and unplanned contact with primary care. Results were recorded and analysed using Excel 2019.

Results: Forty patients agreed to take part. Complete data was collected for 19/20 patients in the LC group and 17/20 patients in the foot and ankle group. In the LC group, 21% (n=4) reported severe pain on day one and 41% (n=8) reported severe or moderate pain on day three. Of note, 26.3% (n=5) LC patients attended primary care or emergency departments for additional analgesia. In the foot and ankle group, 23% (n=4) patients reported severe pain on day one and 35% (n=5) reported still having moderate or severe pain on day seven. 18% (n=3) attended primary care or the emergency department for analgesia. In both groups, five patients were sent home with paracetamol and ibuprofen only or advised to buy these, with no weak opioid prescribed alongside this.

Conclusion: The RCOA recommends <5% patients reporting severe pain within the first 48 hours. This audit highlighted the deficiencies and inconsistencies in postoperative prescribing for day surgery. It also highlighted the significant burden on primary care. With both surgical and anaesthetic input, we have devised a day surgery prescription chart, with procedures grouped according to anticipated level of discomfort and analgesia prescribed appropriately. This tailored approach will hopefully improve patient satisfaction and reduce unplanned contact with primary/ out of hours care. We will re-audit this in late 2021.

Reference: 1.Bailey C et al. Guidelines for day-case surgery, The Association of Anaesthetists and the British Association of Day Surgery. 778–792 (2019) 2.Colvin J, Peden C, Raising the Standard : The Royal College of Anaesthetists (2012).

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yes

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Poster keywords

day surgery, analgesia

18

Adaption of a face-to-face group prehabilitation intervention (Surgery School) in response to COVID19

Imogen Fecher-Jones[1], Chloe Grimmett[2], Lisa Poole[1], Sitara Bali[1], Stephanie Berry[1], Denny Levett[1,2]
[1]University Hospital Southampton, Southampton, United Kingdom. [2]University of Southampton, Southampton, United Kingdom

Abstract

Background: Preoperative group education (Fit-for-Surgery School) supports patients to prepare physically and psychologically for surgery. Emerging evidence suggests attending this type of education session may trigger patients to make lifestyle behaviour changes, in particular increasing physical activity (1). Until March 2020, Southampton NHS Trust's surgery school was delivered face-to-face in hospital. Following the COVID19 pandemic and subsequent safety concerns regarding face-to-face contact, the school was rapidly adapted to be delivered online. This abstract presents the findings of an evaluation of this virtual surgery school.

Methods: The virtual school lasts 1 hour and is delivered by a nurse, physiologist and a dietitian, via Microsoft Teams. The content includes expectation setting for treatment and recovery, improving nutrition and fitness, and alcohol and tobacco cessation. Integrated evidence-based behaviour change techniques support patient engagement and behaviour change. After attending patients were invited to complete an anonymous evaluation. Results were compared with those of a pre-COVID face-to-face group (n=492) (1).

Results: Between June 2020 and February 2021, 228 patients were invited to the virtual school, 157 (69%) attended; 12% higher than the attendance rate of face-to-face school at 57%. Attendees were 61% (n=95) male, median age of 62 (range 18-88). Forty six percent (n=73) of the attendees responded to the survey; 95% stated that the session was good or very good. Seventy nine percent said they planned to change their behaviour (most commonly increasing physical activity); intention to change behaviour was 19% higher than the pre-COVID group. Respondents found the virtual school convenient, informative, and confidence boosting. A need for supportive written information was identified.

Conclusion: Virtual surgery school is acceptable to patients of all ages and may be more effective in initiating intention to change behaviour than face-to-face schools. Further study of the impact on actual behaviour change and surgical outcomes is planned.

References: 1.Fecher-Jones I, Grimmett C, Edwards MR, Knight JS, Smith J, Leach H, Moyses H, Jack S, Grocott MPW, Levett DZH. Development and evaluation of a novel pre-operative surgery school and behavioural change intervention for patients undergoing elective major surgery: Fit-4-Surgery School. Anaesthesia. 2021 Feb 3. doi: 10.1111/anae.15393

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Poster keywords

Perioperative Medicine, Virtual Surgery School, Preoperative Behaviour Change, Prehabilitation

19

Metabolic syndrome; associations with adverse outcome after colorectal surgery.

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Abstract

Introduction: Increasing evidence shows that patients with the Metabolic Syndrome (MetS) are at high-risk for metabolic distress around surgery (1) and subsequently, for adverse outcome after abdominal surgery (2). MetS is characterized and defined by a cluster of interrelated metabolic abnormalities that include hyperglycemia, dyslipidemia, visceral obesity and hypertension. The aim of this study was to investigate the impact of MetS, and preoperative hyperglycemia, as an individual component of MetS, on adverse outcome after colorectal surgery.

Methods: A literature review was systematically performed according to the PRISMA guidelines. Inclusion criteria were observational studies that evaluated the relationship between MetS or preoperative hyperglycemia and outcomes after colorectal surgery (i.e. any complication, severe complication defined as Clavien-Dindo grade III or higher, anastomotic leakage, surgical site infection, mortality within 30 to 90 days after surgery and length of stay). A meta-analysis was conducted if there were at least two compatible studies that reported on an outcome of interest. The protocol was registered in the PROSPERO database (CRD42020199913).

Results: Six studies (246.383 patients) evaluated MetS and eight studies (9.534 patients) reported on hyperglycemia. The prevalence of MetS in patients undergoing colorectal surgery is high, exceeding 35% in half of the included studies. Meta-analysis shows that patients with MetS are more likely to develop severe complications than those without MetS (RR 1.62, 95% CI: 1.01-2.59, P=0.04). Moreover, a non-significant trend toward increased risk ratios for any complication (RR 1.35; 95% CI: 0.91-2.00), anastomotic leakage (RR 1.67, 95% CI: 0.47-5.93) and mortality (RR 1.19, 95% CI: 1.00-1.43) was found. The association of hyperglycemia and adverse outcome is less clear and only demonstrates a negative impact on surgical site infection for hyperglycemic patients (RR 1.35, 95% CI 1.01-1.81, P=0.04).

Conclusion: MetS and preoperative hyperglycemia seem to have a negative impact on outcome after colorectal surgery. As a result of relatively few studies meeting inclusion criteria and high heterogeneity across studies, evidence is not conclusive and future studies are needed to improve the amount and quality. Identification of MetS is nowadays not part of routine preoperative screening, but might guide preoperative treatment strategies in order to enhance recovery and reduce complications.

References: 1. Chabot K, Gillis C, Carli F. Prehabilitation: Metabolic considerations. Curr Opin Clin Nutr Metab Care. 2020;23(4):271-276. 2. Glance LG, Wissler R, Mukamel DB, et al. Perioperative outcomes among patients with the modified metabolic syndrome who are undergoing noncardiac surgery. Anesthesiology. 2010;113(4):859-872.

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Poster keywords

Metabolic Syndrome, Perioperative Care, Colorectal surgery, Postoperative complications

20

Prehabilitation for patients with colorectal cancer: an analysis of current daily practice in Dutch hospitals

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Abstract

Introduction: There is increasing awareness concerning the value of prehabilitation for patients with colorectal cancer (CRC) in order to improve outcome and enhance recovery after surgery (1). Beside the multimodal design of a prehabilitation programme (2), there is no (inter)national consensus on the content and design, and implementation proves to be difficult in clinical practice. This study aimed to evaluate the current practice and opinion regarding preoperative screening and prehabilitation for patients undergoing surgery for CRC in the Netherlands.

Methods: An online electronic survey was developed by the authors and included questions about 1) the use of preoperative screening, 2) the surgeon's knowledge and opinion on prehabilitation, 3) the design and content of prehabilitation programmes and, 4) treatment interval to facilitate prehabilitation. Preoperative screening and prehabilitation domains were predefined and included nutritional status, frailty, physical status, mental status, intoxications, anaemia and polypharmacy. The survey was sent to one oncological surgeon performing surgery for CRC to represent his/her hospital. Descriptive statistics were used for analyses.

Results: Response rate was 100% (n=69). Nearly all Dutch hospitals preoperatively screen patients with CRC for frailty (97%), nutritional status (93%) and anaemia (94%). Some form of prehabilitation is provided in 46 hospitals (67%) of whom over 80% address nutritional status, frailty, physical status and anaemia. All but two of the remaining hospitals are willing to adapt prehabilitation. The majority of the hospitals offer prehabilitation to specific groups such as elderly (41%), frail (71%) or high-risk patients (57%), whereas 17% of the hospitals target all patients. Furthermore, nearly half of the respondents were willing to schedule surgery after a maximum of six or eight weeks after pathological confirmation of diagnosis, and 29.0% of the respondents was willing to extend time to surgery without a maximum, as long as necessary to optimise the patient's condition

Conclusion: Whereas preoperative screening is sufficiently incorporated in Dutch hospitals, optimising patients in the context of multimodal prehabilitation remains challenging. This study presents a high variability in prehabilitation practices in CRC care, emphasizing the need for uniform clinical guidelines to specify content and design of such programmes.

References: 1. Minnella EM, Carli F. Prehabilitation and functional recovery for colorectal cancer patients. Eur J Surg Oncol. 2018;44(7):919-926 2. Scheede-Bergdahl C, Minnella EM, Carli F. Multi-modal prehabilitation: Addressing the why, when, what, how, who and where next? Anaesthesia. 2019;74 Suppl 1:20-26

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Poster keywords

Colorectal cancer, Colorectal surgery, Multimodal prehabilitation, Preoperative care

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Preoperative fasting time in emergency and trauma patients audit

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Abstract

Introduction: Preoperative fasting is important to prevent pulmonary aspiration on induction and extubation. Although we know the adverse effects of prolonged fasting and patient discomfort, patients mostly fasted for a longer time due to lack of information and miscommunication between different teams. Our audit reviewed the preoperative fasting period in emergency and trauma patients against the AAGBI and ASA guidance.

Methods: A prospective study was conducted from February 15 to March 15, 2021 on some patients who underwent emergency or trauma procedures in Southend University Hospital. Data was collected preoperatively in anaesthetic rooms by an ODP or anaesthetist using a sheet. Questions included the length of preoperative fasting for both fluids and food, clarity of instructions, a staff member who gave them the information, availability of ward snacks and drinks and incidence of aspiration was also recorded. Patients who were not able to give proper history were excluded from our sample.

Results: Data was analysed using Microsoft Excel. Of the 47 patients included in the audit, 42 were adults and 5 were children, 37 were emergencies and 10 were trauma. The minimum, maximum, and the mean fasting hours for food were 6, 29 and 15 respectively. The minimum, maximum and mean fasting hours for fluids were, 3, 27 and 8 respectively. While 40 % of our patients were informed to stop eating and drinking from 3, 6 a.m. respectively regardless the time of their surgery, 11% were informed to stop eating and drinking from midnight and the remaining 49% of our patients were not given clear information. Nurses informed 51% and anaesthetists informed only 4% of our patient group about fasting. Fortunately, no one of theses patients had aspiration.

Conclusion: Our mean fasting hours for fluids and food in the mentioned group are 4, 2 times the recommended period per the guidelines respectively. Consequently, communication between theatre and ward areas should be improved and patients who might be delayed should be known and offered a drink. Moreover, staff education to change the traditional regimen of 'NPO' from midnight or to have food till 3 and drink till 6 a.m. is essential. Therefore, we made a laminated form with the preoperative fasting guidelines and hazards of prolonged fasting to be available in surgical ward and theatre coordinator office.

References: Lambert E et al., JPEN J Parenter Enteral Nutr, 2016 Nov;40(8):1158-1165. Wilson G et al., BJA Education, 2017 Aug;17(8):275-282.

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Poster keywords

Audit, Prolonged fasting, preoperative , emergency patients, Trauma patients

22

Updating our elective caesarean section analgesia bundle in Altnagelvin Area Hospital

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Abstract

Introduction: We undertook a quality improvement project in our district general hospital obstetric unit comparing our current elective caesarean section postoperative analgesia practice with the PROSPECT guideline for elective caesarean section: updated systematic review and procedure-specific postoperative pain management recommendations published in Anaesthesia December 2020.

Methods: Data from 20 elective caesarean sections was collected over a four-week period, reviewing what drugs were given intra-operatively and postoperatively and the 24 hour pain score was recorded. The anaesthetic chart and surgical note were reviewed and the patient was visited on the ward day one post-delivery. Verbal consent was obtained from each patient to collect their data for the purpose of quality improvement.

Results: All our elective sections under regional anaesthesia had a largely uniform approach with 2.5-2.7ml of 0.5% heavy hyperbaric bupivacaine plus 250-300mcg diamorphine intrathecally. IV diclofenac was administered intra-operatively with regular IV paracetamol and oral diclofenac prescribed for postoperative analgesia for all patients unless NSAIDs were contraindicated. Sevredol was prescribed and utilised as a breakthrough opioid for all patients. Postoperative pain scores ranged from zero to eight with an average of four.

Conclusion: In keeping with recommendations from the PROSPECT guideline we are in the process of developing a bundle in our department which includes an oral paracetamol premedication, with IV diclofenac and IV dexamethasone to be administered post-delivery unless contraindicated. As part of our PDSA cycles, we plan to deliver awareness sessions to the anaesthetic, midwifery and obstetric teams regarding the changes and we have also had our obstetric anaesthetic chart altered to include oral paracetamol in the premedication section.

References: 1.Roofthooft, E., Joshi, G.P., Rawal, N., M. Van de Velde PROSPECT guideline for elective caesarean section: updated systematic review and procedure-specific postoperative pain management recommendations. Anaesthesia 2021, 76, 665–680

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Poster keywords

obstetrics, caesarean section, analgesia, perioperative

23

The effect of the COVID-19 pandemic on the functional capacity and cardiopulmonary fitness of major surgery patients.

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Abstract

Introduction: The COVID-19 pandemic has resulted in over a year of social-distancing measures. International surveys have found these measures to have led to reduced levels of physical activity and increased sedentary time.(1) However, there is currently no evidence of an associated reduction in functional capacity (FC) or fitness. This study aimed to investigate the differences in both subjective reports of FC and objective measures of fitness, before and during the pandemic.

Methods: FC scores and cardiopulmonary exercise testing (CPET) results from all major surgery patients who attended a high-risk preoperative assessment clinic in Newcastle-upon-Tyne in December 2019 (pre-pandemic) were compared with all major surgery patients who attended the same clinic in February 2021 (during the 3rd UK lockdown). FC was assessed at a nurse consultation and recorded as free text. Patients were assigned a FC score based on this information. CPET was reported by a consultant anaesthetist. Oxygen uptake at anaerobic threshold (AT), peak oxygen uptake (VO2 peak) and ventilatory equivalents for carbon dioxide (VE/VCO2) were recorded.

Results: Fifty-one patients attended the clinic in December 2019 and 50 in February 2021. There was a significantly higher proportion of patients assigned to the highest-performing FC score from December 2019 compared to February 2021 (74% vs 48% respectively; p=0.008). Mean AT decreased from 14.8 ml/kg/min in December 2019 to 12.0 ml/kg/min in February 2021 (difference: 2.8 ml/kg/min, 95%Cl: 1.3 – 4.3; p<0.001). Mean VO2 peak decreased from 18.7 ml/kg/min in December 2019 to 16.1 ml/kg/min in February 2021 (difference: 2.6 ml/kg/min, 95%Cl: 0.3 – 4.9; p=0.025). VE/VCO2 increased from 29.7 in December 2019 to 32.9 in February 2021 (difference: -3.2, 95%Cl: -5.5 - -0.7; p=0.008). Conclusion: These results demonstrate a subjectively assessed reduction in functional capacity accompanied by an objectively measured reduction in cardiopulmonary fitness in elective major surgery patients since onset of the COVID-19 pandemic. This may impact the complication rate and length of hospital stay of patients following major surgery.

Reference: 1.Ammar A, Brach M, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, et al. Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity: Results of the ECLB-COVID19 International Online Survey. Nutrients. 2020;12(6):1583

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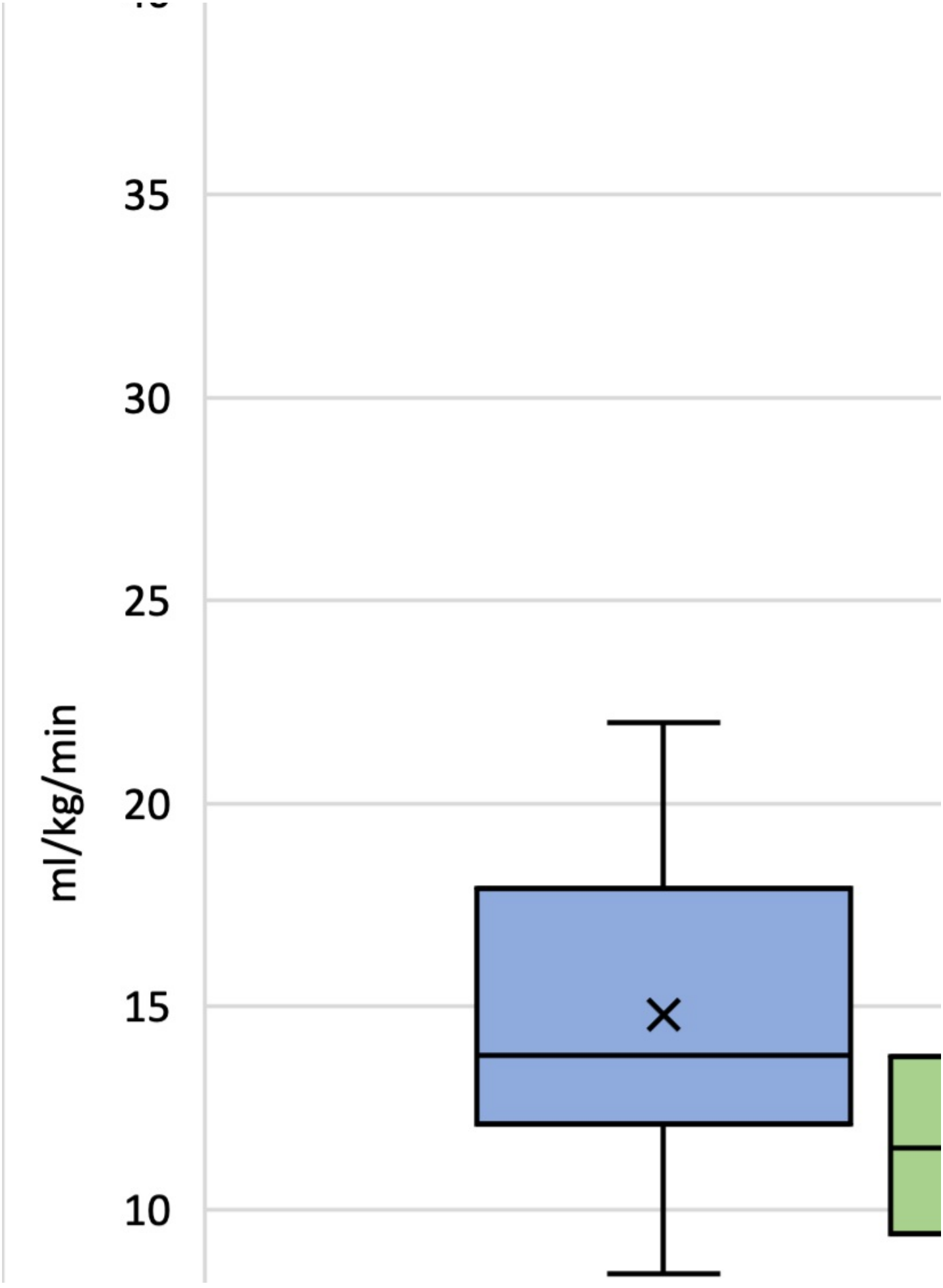
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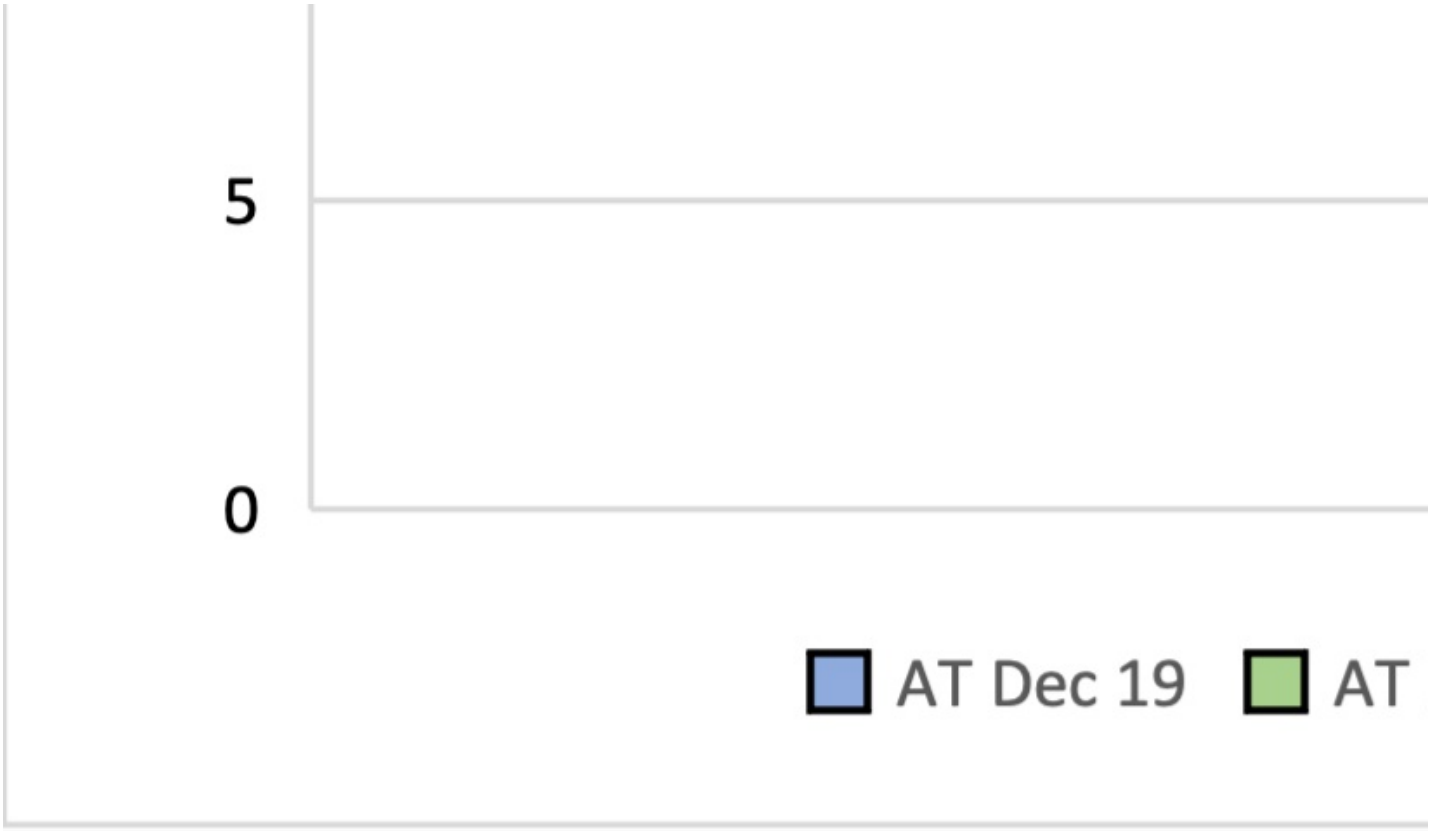

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Poster keywords

fitness, COVID-19, major surgery, functional capacity, cardiopulmonary exercise testing

24

An audit of average duration and reasons for extended duration of Nil Per Oral (NPO) for elective surgical procedures.

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Abstract

Introduction: Preoperative fasting involves being nil by mouth before surgical procedures requiring sedation or anaesthesia1. Impairment or abolition of airway reflexes following deep sedation or anaesthesia can lead to pulmonary aspiration of gastric contents2. Despite the many adverse effects of prolonged fasting, patients sometimes fasted for a prolonged time. This audit is to find out the average duration of NPO and reasons for prolonged NPO.

Methods: Twenty five patients undergoing elective surgical procedure was prospectively observed from February 1st to 28th 2021. The duration of NPO and various factors were noted and analyzed using measures of central tendency like mean, median and mode. Data collection: Patients accepted for the elective surgical procedure arriving at pre-operative room will be informed about the audit. Comorbidities, ASA status, planned surgical procedure and mode of anaesthesia was noted. The exact time of last oral intake, the time of last intake of fatty meals, other solids and clear water was recorded.

Result: The audit revealed that 100% of the patients were fasting for extended duration of NPO, that is 6 hours for solids and 8 hours for fatty meals. Among this, 92% were fasting between 12 and 18 hours and 8% between 6 and 12 hours. Patients fasting for a prolonged time has been associated with increased morbidity and mortality in the perioperative period. Recent trends and focus are to reduce the time of NPO below 6 hours, an Indian guideline for the same is underway. Main reason was attributed to patient choice (36%) as they believed that more time of fasting, it is better for the surgery. This may be reduced with better patient communication. Twenty percentage of the patients were unaware of the exact time for fasting. Anaesthesia advice, Surgical advice and Unexpected change in starting time comprised 4% for extended duration of NPO. When both patient choice and unexpected change in starting time was combined, it was 16%.

References: 1.Maltby JR. Fasting from midnight—the history behind the dogma. Best Pract Res Clin Anaesthesiol 2006;20:363-78. 2.Brady M, Kinn S, Stuart P. Preoperative fasting for adults to prevent perioperative complications. Cochrane Database Syst Rev 2003;CD004423. doi: 10.1002/14651858.CD004423.

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Average time of NPO

Time Range (Hours)	Number	%
< 6	0	0
>6-12	2	8
>12-18	23	92
>18-24	0	0

Extended duration of NPO

	Number	%
Yes	25	100
No	0	0

Reasons Extended duration of NPO

Reason	Number	%
1. Anaesthesia advice	1	4
2. Surgical advice	1	4
3. Patient choice	9	36
4. Patient unaware	1	4
5. Patient choice & unaware	5	20
6. Patient choice & Unexpected change in starting time	4	16
7. Patient unaware & Unexpected change in starting time	3	12
8. Unexpected change in starting time	1	4

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Poster keywords

Nil Per Oral , NPO, full stomach

25

Impact of a remote prehabilitation pathway on outcomes following major cancer surgery

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Abstract

Introduction: At the Royal Marsden NHS Foundation Trust, because of the COVID-19 pandemic, we successfully introduced a remote prehabilitation pathway (Figure 1) to ensure patients continued to safely receive important multi-disciplinary care during their cancer treatment. Patients were offered remote consultations, live online exercise classes and a range of web-based audio-visual and written information to help them achieve their prehabilitation goals. The programme aimed improve physical fitness, physiological function and emotional wellbeing to help aid better recovery after cancer surgery. We present the outcomes from the first 12 months of this service.

Methods: A retrospective analysis was performed at one tertiary cancer centre. The percentage of patients receiving each therapy was assessed to determine the effectiveness of programme implementation. Surgical outcomes, from a 12-month period, were evaluated for patients who were enrolled on the programme and compared to those from a 12-month period before the implementation of MILE prehabilitation. Patients in both cohorts had similar demographic variables and cancer treatment pathways. The outcomes included serious surgical complications (defined as the percentage of patients with Clavien-Dindo grade 3 to 5 complications) and the median postoperative length of hospital stay. Additionally, for the Upper GI tumour group, the postoperative median length of intensive care stay was also evaluated.

Results: On the remote prehabilitation programme, 100% of patients had early anaesthetic input for preoperative medical optimisation. 84% received physiotherapy, to help maintain and improve their physical fitness prior to surgery. 65% were identified as high-risk of malnutrition and received dietetics support. Finally, 31% took up the available psychological help. There was an improvement in the serious surgical complication rate and the median postoperative length of hospital stay following the introduction of remote prehabilitation (Table 1). Additionally, in the Upper GI tumour group, there was also an improvement in the median postoperative length of intensive care stay.

Conclusion: We demonstrate the successful implementation of a remote prehabilitation pathway, with high levels of multimodal therapy input for two tumour groups, at one tertiary cancer centre. The trend in improvement in postoperative complications and length of hospital stay is encouraging and highlights the benefits of increased multi-disciplinary care for perioperative optimisation of patients, and greater patient engagement, from a much earlier period before surgery.

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Figure 1 – The MILE (My Integrated Lifestyle

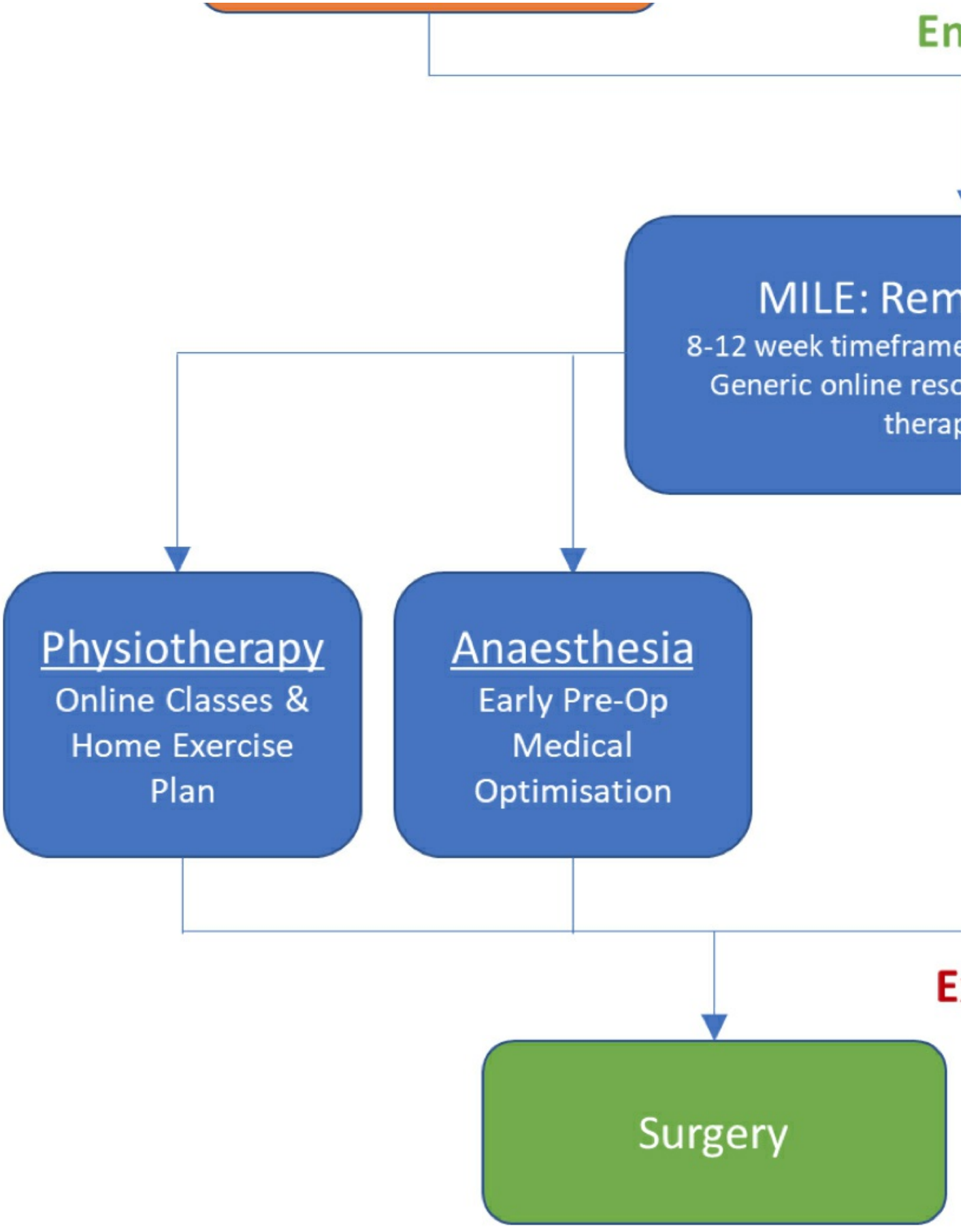

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Figure 2 Postoperative surgical outcomes	Before MILE Prehabilitation	Remote MILE Prehabilitation
Complication Rate (Clavien-Dindo Grade 3 to 5)	18% (16/88)	14.5% (8/55)
Median Length of Postoperative Hospital Stay (Gynaecology Tumour Group)	7 days (n=25)	6 days (n=19)
Median Length of Postoperative ICU Stay (Upper GI Tumour Group)	4 days (n=63)	3 days (n=36)
Median Length of Postoperative Hospital Stay (Upper GI Tumour Group)	13 days (n=63)	11 days (n=36)

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Poster keywords

Prehabilitation, Cancer, Surgery

26

Establishment of an overnight enhanced postoperative recovery service at Broomfield Hospital, Mid and South Essex NHS Foundation Trust

Danielle Fawkes, Lucy Westcott, Alistair Hughes
Broomfield Hospital, Chelmsford, United Kingdom

Abstract

Introduction: Broomfield Hospital is a District General Hospital hosting 5 tertiary surgical specialities, 502 inpatient beds, 25 inpatient theatres and 3 ‘day stay’ theatres (1). In 2018, a new enhanced overnight recovery service was introduced within the existing recovery suite. The primary aim was to reduce reliance and pressure on critical care which during times of increased demand, can lack capacity resulting in cancellation of time critical elective surgery.

Methods: Patients were identified as suitable for overnight recovery in the anaesthetic pre-assessment clinic. Those scheduled for a major colorectal or urological procedure were selected if they had an estimated 30-day mortality of 1-5% or 30-day mortality greater than 5% with reassuring ‘low-risk’ cardiopulmonary exercise test results. Post-operative destination was finalised at a weekly high-risk MDT attended by critical care and pre-assessment consultants. Existing recovery staff lead the service and provide level one care plus invasive blood pressure monitoring, frequent detailed observations, prompt management of pain and fluid balance with easy access to anaesthetic medical staff for support. Anaesthetic and surgical consultants perform a systematic review of each patient prior to stepping down to a general surgical ward.

Results: Data from 2011 to 2021 was extracted from the theatre database ‘Theatreman’ and the critical care electronic patient record ‘Metavision’. An analysis of critical care admissions, focussing on Urology and Colorectal surgical specialities, showed a 75% reduction in ‘on-the-day’ cancellations of surgery due to lack of critical care bed availability between 2017-18 and 2018-19. Critical care bed utilisation was reduced post major elective surgery (figure 1), in particular, elective colorectal admissions decreased 67% from 52 in 2018 to 17 in 2019. We estimate that this decrease in critical care bed days plus an observed decrease in length of stay (4 to 2.3 days) correlates with an annual cost saving of £337,800.

Conclusion: Introduction of overnight recovery has resulted in reduced cancellations due to lack of critical care capacity and decreased critical care bed usage with an associated cost saving. It has enhanced resilience in the system which has allowed high risk elective work to resume promptly in the face of increased pressure on critical care capacity. Future plans include seeking additional funding to enable provision of some aspects of level two care and adequate facilities to further support enhanced recovery within this environment.

1. Care Quality Commission (2020), Provider section - RQ8 Mid Essex Hospital Services NHS Trust (05/11/2019) INS2-7187080591 (cqc.org.uk), Accessed 11/5/21.

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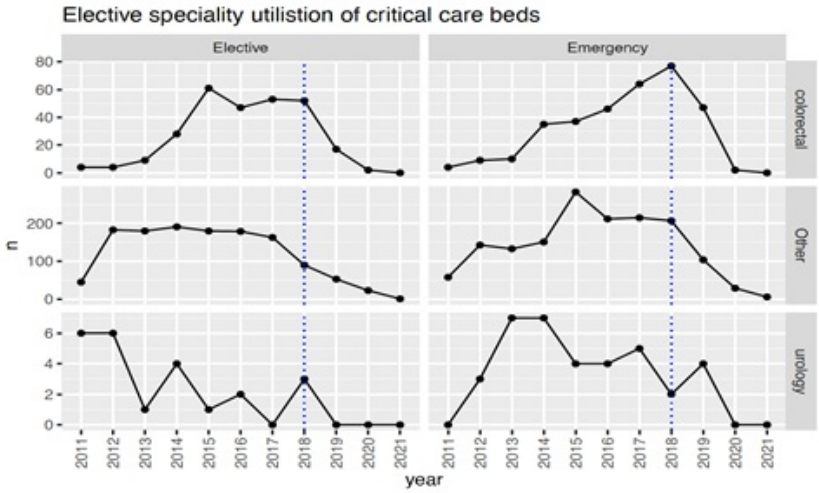

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Poster keywords

Overnight recovery, Recovery, Critical Care, PACU, 1.5 level care

27

FIT-65 – a three day study examining the prevalence of frailty in elective surgical patients aged over 65

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Abstract

Introduction: Frailty is known to increase risk of peri-operative complications, length of stay, and need for assisted-living after discharge.1 In view of an aging population, the number of frail patients presenting for elective surgery in the UK is likely to grow. Despite the potential benefits of early diagnosis it is not routinely screened for in UK surgical patients and its prevalence remains unclear. The primary aim of this study was to assess the prevalence of frailty in patients aged over 65 years undergoing elective surgery.

Methods: This was a prospective cross-sectional observational study carried out in eight UK hospitals. Data were collected over three consecutive days with follow-up at 30 days. HRA approval was obtained (REC 20/SC/0121) and signed informed consent was obtained. Participants were eligible for inclusion if they were 65 years or older and undergoing elective surgery. Exclusion criteria included participant refusal, procedural sedation, difficulties with the English language or patients without capacity. Pre-operative data were collected from hospital notes. A member of the research team blinded to the pre-operative dataset screened the participant for frailty pre-operatively using the Reported Edmonton Frail Scale (REFS). Post-operative data were collected from notes on day of surgery and at 30 days. Participants were defined as “frail” if they scored 8 or more on the REFS.

Results: 227 participants were recruited during the study period. There were 108 females and 119 males. Mean age was 69 years (range 67 - 95). Thirty-nine participants (17.2%) were identified as frail utilising the REFS. Frail patients were older, had a higher ASA score, were more likely to be anaemic, diabetic and present with poorly controlled atrial fibrillation. There were no differences in gender, BMI, place of residence or smoking status for patients identified as frail versus non-frail. There was no difference in length-of-stay between frail and non-frail patients, although those identified as frail were less likely to be discharged to their own home. (Table 1)

Conclusion: The Reported Edmonton Frail Scale is a practical tool for pre-operative frailty screening. Frail patients were shown to be presenting for elective surgery with modifiable co-morbidities, including anaemia and diabetes, which could have been optimised pre-operatively. Early screening for frailty could highlight these patients and facilitate the time for evidence-based pre-operative interventions to be made.

Reference: Makary, M. A. et al. Frailty as a Predictor of Surgical Outcomes in Older Patients. J. Am. Coll. Surg. 210, 901–908 (2010)

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Table 1

Variable	Not Frail	Frail	Total	P-value*
	N (%) or median (IQR)	N (%) or median (IQR)	N (%) or median (IQR)	
Age	74 (70, 79)	78 (74, 86)	75 (70, 80)	<0.001
Sex (female)	85 (45.21)	23 (58.97)	108 (47.58)	0.117
Smoking (ex / current)	87 (47.54)	18 (56.25)	105 (48.84)	0.363

Usual place of residence					
	Own home	**184 (97.35)**	**37 (94.87)**	**221 (96.93)**	**0.587**
	Sheltered accommodation	**1 (.53)**	**1 (2.56)**	**2 (.88)**	
	Assisted living	**1 (.53)**	**0 (0)**	**1 (.44)**	
	Family / friends	**3 (1.59)**	**1 (2.56)**	**4 (1.75)**	
BMI					
	Underweight (<18.5)	**2 (1.1)**	**0 (0)**	**2 (.93)**	**0.586**
	Normal (18.5 - 24.9)	**52 (28.57)**	**14 (42.42)**	**66 (30.7)**	
	Overweight (25 - 29.9)	**79 (43.41)**	**12 (36.36)**	**91 (42.33)**	
	Obese (30 - 34.9)	**33 (18.13)**	**6 (18.18)**	**39 (18.14)**	
	Severely obese (35 - 39.9)	**12 (6.59)**	**1 (3.03)**	**13 (6.05)**	
	Morbidly obese (>40)	**4 (2.2)**	**0 (0)**	**4 (1.86)**	
Anaemia (Hb < 130)		**45 (23.81)**	**19 (48.72)**	**64 (28.07)**	**0.002**
Renal dysfunction (creatinine > 100)		**74 (39.15)**	**21 (53.85)**	**95 (41.67)**	**0.090**
ASA					
	1	**0 (0)**	**0 (0)**	**0 (0)**	**<0.001**
	2	**4 (3.42)**	**0 (0)**	**4 (2.8)**	
	3	**73 (62.39)**	**5 (19.23)**	**78 (54.55)**	
	4	**36 (30.77)**	**19 (73.08)**	**55 (38.46)**	
Diabetes		**31 (16.67)**	**12 (30.77)**	**43 (19.11)**	**0.042**
Cardiac history		**89 (47.09)**	**30 (76.92)**	**119 (52.19)**	**0.001**
ECG findings					
	Normal	**103 (73.57)**	**16 (57.14)**	**119 (70.83)**	**0.020**
	AF with rate 60-90	**9 (6.43)**	**0 (0)**	**9 (5.36)**	
	AF with rate >90 or other abnormalities	**28 (20)**	**12 (42.86)**	**40 (23.81)**	
Length of stay					
	Day case (0-1 days)	**123 (68.33)**	**23 (63.89)**	**146 (67.59)**	**0.128**
	2 - 9 days	**51 (28.33)**	**8 (22.22)**	**59 (27.31)**	
	10 - 19 days	**4 (2.22)**	**3 (8.33)**	**7 (3.24)**	
	20 - 29 days	**1 (.56)**	**1 (2.78)**	**2 (.93)**	
	> 30 days	**1 (.56)**	**1 (2.78)**	**2 (.93)**	
Discharge destination					
	Own home	**178 (99.44)**	**29 (82.86)**	**207 (96.73)**	**<0.001**
	Sheltered accommodation	**0 (0)**	**1 (2.86)**	**1 (.47)**	
	Assisted living	**1 (.56)**	**0 (0)**	**1 (.47)**	
	Family / friends	**0 (0)**	**1 (2.86)**	**1 (.47)**	
	Other	**0 (0)**	**4 (11.43)**	**4 (1.87)**	
		* P-value estimated using Chi-2 test for categorical variables and Wilcoxon rank-sum test for continuous variables			

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Poster keywords

Frailty, Screening, Optimise, Elective, Surgery

28

Where now with IV iron?

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[1]Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom. [2]Freeman Hospital, Newcastle upon Tyne, United Kingdom

Abstract

INTRODUCTION Preoperative anaemia affects 30% of UK patients. UK guidelines recommend all preoperative patients with anticipated blood loss over 500mls are screened and treated for anaemia.(1) Iron replacement is recommended for the treatment of iron deficiency and functional iron deficiency anaemia. Intravenous (IV) iron is recommended when enteral iron is not feasible. The evidence for IV iron in the preoperative setting is weak. A recent double-blind, randomised controlled trial (PREVENTT) comparing IV iron with placebo reported no difference in transfusion, haemoglobin (Hb) level or mortality in anaemic preoperative patients.(2) The Freeman Hospital's (UK) Preoperative Assessment Clinic (PAC) has run an IV iron service for anaemia management since 2016. This quality improvement project aimed to answer the following: •Does preoperative IV iron raise Hb levels in our cohort? •Do patients with iron deficiency (ferritin <30ng/ml) and functional iron deficiency (ferritin >100ng/ml) respond differently to IV iron? •Should we change our preoperative anaemia management based on PREVENTT and our own data?

METHODS We interrogated the electronic health record of all patients referred to the PAC IV iron service since 2016. The following was recorded: •Age, sex; •Surgery; •Duration between IV iron and surgery; •Hb, ferritin, creatinine, transferrin, T-SATS, CRP in PAC; •Hb on admission; •Mortality, complications, transfusion rates. Patients were categorised as iron deficient (ferritin <30ng/ml), borderline (ferritin 30-100ng/ml) or not iron-deficient (ferritin> 100ng/ml) for analysis. RESULTS 200 patient records were analysed; only 98 had a pre-operative Hb checked. There was an average rise of 13g/L Hb in all patients treated with IV iron. This was more pronounced in those with iron deficiency (table 1). Those with ferritin >100 had an average PAC Hb of 100.1g/l, rising to 103.6g/l on admission (p= 0.17). Transfusion rates were 14.9%, 25.3% and 30% in those with ferritins of <30, >30 and >100ng/ml. TSATS and transferrin did not alter response to treatment.

CONCLUSION IV iron improved Hb levels in those with iron deficiency anaemia - the majority of anaemic patients presenting in PAC. There was a trend towards lower transfusion rates in these patients. Patients with high ferritin did not receive the same benefit. As TSATS and transferrin did not influence treatment response, we were able to remove these tests from our anaemia investigation pathway, reducing cost and patient visits. Further work is needed to establish the role of IV iron in those with borderline ferritin levels.

REFERENCES 1. Fowler, AJ. et al. BJS 2015; 102: 1314-24. 2. Richards, T. et al. Lancet 2020; 396: 1353-61.

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	Ferritin <30 ng/ml	Ferritin >30 ng/ml	
n	53	45	
PAC Hb	105.2	102.9	**p=0.25**
Admission Hb	123.6	109.7	
Hb rise	18.4	6.8	**p=0.0003**

Table 1. Response to IV iron therapy in patients with low and borderline serum ferritin levels.

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Poster keywords

anaemia, IV iron, intravenous iron, iron deficiency, functional iron deficiency

29

An audit of Epidural monitoring at Redland Hospital (Australia) 2020

Michelle Liu[1], Harriet Wood[2]
[1]Princess Alexandra Hospital, Brisbane, Australia. [2]Redland Hospital, Brisbane, Australia

Abstract

An Audit of Epidural Monitoring at Redland Hospital – April-June 2020 Michelle Liu, Harriet Wood (FANZCA)

Introduction: Safe and effective intrapartum analgesia requires the regular monitoring of key vital parameters, assessment of adequacy based off subjective pain scores, and observation of adverse effects. A protocol for epidural monitoring based on the Australian and New Zealand College of Anaesthetists (ANZCA) guidelines is what is applied at Redland Hospital (RLH) to monitor safe epidural use. Many obstetric patients who present to RLH will opt to have an epidural in labour, and therefore adherence to these guidelines are significant in reducing patient morbidity and improving overall safety. The current form of epidurals used at RLH are Programmed Intermittent Bolus Patient Controlled Epidural Analgesia (PIB PCEA); previously Continuous Epidural Infusions (CEI) were in use.

Aim: The aim of this audit is to determine if there is safe use and consistent monitoring of epidurals at RLH, identify barriers that limit safe use and propose strategies to address these barriers. Method: A retrospective analysis of 50 random patients in total who had an epidural (specifically PIB PCEA) placed between April and June of 2020. Results were also compared to a similar audit conducted in 2018 of which during this time continuous epidural infusions were in use. Regardless of which form of epidural programming, the guidelines for epidural monitoring have remained the same.

Results: Standard monitoring of vital signs were at best only achieving 66% completion rates for all patients. The monitoring of key side effects ranged between 0.19% to 4.09%. Assessment of subjective pain scores were only achieving maximum 6.24% completion, and documentation of why patients proceeded to surgical intervention requiring an additional spinal anaesthetic lacked detail. These results compared to the 2018 audit overall showed minimal to no improvement, and in some cases even worsening of documented monitoring.

Conclusions: Currently the monitoring of epidural use at RLH is not reaching safe standards and implementation of interventions should be carried out immediately to ensure that guidelines are met.

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Poster keywords

Epidurals, Anaesthesia, Analgesia, Obstetrics, Australian and New Zealand College of Anaesthetists (ANZCA)

30

A rare complication of double knot epidural catheter inserted for labour analgesia.

Cheah Kean Seng[1,2], Chiang Chung Fai[3]
[1]Hospital Sungai Buloh, Selangor, Malaysia. [2]Tallaght University Hospital, Dublin, Ireland. [3]Hospital Pantai Kuala Lumpur, Kuala Lumpur, Malaysia

Abstract

We present an uncommon complication of double knot epidural catheter which was inserted to one patient for labour analgesia. Insertion was easy however adjustment of the catheter length while sitting the epidural proved to be difficult and resistance felt. Various common techniques described in the literature were unsuccessful in our patient. Decision was made after multidisciplinary discussion to abandon the procedure and allow normal labour progress first.

Eventually, she undergone emergency caesarean section under general anaesthesia (GA) for poor progress, we attempted to remove again under GA post- delivery but still unsuccessful. A lumbosacral computed tomography showed the catheter had a coiled tip in situ with a double knot formed. The catheter was later removed by surgeon and seems to be intact without shearing or breakage. It is important to be aware of such potential complication as excessive traction may result in breakage of the catheter and results in shearing and tearing injury of the surrounding tissues or vessels.

Although initial attempts of removal under various techniques as stated in literature before can be used, we should be alert and mindful that more serious complication such as double knot catheter might occur in our patient despite simple and straightforward insertion. In such circumstances, surgical intervention should be considered as a better option to prevent further harm to the patient. Radio-imaging is also helpful for surgeon to locate precise position of catheter for removal.

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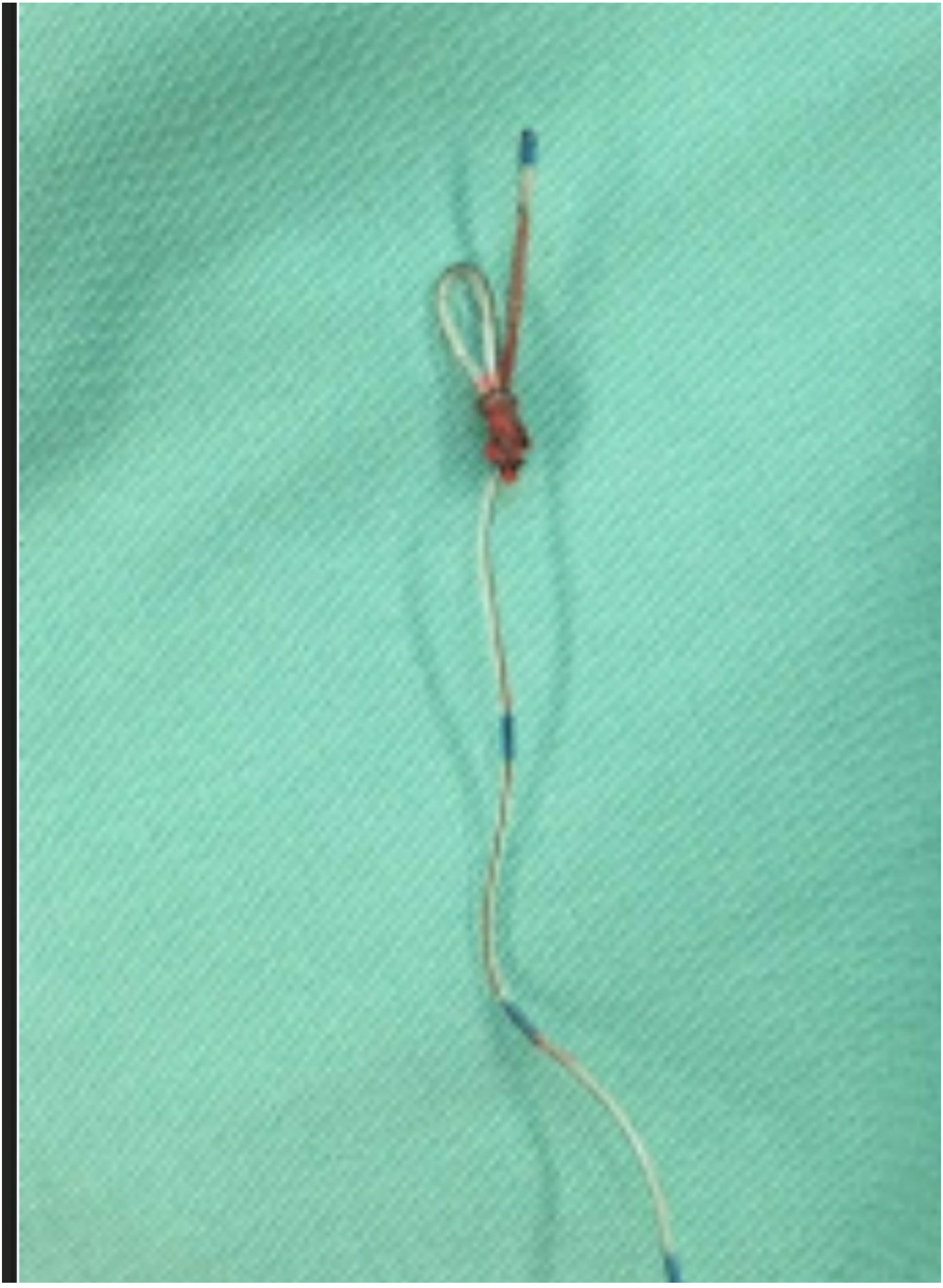

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Poster keywords

anaesthesia, obstetric anaesthesia, epidural, catheter, labour

32

Introduction and assessment of video consultation in pre-operative assessment clinic

Cathryn Malins, Henry Murdoch
Gloucestershire Hospitals NHS Foundation Trust, Gloucester, United Kingdom

Abstract

Introduction: Following the emergence of Covid-19, the ability to assess patients in their own home, minimising unnecessary risk, whilst maintaining quality of service, is desirable. Published work on use of video in the pre-operative assessment pathway shows patient and provider satisfaction is high (1) and video consultations provide a safe and effective alternative to outpatient appointments for appropriate patients (2). The trust is participating in a national video consultation pilot study; the 'Attend Anywhere (AA) Service'. Our objective was to implement and embed a video consultation service in pre-operative assessment clinic (POAC). We aimed to establish and evaluate the service over a 4 month period.

Methods: Pre-existing AA platform and funding used, equipment sourced, author trained and video calls trialled. Training program for anaesthetists and nurses, SOP and patient information developed. Video calls offered to all patients requiring anaesthetic consultation after completed POAC nurse appointments. Data collected from patient and clinician surveys following each call.

Results: 42 calls booked, receiving clinician and patient feedback for 22 (52%) and 14 (33%) respectively. All patients felt able to communicate everything they wanted to clinicians. 93% (13/14) rated video call the same or better than previous face to face (F2F) appointments. All gave excellent feedback and would take up further virtual appointments. Over 50% (8/14) of patients saved over 1 hour and over 30 miles of travel. 68% (15/22) clinician responses were highly satisfied with the service, rating 4 or 5/5. 73% (16/22) rated video call the same or better than F2F. Setup was usually less than 5 minutes (14/22). Ratings for technology correlated with clinicians rating for all other aspects of the survey including overall satisfaction. Comments highlighted issues with technology.

Conclusion: We successfully established a new video consultation service in POAC. Significant time, financial and lifestyle benefits were realised by patients. Successful interventions included identifying and training a Nurse Champion in POAC to support anaesthetists and identification of appropriate patients. The number of calls and quality of service was limited by IT and patient preference, however overall satisfaction was high, with clinicians and patients rating it same or better than F2F interaction.

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Poster keywords

Video, Calling, Virtual, POAC, consultation

33

The Older Surgical Patient at the Mater Misericordiae University Hospital (MMUH): an audit of Perioperative Frailty Documentation

Orla Murray, Róisín Coary, Pádraig Ó Scanaill
Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Introduction: There is an ever increasing number of older patients presenting for surgery. One of the leading causes of morbidity and premature mortality in the older surgical patient is frailty(1), which can be defined as a multifactorial state of decreased physiological reserve and increased vulnerability(2). International recommendations suggest that frailty should be measured as part of the routine care for older patients(1). Screening for, and recognising frailty as a perioperative risk factor is increasingly becoming standard practice internationally(3). The aim of this audit was to review our clinical practice around the recognition and documentation of frailty for the older surgical patient at the anaesthesia preassessment clinic (POAC) at MMUH.

Methods: We conducted a retrospective electronic chart review of all patients over the age of 65 presenting to the POAC over a two-month period. Data reviewed included: patient demographics, referring specialty, ASA-PS, time to surgery, hospital admission length and number of medications. We explored the documented use of the Duke Activity Scoring Index (DASI) and Clinical Frailty Scale (CFS) as well as any documented reference to elements of the frailty phenotype.

Results: 89 patients were identified as having an in-person review at the POAC, 44% were male (n=40) with an average age of 75 (SD 6.54) and a broad range of representation from all surgical specialties. The majority (69%) were identified as being ASA 3 or higher. Only 1% had a documented CFS (n=1). 14% (n=13) had documented frailty phenotypes mentioned in their electronic notes, but no formal frailty assessment performed. Of note, only two patients (2%) had a DASI score documented. Patients were on an average of seven medications pre-operatively and had an average length of stay of six nights (SD 7.9) postoperatively.

Conclusion: This retrospective review revealed that no formal documentation of frailty screening was being performed routinely. We have begun revising the preoperative clinic medical documentation process, together with prospectively collecting data on frailty and cognitive impairment for all patients over the age of 65. This will allow us to gather data and drive a collaborative care pathway for patients at risk of perioperative complications related to frailty in the older surgical patient at MMUH.

References: 1.Dent E, et al. Eur J Intern Med. 2016;31:3-10. 2.Alvarez-Nebreda ML, et al. Journal of clinical anesthesia. 2018 Jun 1;47:33-42. 3.Haren A, et al. Therapeutic Advances in Urology. January 2020.

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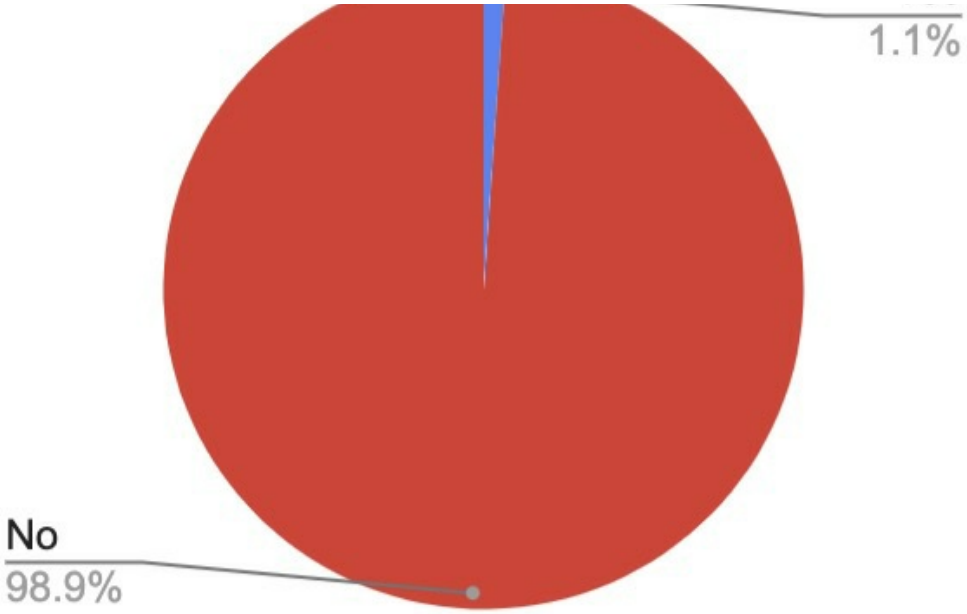
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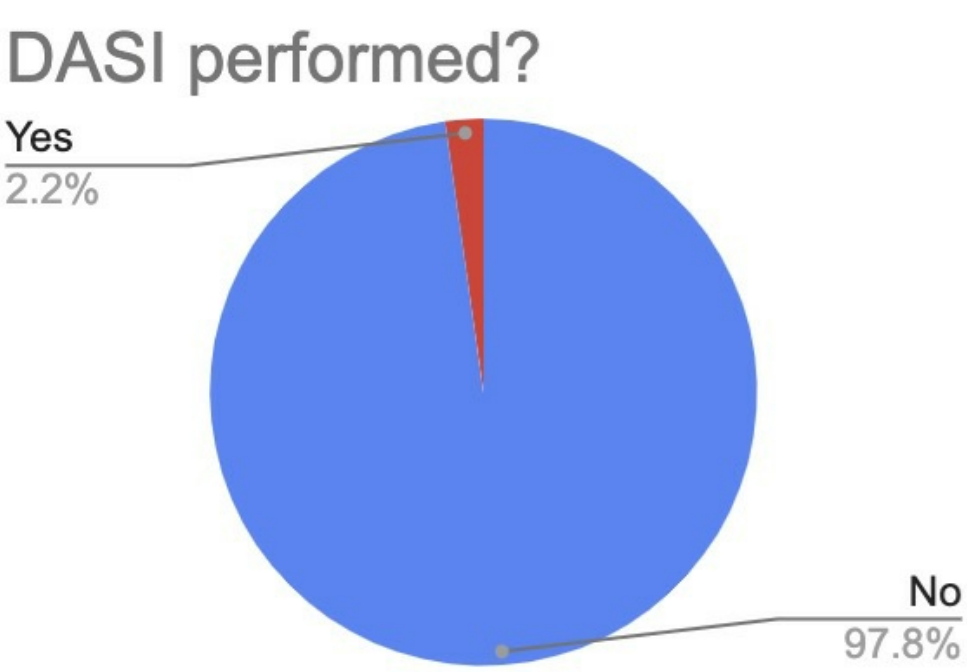
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Poster keywords

Frailty, Older Surgical Patient, DASI, Clinical Frailty Score, Perioperative risk

34

Review of Long-Term Outcomes from an Anaesthetic Shared Decision Making Clinic

Ben Dingle[1], Toby Lewis[1], Bruce McCormick[1], Helen Williams[2]

[1]Royal Devon and Exeter Hospital, Exeter, United Kingdom. [2]Royal Cornwall Hospital, Truro, United Kingdom

Abstract

Introduction: Shared decision-making pathways are increasingly being utilised in the assessment of high risk patients prior to operative intervention. (1)(2) The RDE NHSFT implemented an anaesthetic shared decision-making clinic in 2018 to allow patients to discuss risks, benefits and potential outcomes prior to elective surgery. We analysed the two-year outcomes of the first 100 patients reviewed and subsequent impact of this clinic.

Methods: Clinic letters and medical records of the first 100 patients seen by the service were reviewed and the impact that the clinic had on the decision to proceed with surgery and survival two years after clinic visit were analysed. Data collated included clinic outcome, predicted and actual 30-day mortality, hospital and ICU length of stay, and 2-year mortality.

Results: Of the first 100 patients reviewed in our shared decision-making service, 64 patients had an operation. Long-term survival was similar in the operative and non-operative groups. 19.4% of the non-operative group have since died, compared to 15.6% of the operative group, with mean time from clinic to death of 613 and 626 days respectively. Our 30-day mortality predictions in this cohort were varied and over-predictive of postoperative death. In the operative group, average post-operative hospital length of stay was 5.7 days. 32.8% were admitted to ICU post-operatively, totalling 23 days on ICU or 1.1 days per patient. Assuming that the less fit, cancelled/deferred and cancelled patients, would have needed ICU, this correlates to 28.6 ICU days saved. Given that the reported average cost of one day spent on ICU is £857 (3) this represents a financial saving of £24,510.20.

Conclusion: All Trusts should aim to offer a shared decision making service, particularly for the highest risk patients. As we expand our clinic to include more referrals from multiple specialities, identification of patients in whom the risks of surgery outweigh the benefits will inform appropriate allocation of theatre and critical care resources. Our estimates of 30-day mortality in this patient group were over-stated and we are reviewing our risk scoring strategy. This audit suggests there may be financial savings attributable to choosing the correct patients for surgery.

References: 1) Implementation of shared decision making in anaesthesia and its influence on patient satisfaction. W.Flierler (2013). Anaesthesia, Volume 68, p. 713-722 2) Specialist Pre-operative Assessment Clinics. J.Dhesi (2015). Anaesthesia, Volume 71, p. 3-8 3) Together for health – A Delivery Plan for the Critically Ill. Llywodraeth Cymru (2013). p. 6

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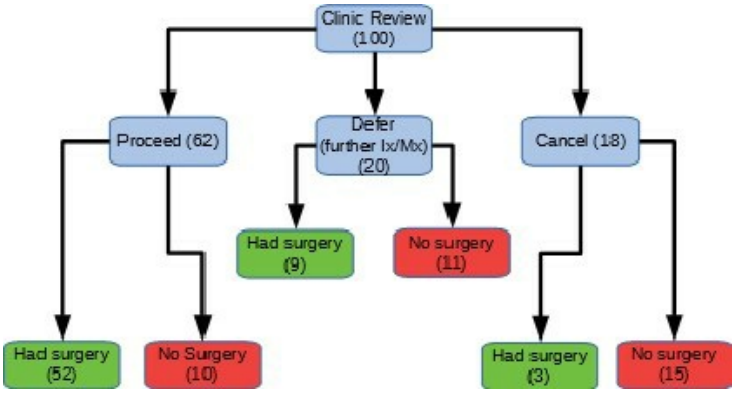

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Poster keywords

High risk , Clinic, Long term, Follow up , Pre-op

35

The 6 P's of peri-operative medicine: Prior Planning Prevents Poor Peri-operative Performance

Gianluca Trisolini Longobardi, Michael Argent, Sara Churchill, Paul Carter
University Hospital of Wales, Cardiff, United Kingdom

Abstract

Introduction: Shared decision making and thorough perioperative planning is vital for successful management of all patients1, however multidisciplinary communication really comes into its own when managing patients with challenging comorbidities. We discuss a 47-year-old man who presented for a hepatectomy for liver metastases from penile cancer. He had a background of idiopathic Lambert Eaton syndrome, a prolonged critical care admission with COVID-19, steroid induced diabetes and NIV dependent type 2 respiratory failure. Thorough perioperative planning and cross specialty communication ensured a successful outcome for this patient.

Description: Following an appointment with his surgeon, our patient was assessed by the anaesthetic team in pre-assessment clinic where extended discussions occurred between his neurologist, respiratory physician, operating surgeon and anaesthetist. He was thoroughly risk assessed and details relayed to the patient. Armed with this information; he went home to consider his options. As non-operative options would not have provided a curative result he opted for surgery and a perioperative plan was formed. He was unable to perform CPET but was referred for and received inspiratory muscle training.

On arrival to theatre he had a thoracic epidural sited and underwent a general anaesthetic with propofol and remifentanil, his cords were sprayed with lidocaine and no neuromuscular blockade was used. Arterial and central venous access were sited and invasive pressures and depth of anaesthesia monitoring was established in addition to standard monitoring. His epidural was used throughout with 0.1% Levobupivacaine and he received no additional systemic opioids. We established steroid cover with a Hydrocortisone infusion and ensured we continued his 3,4 diaminopyridine via nasogastric tube. He was ventilated with lung protective ventilation and recruitment manoeuvres were performed prior to extubation. Surgery was completed uneventfully and he was extubated onto NIV. A planned extended stay on PACU ensured his pain control, fluid balance and respiratory measures were optimised, he returned to the ward and was discharged 4 days post operatively.

Discussion: An MDT approach increased the information available to the patient for him to make an informed decision. Input from the patient’s usual physicians, communication within the perioperative team, involvement of specialist physiotherapists and patient empowerment to engage in rehabilitation allowed for his perioperative success.

Reference: 1. Sturgess J, Clapp JT, Fleisher LA. Shared decision-making in peri-operative medicine: a narrative review. Anaesthesia. 2019 Jan;74 Suppl 1:13-19. doi: 10.1111/anae.14504. PMID: 30604418.

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Poster keywords

Gianluca, Argent, Carter , Churchill

36

Modified educational resource delivery during the COVID-19 pandemic-Zambia

Chalwe Mutesa-Mwewa, Hazel Mumphansha
University Teaching Hospital, Lusaka, Zambia

Abstract

C Mutesa-Mwewa & H Mumphansha

Introduction: It has been identified that to improve perioperative care within developing countries more research is required [1-2]. In order to conduct said research, clinicians need to be proficient in appraising published medical literature. Attendance at a regular journal club is not only a means of achieving this but is also an essential component of the Zambian anaesthetic training curriculum. However, due to the COVID-19 pandemic this has been difficult to achieve and required a different approach.

Methods: Beginning February 2021 a regular journal club was re-established using online platforms. Consultants and trainees from both teaching hospitals in Lusaka and Ndola, were invited to attend. A trainee rota was formed to ensure that a trainee presented a journal at each session and all trainees had the opportunity to present. In addition, each trainee who was presenting was assigned a senior mentor prior to the session. This allowed the trainee to critically appraise the paper with guidance from a senior clinician Results From the current cohort of trainees 71% have attended one or more sessions. In addition to trainees, anaesthetists from other hospitals have also attended some sessions.

Data displayed below (Table 1.)

Table 1 Clinical topicUniversity teaching Hospital NdolaUniversity Teaching Hospital Lusaka Trainees attendedConsultants attended Trainees attended Consultants attended 16/2/21Obstetric Anaesthesiayesyesyesyes 1/3/21Critical Careyesyesyesyes 15/3/21Regional Anaesthesiayesyesyesyes 17/4/21Obstetric Anaesthesiayesyesyesyes

Conclusions: Ensuring all anaesthetists have access to educational resources is essential to improving perioperative care in Zambia. By changing the format of these sessions, we created a national educational activity that trainees from both teaching hospitals were able to benefit from, in a low-cost manner which is especially important within our setting. We have shown this is an effective way of providing an opportunity for trainees to improve their own critical appraisal skills in addition to reviewing published evidence relevant to anaesthesia in Zambia. We aim to continue these sessions in this format.

References: 1.Janowicz A, Kasole T, Measures E et al. Development of education and research in anaesthesia and Intensive care medicine at the University Teaching Hospital in Lusaka, Zambia: A descriptive observational study. Aesth Analg 2017 125(1):287-293 2.Roa L, Jumbam DT, Makasa E et al. Global surgery and the sustainable development goals. Br J surg. 2019 106(2):44-52

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Poster keywords

Education, Global Anaesthesia, Zambia, Perioperative care, COVID-19

37

Does CPET have a bigger role to play in patient care?

Remi Paramsothy, Michael Browning
Maidstone and Tunbridge Wells Hospital, Pembury Tunbridge Wells, United Kingdom

Abstract

Introduction: Cardiopulmonary exercise testing [CPET] is a dynamic and non-invasive way to allow clinicians to determine the cardiovascular and respiratory performance of an individual. It is widely used in pre-operative assessment to provide a risk stratification for patients who may undergo surgery and to identify potential post-operative complications. One potential use of CPET is for prehabilitation before surgery and rehabilitation after surgery. CPET may not only be useful for clinicians but it may also be informative to patients and allow them to improve risk factors and have an objective way to measure their progress. The aim of the project is to assess whether CPET clinic has provided health benefits to patients before and after the surgery, at various time points.

Method: Patients undergoing elective surgery at Maidstone and Tunbridge Wells Hospital Trust completed a CPET study as part of their pre-operative assessment and were given exercise, nutrition, and psychological wellbeing written advice afterward. Following the pre-operative assessment, consent was obtained from 60 patients to conduct a telephone survey in order to determine whether the CPET study provided health benefits both before and after surgery. Retrospective data were collected for patients who had their CPET study from October 2019 to February 2020 and October 2020 to February 2021 to determine lifestyle improvements at various time intervals from when the CPET study took place.

Key Findings: This study showed that CPET improved patients' lifestyles by increasing their physical activity levels and there is scope to focus on other lifestyle factors during a CPET clinic such as nutritional and psychological factors. Patients would like multiple CPET sessions.

Conclusion: CPET is a recognised tool for risk stratification for clinicians but also patients recognise the potential benefit it has to improve their own general health. Patients reported they would like multiple CPET sessions before and after surgery which indicates that CPET is important in prehabilitation but also in rehabilitation after surgery.

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Poster keywords

Cardiopulmonary exercise testing, Rehabilitation, Exercise

38

Evaluating patient satisfaction after a high-risk obstetric anaesthetic clinic.

Natalie Clements
NHS Lanarkshire, Glasgow, United Kingdom

Abstract

Introduction: The high risk obstetric anaesthetic clinic at Wishaw General Hospital reviews pregnant women before 36 weeks gestation, with a variety of co-morbidities or specific anaesthetic concerns. The aims of the service are to identify, inform and plan for patients who may need specific anaesthetic management during labour, delivery or at caesarean section. Women classified as high risk for anaesthetic complications may be concerned in the lead up to birth. When we know that emergency surgery will be an outcome for some, this clinic offers us an invaluable opportunity to prepare patients for such eventualities. Oftentimes our intervention only involves detailed explanation of the options for labour analgesia or the options for anaesthesia. We assessed the overall satisfaction that these patients had at the end of their anaesthetic management. We hypothesised that antenatal clinic time would increase patient satisfaction.

Method: From January 2021 to end of April 2021 electronic records of every patient who attended the clinic were reviewed. Reason for referral to the clinic, interventions and eventual clinical come was recorded. Patients from this cohort who underwent an anaesthetic procedure were interviewed. The patients were asked to rate their satisfaction with the anaesthetic management as high or poor. The results of these surveys were collated.

Results: 32 patients were assessed in the clinic. Of the patients seen in clinic the most frequent intervention was information only (22%). 22 high risk patients (68%) proceeded to have an anaesthetic intervention at the time of birth. 40% of these procedures were complicated, the most frequent complication being difficult regional analgesia or anaesthesia with more than one attempt. Follow-up surveys were undertaken in 13. 9 patients where uncontactable. In the surveyed patients, 11 reported high satisfaction with their anaesthetic management. 2 were not satisfied.

Conclusions: The population surveyed was small and we need to encourage survey participation in our postnatal patients to achieve robust data. A high investment of clinic time was used for explanation. This is considered valuable, given that most patients who go on to review their anaesthetic management express positive satisfaction. A considerable proportion of our high-risk clinic patients will go on to have an emergency caesarean section, or an anaesthetic procedure that is difficult or complicated. It is particularly in these scenarios that pre-operative assessment, information and planning are valuable.

Image upload

Fig 1- Reasons for assessment and interventions at the high risk clinic.

Total number of patients	32
Reasons for assessment-	
BMI> 40	9
Previous reaction to anaesthetic	3
Family history of reaction to anaesthetic	1
Back pain	4
Pre-existing medical condition	8
Anatomical abnormality (airway or spine)	4
Jehovah's witness	1
Psychological issue	2
Interventions at clinic-	
Information only	24
Further investigations	1
Specific anaesthetic plan	3
Ultrasound imaging of spine	2
Pharmacological	1
Referral to specialist site	1

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Fig 3. Results of patient survey by procedure and presence of complications

Procedure	**Total number**	**Complications**	**High satisfaction**	**Poor satisfaction**	**No co**
Spinal anaesthetic	14	5	7	1	6
Epidural analgesia	7	3	4	0	3
General Anaesthetic	1	1	0	1	0

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Poster keywords

obstetric, high-risk, pregnancy, pre-assessment, satisfaction

39

Do pre-operative CPET values help predict surgical outcomes in Upper GI and Hepatobiliary surgery?

Hafiza Misran[1], Christopher Tennuci[1], Glenn Boardman[2], Michela Salvadore[1]
[1]Fiona Stanley Hospital, Perth, Australia. [2]South Metropolitan Health Service, Perth, Australia

Abstract

Introduction: Cardiopulmonary exercise testing (CPET) is a commonly used modality for assessing patient risk and fitness for surgery. We conducted a single-centre retrospective observational study correlating CPET variables with surgical outcomes in upper gastrointestinal (UGI) and hepatobiliary (HPB) surgery over a 3-year period. We also determined whether CPET changed our clinical decision making in this patient population.

Methods: All adults with pre-operative CPET for UGI and HPB surgery between January 1, 2017 and August 1, 2020 were included. Information was extracted from electronic medical records. Patients were divided into groups based on anaerobic threshold (AT <9.0, 9.1-11.0, and >11.1 ml/kg/min), peak oxygen consumption (VO2 peak <15 and >15 ml/kg/min) and ventilatory equivalents for carbon dioxide (VE/VCO2 <35 and >35). Primary outcomes include: 1) hospital length of stay, 2) intensive care unit (ICU) length of stay, 3) ICU readmission 4) Clavien-Dindo total number of complications and 5) Clavien-Dindo severity of complications. Secondary outcomes included 1) interventions following CPET, 2) repeat CPET after the interventions, 3) whether CPET contributed to cancellation of surgery.

Results: Seventy-five tests were performed in 69 patients (5 repeat tests). Forty-five patients (65%) had surgery and 24 (35%) did not. No differences in hospital or ICU length of stay and ICU readmission were noted between groups. There were more Clavien-Dindo complications in the high AT (median value=2, range 0-5) compared to the low AT group (median value=1, range 0-2). Patients in the high AT group had higher severity of complications (Figure 1). This study was underpowered to demonstrate statistical significance. Following CPET, 21 patients (30%) had referrals to other specialities, most commonly cardiology, oncology and physiotherapy. Two repeat CPET were performed following prehabilitation. CPET resulted in cancellation of surgery in 17% (n=11) of total patients.

Conclusion: CPET variables were not predictive of post-operative outcomes in UGI and HPB surgery, however more severe post-operative complications were observed in the high AT group. This may reflect patient selection, changes in perioperative care, timing of CPET and disease progression, among other factors. CPET helped with clinical decision making in 30% of patients and was not a barrier to surgery. A larger study cohort is needed in future.

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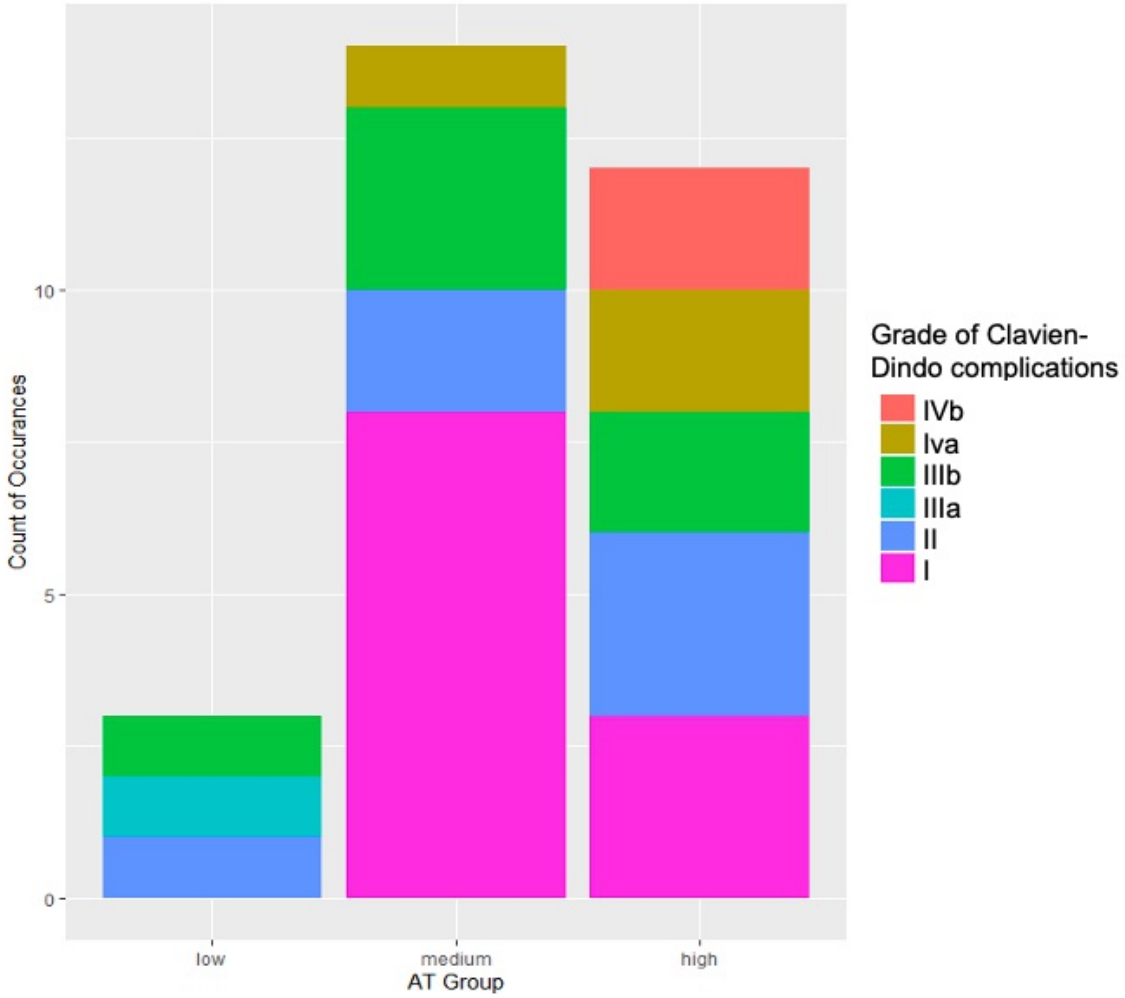

Figure 1. Count of highest grade of Clavien Dindo complications grouped by anaerobic threshold.

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Patient categories	AT (ml/kg/min)				VO2 peak (ml/kg/min)		V
	No AT	<9.0	9.0-11.0	>11.0	<15	>15	<35
Surgery (n = total number of patients)	2	9	16	17	5	40	32
No surgery (n = total number of patients)	4	5	4	9	7	17	14

Table 1. Distribution of CPET values in those did and did not have surgery.

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Poster keywords

cardiopulmonary exercise test, oesophagectomy, hepatobiliary, fitness for surgery

40

Pre-operative coagulation screening in neurosurgical patients

Victoria Boardman, Alwyn Kotze, Asim Sheikh, Vinod Bassi, Thomas Mitchell
Leeds Teaching Hospitals, Leeds, United Kingdom

Abstract

Introduction: The National Institute for Health & Care Excellence and the British Committee for Standards in Haematology recommend against routine pre-operative coagulation screening.1,2 Testing appears to be less predictive of bleeding complications than structured history-taking.3 This guidance excludes neurosurgical patients and, in the absence of specific guidelines, screening practice varies between units.4 We conducted a service evaluation to determine the extent of pre-operative coagulation screening in our neurosurgical patients and whether it alters management.

Methods: Retrospective evaluation of elective and emergency neurosurgical procedures in Leeds Teaching Hospitals was performed, from January to December 2019. Our Patient Level Information and Costing System team linked information from hospital systems using NHS numbers to find coagulation tests conducted up to 6 months before surgery. We reviewed the records of patients with abnormal tests (defined by local guidelines) to determine subsequent management and bleeding complications.

Results: Of 1124 patients, 20 (1.8%) had an abnormal coagulation screen after excluding those on anticoagulant medication (Figure 1). In 18 patients, abnormal results would either have been expected based on prior history or no significant diagnosis was made despite further investigation. In 2 patients (0.2%), an unexpected abnormal result altered management. One emergency patient had acute liver dysfunction and received vitamin K and fresh frozen plasma. One elective patient had partial Factor XI deficiency diagnosed, received pre-operative Octaplas, and was registered on the UK Haemophilia Database. She gave no bleeding history, despite previous surgery, but treatment was considered appropriate given the major intracranial nature of surgery. Independent review by two authors did not identify bleeding complications in any patients with abnormal coagulation screens. 603 patients had more than one normal coagulation screen documented. Further investigation of abnormal tests involved repeat and additional testing, haematology referrals, and delays to 2 operations (Table 1).

Conclusion: We found evidence of a small but significant yield from routine pre-operative coagulation screening in neurosurgery, where material risk exists of poor outcome after a small bleed. Repeating normal tests and inconsistent follow-up of abnormal tests represents waste; we recommend against repeating previously normal results. While we plan to continue coagulation screening in neurosurgical patients, we plan educational interventions and improvements to our screening process.

References: 1. NICE. http://www.nice.org.uk/guidance/ng45. 2016. 2. Y L Chee et al. British Journal of Haematology. 140:5, p496-504. 2008. 3. A Seicean et al. Journal of Neurosurgery. 116:5, p1114-1120. 2012. 4. B Harley et al. Journal of Clinical Neuroscience. 64, p201-205. 2019.

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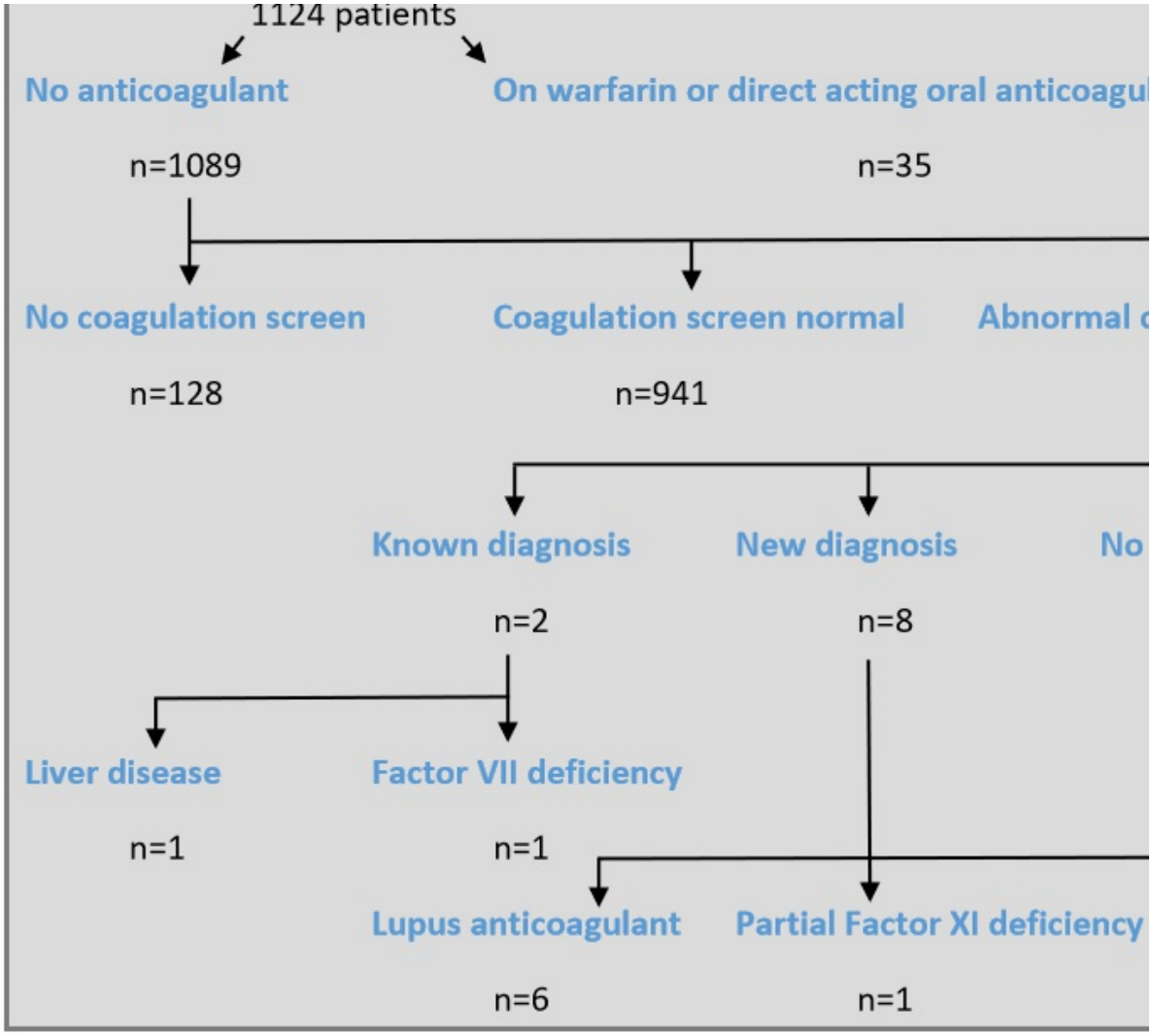
1124 patients
No anticoagulant
On warfarin or direct acting oral anticoagul
n=1089
n=35
No coagulation screen
Coagulation screen normal
Abnormal
n=128
n=941
Known diagnosis
New diagnosis
No
n=2
n=8
Liver disease
Factor VII deficiency
n=1
n=1
Lupus anticoagulant
Partial Factor XI deficiency
n=6
n=1

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Table 1	
Total with abnormal coagulation screen	**20**
Repeat coagulation screen performed	16
Additional tests performed	11
Haematology referral	9
Delayed operation	2

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Poster keywords

pre-operative, coagulation, screening, neurosurgery, pre-assessment

41

The introduction of portable transversus abdominal plane (TAP) local anaesthetic catheters for pain management after renal transplant

Elizabeth Turnbull, Karuna Kotur, Jenny Houston, Katherine Ashton
Freeman Hospital, Newcastle, United Kingdom

Abstract

TAP catheters have been shown to be beneficial in various intra-abdominal surgeries [1,2]. They have been introduced into a new pain pathway, part of a pilot enhanced recovery programme for renal transplant patients at Freeman Hospital, aiming to standardise postoperative analgesia and aid recovery. Current practice involves use of fentanyl patient controlled analgesia (PCA) pumps for at least 48 hours postoperatively which can limit mobilisation and cause unwanted side effects. Our aim was to assess whether TAP catheters could reduce postoperative opioid requirements and levels of nausea or vomiting.

Methods: Renal transplant recipients from September 2018 to March 2019 (52 patients) were reviewed retrospectively to assess their postoperative opioid consumption and nausea or vomiting levels. After introduction of TAP catheters in September 2020 the same data was collected prospectively from 35 patients. Trained surgeons inserted the catheters, using a loading dose of 2 ml/kg of 0.5% levo-bupivacaine and attached portable elastomeric pumps for 48 hours postoperatively, providing a continuous infusion of 0.25% levo-bupivacaine at 5 ml/hr. Patients also received a fentanyl PCA for 24 hours and were prescribed regular and as needed oral opioids. The primary outcome was the total intravenous morphine equivalent dose requirement during the 48 hour postoperative period. The secondary outcome was the incidence of nausea or vomiting.

Results: There was a large difference in the average 48 hour postoperative intravenous morphine equivalent dose requirements between the two groups. The mean [SD] morphine requirements were 88mg [52] in the non-TAP catheter group compared to 49mg [44] in the TAP catheter group. 50% (26/52) of patients in the non-TAP catheter group suffered mild or moderate nausea or vomiting compared to 14% (5/35) in the TAP catheter group.

Conclusion: The use of TAP catheters reduced the postoperative opioid requirements and incidence of nausea or vomiting in the patients assessed. Through further observation, the portable nature of TAP catheters has also aided earlier mobilisation and physiotherapy participation. Further data is being collected to assess the impact on length of stay within the wider enhanced recovery programme. Acknowledgments The authors thank the ERAS programme and acute pain team at FRH.

References: Onwochei D et al. Abdominal wall blocks for intra-abdominal surgery. British Journal of Anaesthesia 2018; Vol 18, Issue 10 p317-322. - Farag E et al. Continuous transversus abdominis plane block catheter analgesia for postoperative pain control in renal transplant. Journal of Anaesthesia. 2015; 29(1): 4–8.

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Poster keywords

ERAS, Renal transplant, TAP catheters, PONV, Analgesia

42

'Preparing for your operation' - Improving the patient perioperative experience with an information video.

Zarah Brown, Naomi Tate
Norfolk and Norwich University Hospital, Norwich, United Kingdom

Abstract

Introduction: A short video was created by the anaesthetists and allied professionals (theatre recovery staff, nurses, health care assistants, physiotherapists) for patients to view prior to scheduled major surgery at the Norfolk and Norwich University Hospital. Since the pandemic face to face appointments have been reduced. Ideally patients scheduled for major surgery will attend a pre-operative assessment clinic where they would they may see an anaesthetist, surgeon, nurse, physiotherapist and pharmacist as well having their baseline observations recorded and performing any necessary investigations such as blood tests and ECG. Often this was not possible with some cancer surgeries with no time to schedule appointments or all the appointments could not be on the same day which meant that it information given to patients may be inconsistent. The aim of the project was to produce a short information video to provide an overview of what to expect and how patients can prepare for their surgery.

Methods: A video has been produced which depicts a patient's perioperative journey from pre-operative assessment, admission on day of surgery to discharge home. In order to produce the video each scene needed to be planned using a storyboard. Once this foundation was laid a script was written and filming locations within this hospital secured. This was filmed by the hospital's medical illustration department using staff members performing their usual roles with an actor patient. Filming was in patient facing areas however at times when there would be no patients present to assure confidentiality and minimise disruption to the department. Patients receive a link to the video and it is present on the hospital website and YouTube channel.

Results: More that 500 views on the hospital YouTube channel. Our next step will be to perform a patient satisfaction survey to gauge the impact on the patient experience.

Conclusion: We hope that patients find this video helpful in their preparation for surgery standardising the information given and also reducing number of pre-operative hospital visits.

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Poster keywords

Patient experience, Pre-operative, Prehabilitation

43

Postoperative residual curarization presenting 13 hours after last administration of Rocuronium.

Eman Elsayed, Dave King
Mid and South Essex Trust, Southend On Sea, United Kingdom

Abstract

Introduction: Although Rocuronium gives good intubating conditions on rapid sequence induction for emergency patients and those at risk of aspiration on induction, inadequate reversal may lead to risk of recurarization and postoperative complications. Elderly patients respond unpredictably to Rocuronium and may be at risk of prolonged neuromuscular block. We present a case of residual neuromuscular block causing respiratory failure and inability to vocalize more than 13 hours after the last dose of Rocuronium.

Case presentation: A 72 years old lady presented with bowel perforation requiring emergency laparotomy. Past medical history included Atrial Fibrillation and she was in Acute Kidney Injury with Creatinine of 226umol/L. She had a general anaesthetic with rapid sequence induction, receiving 100mg Rocuronium. Intraoperatively, she received a further two doses of 50 mg Rocuronium, last dose administrated at 7.30 a.m. She was transferred to intensive care for postoperative management with ventilation and vasopressor support. After a period of stabilization she was woken and extubated at 18:00. On review at 20:30, she was found to be in respiratory distress, unable to vocalize, hypoxic and hypercarbic . Review of the Anaesthetic Chart showed the last dose of Rocuronium had been administrated 13 hours ago. Despite this we suspected inadequate reversal of neuromuscular block. Use of a Nerve Stimulator revealed obvious fade on Double Burst Stimulation. Administration of Sugammadex 400 mg immediately improved her condition and she was able to speak and regained normal muscular power with reversal of hypoxia and hypercarbia.

Discussion: Residual neuromuscular blockade is a problem which can be easily missed in intensive care. Factors which may have caused this presentation include failure to reverse neuromuscular block as is common in patients admitted postoperative to ITU, prolonged action of Rocuronium due to Acute Kidney Injury, perioperative administration of Magnesium Sulphate 2 gm and unpredictable pharmacokinetics of Rocuronium in elderly patients. This case demonstrate that it is essential to consider and antagonize any residual block even many hours after last administration dose of Rocuronium.

References: Srivastava A et al, BJA,103(1),115-129, July 2009 Eriksson L, Anesthesiology,98(5),1037-1039,2003

Program permission

yes

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Poster keywords

curarization, Rocuronium, Sugammadex, Postoperative delayed recovery , Residual block

44

Quality improvement of the Orthopaedic Department Ward’s handover sheet lists

Ahmed Mattar, Akshdeep bawa, Kohli sandeep
King's college trust, London, United Kingdom

Abstract

Background: Definition: Handover is a practical and structured way to improve the transfer of data within the community hospital ward. Information should be selected for significance and priority as too much information clouds the picture. (not records / basic information only e.g: why admitted, when, which surgery, last bloods, covid, resus ??) Handovers are often multi professional in nature and this means different levels of professionals will have different levels of information requirements

Guidelines: GMC guidelines: Data recorded or communicated on admission, handover and discharge should be recorded using a standardised proforma / each trust, hospital , ward can make own template.

NICE Guidelines: Use structured handovers during transitions of care and follow the NICE recommendations on transferring acutely ill patients in the hospital.

Current practice: we have noticed some shortage of the information and patient details who have been admitted in the wards under orthopaedic care on the handover sheet lists.

Aim: To ensure for each area that we received the right amount of information on each patient to ensure safety. Assess the quality of the handover list understand what is meant by productive handover

Methodology: Number of cases audited: 200 cases Inclusion criteria: any admitted patients to the PRUH wards under orthopaedic care in the months August and September 2020 How will the sample be identified? Mega lists on V drive

Audit period: collecting data of the ward handover on mega lists on August & September 2020

Results: 1st cycle: Most of the notes are old information since the day of admission and not updated till the discharge. No Mention of Covid or Resus status . Most of the notes not having the main regular meds (insulin, etc…) Some patients(42) do not have any plan till being discharged (21%) No Dated bloods in most of the patients and most of the bloods were not been updated since admission. No update of the Admitting consultant 2nd cycle: 2 patients are missing D.O.B (1%) , 1 missed the diagnosis (0.5%) 8 missing M.O.I (4%) 12 missing D.O.A (6%) 5 missing the name of the consultant (2.5%) Surgery: 53 not required , 1 missing Date of surg: 53 not required, 2 missing Bloods:44 missing / date of bloods: 50 missing Other invest: 10 missing. Reg meds: 83 missing(41.5%) , Allergy: 143 missing (71.%) Conclusion: 1- proper handover list makes the WR more effective with less time 2-Proper lists make the care provided to the patient more efficient

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COMPARISON WITH THE PREVIOUS RESULTS

	1st cycle	%	2nd cycle	%
Name	200	100%	200	100 %
D.O.B	197	98.5 %	189	94.5 %
Hosp No	199	99.5 %	200	100 %
D.O.A	74	37 %	188	94 %
Consultant	113	56.5 %	195	97.5 %
M.O.I	161	80.5 %	192	96 %
Diagnosis	169	84.5 %	199	99.5 %
Surgery	97	48.5 %	146	73 %
Date of Surgery	88	44%	145	72.5 %
Bloods	58	29%	137	68.5 %
Date of bloods	15	7.5%	131	65.5 %
Regular meds	28	14 %	117	58.5 %
Allergy	14	7 %	57	28.5 %
plan	110	55%	200	100 %
PMH	158	79 %	200	100 %

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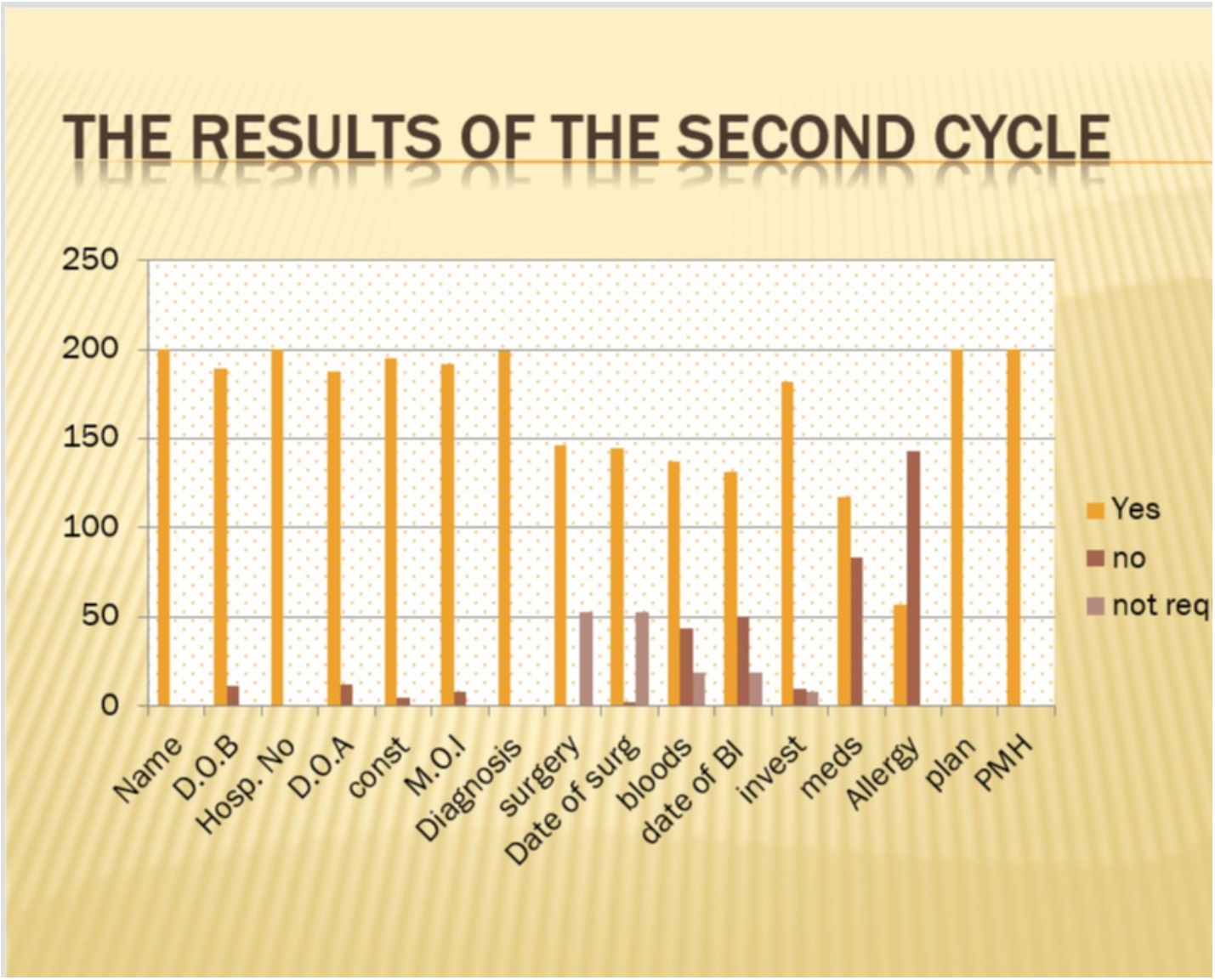

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Poster keywords

Handover, ward list, Orthopaedic, Documentation, sheet list

47

Survey on the impact of a structured regional anaesthesia course on regional techniques knowledge and application among Greek anaesthetists

Kassiani Theodoraki[1], Eleni Moka[2], Alexandros Makris[3], Evmorfia Stavropoulou[4]

[1]Department of Anaesthesia, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece. [2]Department of Anaesthesia, Creta Interclinic Hospital, Heraklion, Creta, Greece. [3]Department of Anaesthesia, Asklepieion Hospital of Voula, Athens, Greece. [4]Department of Anesthesia, General Hospital of Attica KAT, Athens, Greece

Abstract

Background: Due to the growing interest in regional anaesthesia (RA) techniques and the realization of the need for formalized education in them, the Greek Chapter of the European Society of Regional Anaesthesia and Pain Therapy (ESRA-Hellas) has established a structured hands-on training Course held annually since 2009, which is quite popular in the community of Greek Anaesthetists. The aim of the current survey was two-fold: first to provide an overview about the current practice of RA in Greece and secondly to evaluate the effect the aforementioned training Course has on participants' knowledge and attitude towards RA.

Methods: An electronic questionnaire was uploaded on SurveyMonkey and a link giving access to the questionnaire was forwarded via email to an electronic database of 825 practicing Greek anaesthetists held in the electronic database of ESRA Hellas. The survey was totally anonymous and no identifying information was collected throughout. It contained questions relating to the anaesthetists' demographic characteristics, their RA practice and information pertaining to the RA training Course.

Results: A total of 424 fully completed questionnaires were received, representing an overall response rate of 51.4%. Attendants of the Course are more familiar with the performance of peripheral nerve blocks with neurostimulation and/or ultrasound guidance as compared to non-attendants ($p<0.001$). Attendants are also less likely to practice exclusively general anaesthesia, more likely to use peripheral blocks for lower limb surgery and more likely to consider taking the European Diploma of RA in comparison to non-attendants ($p<0.001$, $p=0.018$ and $p=0,002$, respectively) (figure 1). Both cohorts consider the Course of value (figure 2) and agree that the main reason to use regional techniques is to ensure optimal postoperative analgesia while the main hindrance to RA practice is the lack of relevant education in the techniques, especially those under ultrasound guidance. Regarding improvement of the Course, most participants suggested devoting ampler time in ultrasound hands-on practice and application.

Conclusion: Greek anaesthetists seek educational activities in the field of RA and the Course seems to fulfil the majority of attendants' expectations. There will be further effort by the organizers to improve weaknesses of the current Course and undertake further educational initiatives in the field of RA according to international recommendations.

References: 1. Barrington, M.J., Wong, D.M., Slater, B., Ivanusic, J.J. & Ovens, M. Ultrasound-guided regional anesthesia: how much practice do novices require before achieving competency in ultrasound needle visualization using a cadaver model. Reg. Anesth. Pain Med. 37, 334-339 (2012) 2. Slater, R.J., Castanelli, D.J. & Barrington, M.J. Learning and teaching motor skills in regional anesthesia: a different perspective. Reg. Anesth. Pain Med. 39, 230-239 (2014) 3. Moon, T.S., Lim, E. & Kinjo, S. A survey of education and confidence level among graduating anesthesia residents with regard to selected peripheral nerve blocks. BMC Anesthesiol. 13, 16 (2013) 2.

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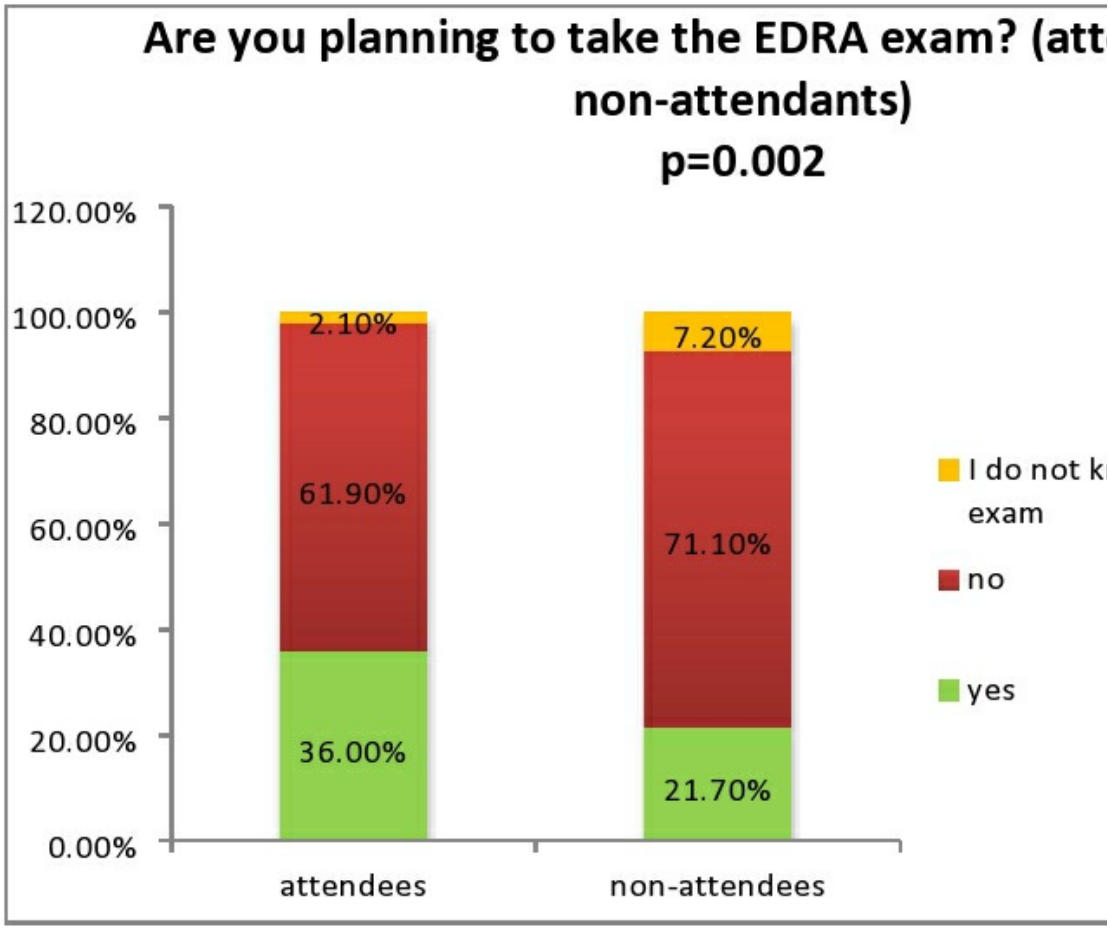

Figure 1. Willingness to take the European Diploma of Regional Ana
(EDRA) exam (attendants versus non-attendants of the Regional Ana

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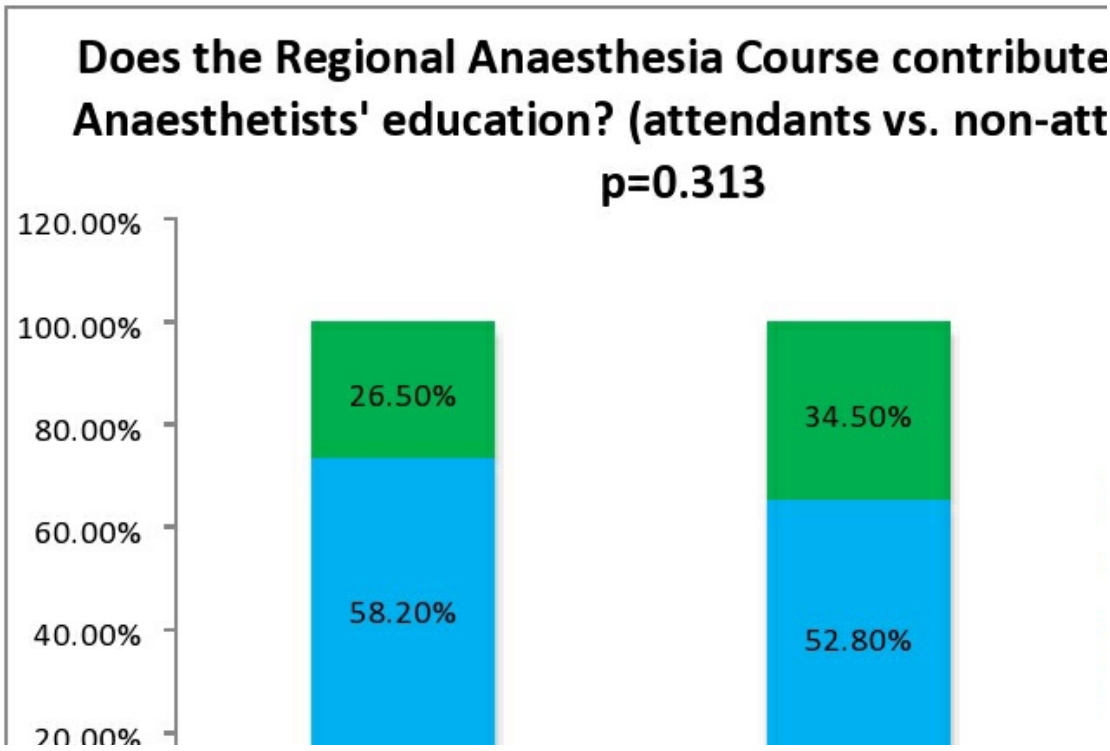

Figure 2. Contribution of the Course to regional anaesthesia educatio
anaesthetists (attendants versus non-attendants of the Regional Anaes

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Poster keywords

education, anaesthetic techniques, regional anaesthesia

48

Implementation of new Perioperative Pathway for Upper GI Surgical Patients

Henry Lewith, Eleanor Harvey, Jenna Hutchinson, Sophie Uren, Susanna Walker
The Royal Marsden Hospital, London, United Kingdom

Abstract

Introduction: SUMMIT (Systemic Multi-disciplinary Management of Investigation and inTervention) is an innovative multidisciplinary perioperative care pathway. It was developed for the optimisation of complex upper GI surgical patients undergoing curative surgery. Starting in October 2019, SUMMIT was a restructured perioperative pathway; consisting of two digitally supported elements. Early anaesthetic, physiotherapy and nutritional assessment and a fortnightly collaborative MDT to review and personalise each patient pathway. This included integration of patients into the MILE (My Integrated Lifestyle & Exercise) Prehabilitation programme. The aims were to reduce late cancellation of surgery and to improve patient's preoperative health and wellbeing.

Methods: A retrospective review, comparing the pathway and outcomes in years one and two of the project with the year prior. Specifically looking at Cancellation Rate, Length of Stay [Critical Care and Hospital], Recruitment to MILE prehabilitation program and Time to Surgery [time between the end of chemotherapy and day of surgery]

Results: There was an over 50% reduction in cancellation rates in year 1, but this has not been replicated in year 2. The median CCU LoS was reduced in both years 1 and 2 by one day. Median Hospital LoS was reduced in year 2 by two days. Recruitment to the MILE programme has improved subsequently in year 1 [68.9% patients recruited] and 2 [87.8%] of SUMMIT. Implementation of the programme has also not caused unnecessary delay in patient waiting time for surgery, with time to surgery actually decreasing from 54 to 43 days.

Conclusion: Implementation of the SUMMIT pathway enhances the patient's perioperative journey by allowing ample time between multidisciplinary pre-assessment review and surgery. Facilitating the optimisation and appropriate investigation of each patient and improved enrolment and completion of a personalised prehabilitation programme. Both processes are key to delivering excellent care, reducing complications and achieving the best possible outcomes for patients.

This has also been implemented without delaying the optimal surgical window after completion of chemotherapy. The reduction in both CCU and Hospital LoS has benefits not only for patients' physical and mental recovery, but also represents potential cost savings for the trust on a per-patient basis. Cancellation rates were increased in Year 2 of the pathway, but this period included the biggest disruption to surgery due to COVID-19, with 2 patients delayed due to re-prioritisation of surgical lists and 1 due to theatre staff testing positive on the day of surgery.

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Results

Outcomes	Pre-SUMMIT 01/06/18 – 30/09/19	SUMMIT Year 1 01/10/19 – 30/09/20	SUMMIT Year 2 01/10/20 – 30/04/21
Cancellation Rate	19 / 72 postponed [26.3%]	6 / 58 postponed [10.3%]	8 / 33 postponed [24.2%]
CCU LoS (median)	5 days	4 days	4 days
Hospital LoS (median)	13 days	13 days	11 days
MILE Recruitment	38 / 72 [52.7%]	40 / 58 [68.9%]	29 / 33 [87.8%]
Time to Surgery (median)	54 days	51 days	43 days

[Year 2 provisional data as not complete year]

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Poster keywords

Perioperative Pathway, MDT, Upper GI Surgery, Cancellation rate, Pre-assessment

49

Perioperative Oxyhaemoglobin Saturation and Oxygen Therapy in Orthopaedic Surgical Patients: I. Audit of SpO2 during the First and Second Major COVID-19 Peaks.

Baven Balendran[1], George Milner[2], Famila Alagarsamy[2], Alexandra Hogan[2,3]

[1]Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom. [2]Anaesthetics Department, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom. [3]UCL Great Ormond Street Institute of Child Health, London, United Kingdom

Abstract

INTRODUCTION: Oxygen was an important resource during the COVID-19 crisis. Being mindful of this for all patients helped ensure that supply met demand in those with COVID-19. Reassuringly, we found that this did not result in significant rates of oxyhaemoglobin desaturation in perioperative patients during the first-wave of the pandemic. We subsequently re-audited oxyhaemoglobin saturation and oxygen therapy in orthopaedic surgical patients during the second pandemic peak, to ensure standards were maintained.

METHODS: Trust approved review of electronic notes was conducted for adults (excluding COPD-cases) undergoing orthopaedic surgery between 28/12/20-24/01/21: 'Second Peak'. Pulse oximetry (SpO2) and oxygen delivery values were recorded at discrete perioperative stages: pre-operatively (immediately pre-operatively); ward-based recovery (average post-operatively on day-of-surgery); and, post-operative days 1-3 (average across each day). Data were analysed using SPSS and are compared with the first audit cycle, the results of which were presented at our departmental audit meeting and reassured anaesthetists increased awareness about oxygen therapy targeted to clinical demand.

RESULTS: Data and the results of statistical analysis are tabulated (Table 1). Cycle II identified 107 patients of comparable demographics and anaesthetic risk (ASA) to Cycle I. Individual patients' SpO2 values are illustrated in Figure-1. There continued to be low incidence of desaturation (SpO2≤93.9%), irrespective of oxygen therapy: pre-operative-5/104 (4.8%), ward recovery-1/103 (1.0%), day-1: 2/96 (2.1%), day-2: 5/85 (5.9%), day-3: 4/76 (5.3%). Comparable numbers of patients who were inpatient for ≥2-days post-operatively demonstrated an SpO2-drop (<94%): Cycle-I:10/68 14.7%; Cycle-II:10/85 11.7%; P=.460, Ns. For the majority, this affected only one time-point. Sustained low SpO2 was found for only 3 and 1 patients for Cycle I and II, respectively. Patient controlled opiate analgesia is prescribed with oxygen therapy (Trust protocol), but there was no consistent effect of this in our data.

CONCLUSION: Our study suggests that an economical-focus towards oxygen therapy during uncertain times (COVID-19) can be achieved for perioperative patients without significant impact on their safety. Generally, there was adherence to existing pre-pandemic guidance1, with the majority of patient maintaining SpO2 >94%. Subsequent BTS guidelines suggested accepting lower SpO2 targets (90-94%) in non-COVID medical patients2, and we would meet this lower SpO2-standard also. However, this also suggests considering hyper-oxygenation (e.g. >97%); indeed, patients on only minimal oxygen probably could have coped without this. Such data will help inform Trust-policy, particularly should the need unfortunately arise again.

1.O'Driscoll BR et al. Thorax (2017) 72(Suppl 1):ii1-ii90 2.BTS Guidance: issued 16.04.2020; via NICE

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		FIRST PEAK (CYCLE I) (30/03/20 - 26/04/20)
		DEMOG
N		**83**
Age (years – median)		73 (18-97)
Gender (M:F)		40:43
Surgery Type	Elective	11
	Emergency	72
ASA Grade	N	83
	I	7 (8.4%)
	II	36 (43.4%)
	III	33 (39.8%)
	IV	7 (8.4%)
	V	0 (0.0%)
Smoking Status	Never	14
	Current	9
	Ex-Smoker	12
	Unknown	48
Pre-Op Opioid	N	83
	None	28 (33.7%)
	Prescribed	55 (66.3%)
Pre-Op SpO_2 (median)		N = 82 96.0 (89.0-100)
Pre-Op Oxygen Desaturation ($SpO2 \leq 93.9$)		3/82 (3.7%)
Pre-Op Oxygen	N	82
	Room Air	69 (84.2%)
	Minimal	6 (7.3%)

Therapy – Flow Rate	(≤1L/min)	6 (7.3%)
	Higher ≥2L/min)	7 (8.5%)
Post-Op Oxygen Prescribed		81/83 (97.6%)
Post-Op Opioid Prescribed		70/83 (84.3%)
		POST-OP Day-0 (
N		83
SpO_2 (median)		97.0 (91.0-100)
Oxygen Desaturation (SpO2 ≤ 93.9)		1 (1.2%)
Oxygen Therapy	**Room Air**	34 (41.0%)
	Minimal (≤1L/min)	8 (9.6%)
	Higher ≥2L/min)	41 (49.4%)
		POST-
N		76
SpO_2 (median)		96.25 (89.0-100)
Oxygen Desaturation (SpO2 ≤ 93.9)		5 (6.6%)
Oxygen Therapy	**Room Air**	57 (75.0%)
	Minimal (≤1L/min)	7 (9.2%)
	Higher ≥2L/min)	12 (15.8%)
		POST-
N		68
SpO_2 (median)		96.0 (90.0-100)
Oxygen Desaturation (SpO2 < 93.9)		4 (5.9%)

Oxygen Therapy	Room Air	56 (82.4%)
	Minimal (≤1L/min)	3 (4.4%)
	Higher ≥2L/min)	9 (13.2%)
		POST-
N		66
SpO_2 (median)		96.0 (75.5-100)
Oxygen Desaturation (SpO2 ≤ 93.9)		5 (7.6%)
Oxygen Therapy	Room Air	58 (87.9%)
	Minimal (≤1L/min)	3 (4.6%)
	Higher ≥2L/min)	5 (7.6%)

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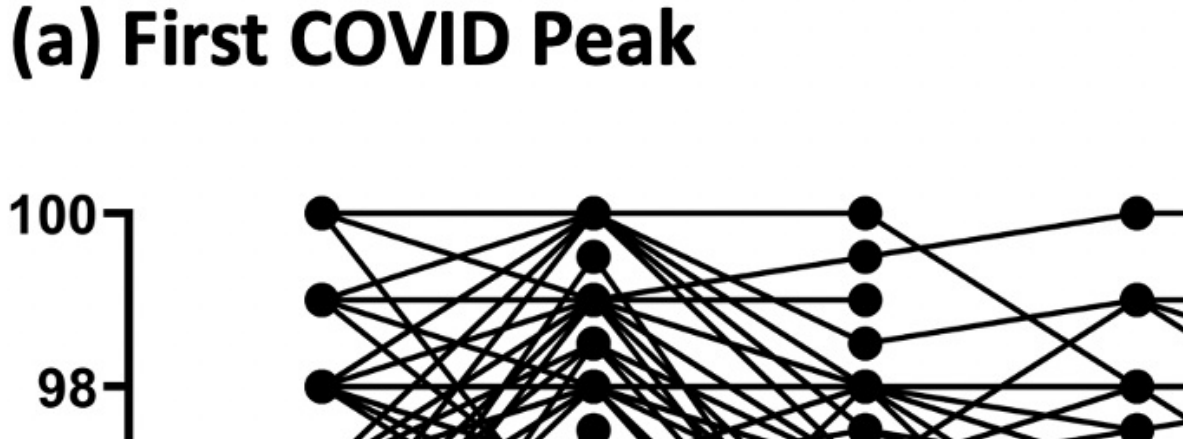
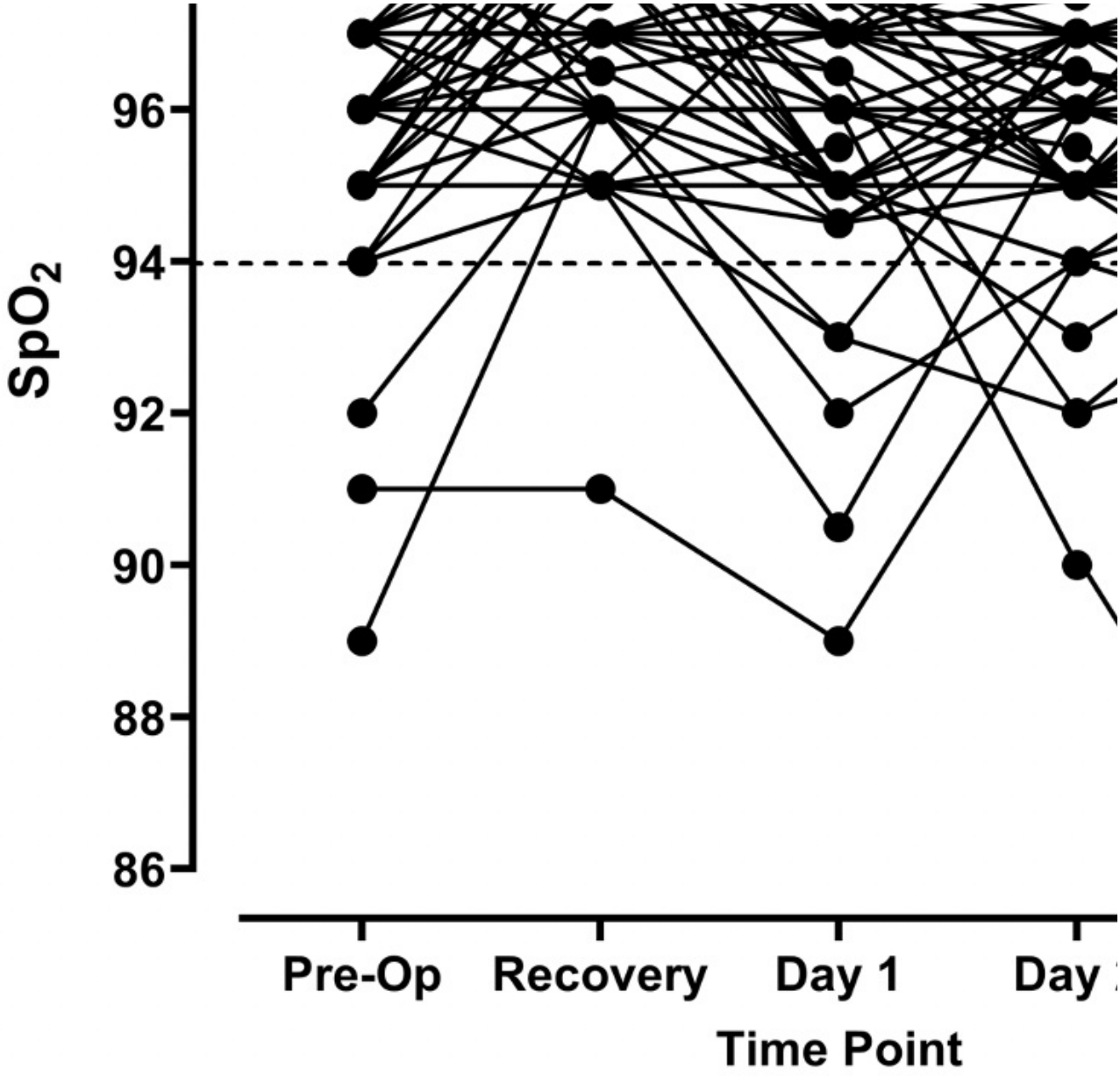
Figure 1. SpO_2 recorded at each time point
represents an individual patient. The major





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Poster keywords

Oxygen, Orthopaedic, Saturation, Perioperative, COVID

50

The Yellow Brick Road to an Extended Recovery Unit: Predicting postoperative deterioration in Vascular Surgical Patients

Andy Jeon, Leena Nagappan
Fiona Stanley Hospital, Perth, Australia

Abstract

Introduction: The Department of Anaesthesia at FSH aims to launch a high-acuity facility in the form of an Extended Recovery Unit (ERU) for postoperative management of high-risk surgical patients. The unit aims to improve care for this cohort of patients who contribute to 80% of postoperative morbidity as early access to intensive care is known to reduce serious complications.(1)This study was designed to identify patients who will benefit from the ERU model by comparing incidence of postoperative deterioration in the high and standard-risk cohorts of patients.

Methods: This single-centred, retrospective cohort study at a tertiary hospital (01/01/20 – 31/12/20) considered all vascular surgical patients (n=877), elective and emergency during the study period. Patients with planned ICU admission (n=171) and incomplete medical records (n=26) were excluded. The remaining patients (n=680) were risk stratified using the Surgical Outcome Risk Tool (SORT) into standard-risk (30-day mortality risk <5%) (n=475, 69.9%) and high-risk (30-day mortality risk >5%) (n=205, 30.1%). Incidence of MET activation and unplanned ICU admissions were compared between the cohorts.

Results: High-risk patients are more likely to experience MET activation than standard-risk patients ($X^2 = 71.39$, 1df, $p < 0.01$). Among high-risk patients, 29% (n=60) experienced a MET activation during their hospital stay compared to 6% (n=27) of standard-risk patients. Furthermore, high-risk patients are approximately 5 times more likely to experience a MET activation than their standard-risk counterparts (RR 5.15, 95%CI 3.37–7.86). Additionally, high-risk patients are more likely to require an unplanned ICU admission than standard-risk patients ($X^2 = 47.32$, 1df, $p < 0.01$). Among high-risk patients, 16% (n=33) required unplanned ICU admissions compared to 2% (n=10) of standard-risk patients. Furthermore, high-risk patients are approximately 8 times more likely to experience an unplanned ICU admission compared to their standard-risk counterparts (RR 7.65, 95%CI 3.84 – 15.21). In total there were 81 MET calls, including both standard-risk and high-risk patients. Commonest types of surgery involved with postoperative MET activation were amputations (n=29, 33.3%), arterial embolectomy (n=15, 17.2%) and wound debridement with washout (n=14, 16.7%).

Conclusion: The burden of high-risk vascular patients with postoperative complications in a non-ICU setting is undeniable. This could be addressed with appropriate disposition planning for high-risk vascular patients, and be the driver for establishing the proposed extended recovery unit.

References: 1.Pearse RM, Harrison DA, James P, Watson D, Hinds C, Rhodes A, Grounds RM, Bennett ED. Identification and characterisation of the high-risk surgical population in the United Kingdom. Critical care. 2006 Jun;10(3):1-6.

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Table 1: Incidence of Unplanned ICU Admission in Standard and High-risk postoperative vascular surgical patients

	ICU admission	No ICU admission
Standard Risk (n=475)	10 (2.1%)	465 (97.9%)
High Risk (n=205)	33 (16.1%)	172 (83.9%)

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yes

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Poster keywords

vascular, postoperative complications, ICU , MET activation , deterioration

51

Longer term outcomes in patients treated with intravenous iron (IV Fe) prior to elective cardiac surgery - a retrospective cohort study

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Abstract

Introduction: Preoperative anaemia has been shown to affect up to 40% of all cardiac surgical patients [1] and is associated with a range of poorer outcomes postoperatively. Anaemic patients have increased length of ICU stay , increased overall hospital stay, increased postoperative allogenic blood transfusions and higher mortality and morbidity[1-3]. Evans et al 2021 looked at the short-term benefits of treating patients identified as having iron deficiency anaemia (IDA) using the Cardiff Pathway [3] ; we assessed the long-term effects of treating IDA with IV Iron in this cohort.

Methods: We conducted a retrospective cohort study of 139 adult patients undergoing cardiac surgery in Cardiff (2015-2019). These patients had been identified as anaemic (Hb<130g/l) and iron deficient (serum ferritin <100µg/l) by the Cardiff Pathway and were treated with IV Iron (20mg/kg) [3]. The treated group were further sub-divided into treatment responsive and treatment unresponsive. Being treatment responsive was defined as achieving a haemoglobin (Hb) level > 130g/l on the day of surgery. The primary outcome was survival 90 days from surgery. Secondary outcomes included survival at 30 days & 1 year, and presence of postoperative complications within 90-days. These were assessed by electronic patient records and the local adult cardiac surgical database.

Results: Of the 139 patients, 71(51.08%) were anaemic and treated (AT) and 68 (48.92%) were anaemic and untreated (UA). 31% of group AT were treatment responders (Hb> 130g/l). Patients treated with IV Iron demonstrated reduced 30-day mortality (1.41% vs 4.42%(OR=3.23,95%CI=0.3-31.8, p=0.290)) and 90-day mortality (2.82% vs 5.88% (OR=2.16, 95% CI=0.3-12.18, p=0.373)) when compared with untreated patients. No IV Iron responders died within 90 days. The 1-year mortality was similar between the groups; 8.82% (n=6) from UA group and 8.45% (n=6) from AT group died after 1-year (OR=1.048, 95%CI=0.3-3.4, p=0.914). The corresponding log-rank tests were not statistically significant (p>0.05). Figure1. Kaplan-Meier survival plot 16 (23.25%) patients from UA group experienced at least one major postoperative complication (within 90-days) compared with 18 (25.35%) from the AT group. This was not statistically significant (p=0.998). The untreated group had more readmissions to hospital and emergency department attendance's within 90-days of surgery compared to the treated group. Figure 2. Long-term complications [Time Frame 90-days]. Data reported as number of patients (%).

Conclusion: This data supports improvement in mortality and trends towards reduced admissions in the treated iron deficient anaemics through the follow up period. Treatment of iron deficiency with or without anaemia remains a gap in research in cardiac surgery. Further investigation is required in a randomised controlled setting to formally assess patient benefit of treating preoperative IDA.

References: 1.Klein AA, Anaesthesia, 71,627-635,2016 2.Fowler AJ, British Journal of Surgery,102,1314-1324,2015 3.Evans C, Anaesthesia,76,639,2021

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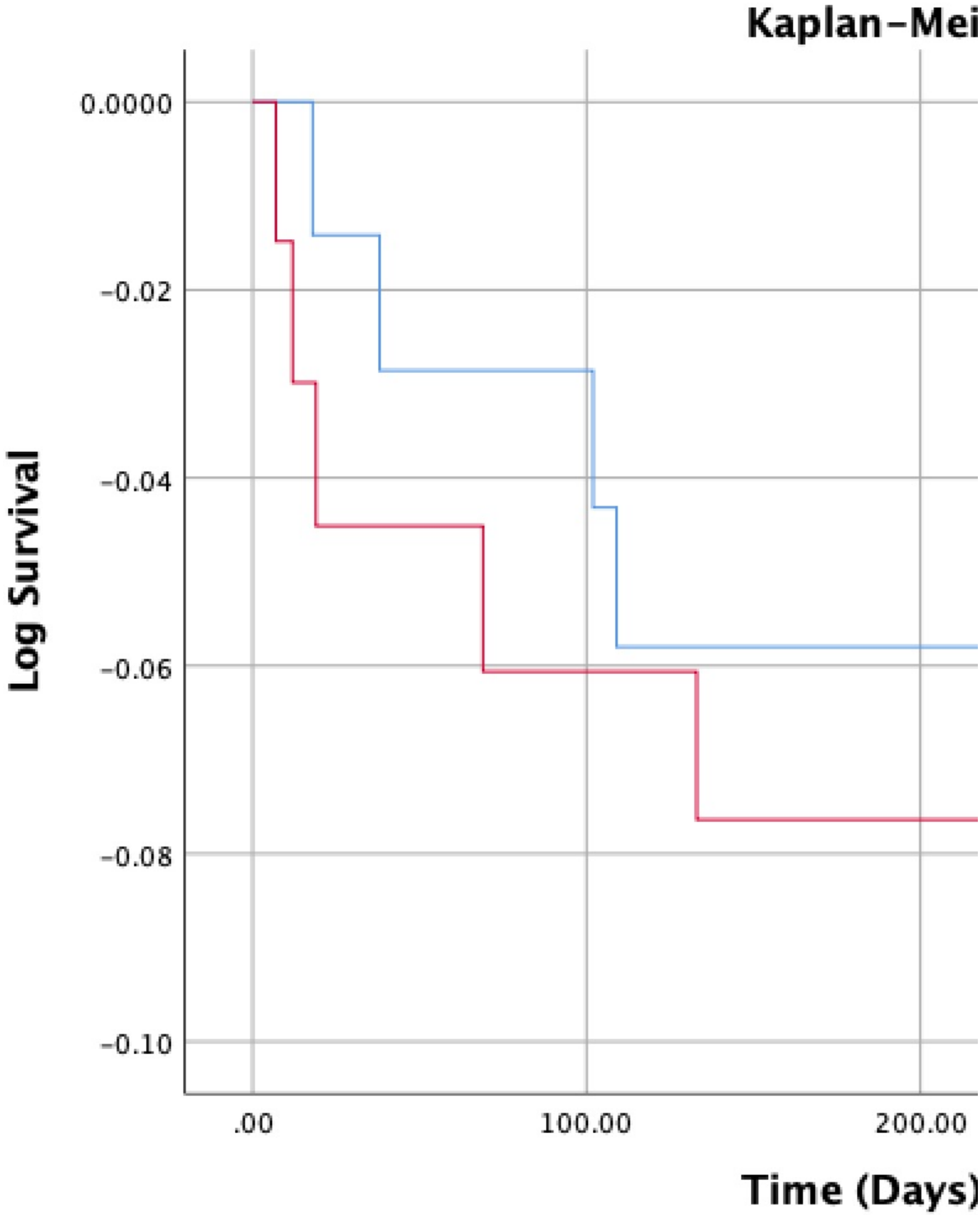

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Serious adverse event [Within 90 days]
Total Death
Emergency department attendanc
Readmission to hospital
Renal replacement therapy
Sternal wound infection
Return to theatre
Infection: sepsis
Readmission to ITU
GI complications
Endocarditis
Undefined infection
MACCES [Within 90days]
MI
Stroke

Stroke

TIA

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yes

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Poster keywords

Anaemia, Cardiac surgery, Iron, Intravenous , Haemoglobin

53

Perioperative Oxyhaemoglobin Saturation and Oxygen Therapy in Orthopaedic Surgical Patients: II. Oxygen therapy use in patients with high-normal SpO2

George Milner[1], Baven Balendran[2], Famila Alagarsamy[1], Alexandra M. Hogan[3]

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Abstract

INTRODUCTION: The risks of over-exposure to supplemental oxygen have been well-characterised in a diverse range of patient groups. British Thoracic Society (BTS) guidelines1 originally recommended a target saturation of 94-98% for those not at risk of hypercapnic respiratory failure. Newer BTS guidelines2 discourage higher SpO2 targets and encourage oxygen conservation in medical patients following concerns surrounding oxygen demand during the COVID-19 pandemic and the prevention of oxygen-toxicity generally. As part of an audit cycle of oxyhaemoglobin saturation (SpO2) and oxygen therapy post-orthopaedic surgery, we are able to assess rates of high-normal SpO2.

METHODS: Clinical audit approval allowed electronic notes review of adult patients (excluding COPD-cases) undergoing orthopaedic surgery between 30/03/20-26/04/20 and 28/12/20-24/01/21 at Addenbrooke's Hospital, Cambridge. These time periods coincided with Peak-1 and Peak-2 in UK hospital admissions for COVID-19. Averaged pulse oximetry (SpO2) and oxygen delivery values were calculated for discrete perioperative stages: pre-operatively; early ward-based day-of-surgery recovery averaged score; and, post-operative days 1-3 (average value across each day). Data were analysed using SPSS and the two audit cycles compared. Presentation to the Anaesthetics Department occurred following Peak 1 data.

RESULTS: Peak-1 included 83 patients total (median 73y 18-97y; 40-male; 40 [48.2%] ASA ≥3) and Peak 2 included 107 patients in total (76y 18-93y; 49-male; 50 [46.7%] ASA ≥ 3). From this cohort we identified those with SpO2 values ≥97%, and results are tabulated (Table 1). Across groups, O2-therapy was given to a number of patients with high-normal SpO2: pre-operatively-11/94 (11.7%), Early Recovery-82/137 (59.8%), and Post-operatively Day-1 17/76 (22.4%), Day-2 6/59 (10.2%), and Day-3 3/62 (4.8%).

CONCLUSION: The BTS 16.04.2020 guidance published by NICE for medical patients does not directly relate to perioperative patients, in whom early post-operative recovery and opiate-use often require oxygen therapy to avoid respiratory complications. However, hyperoxia could be equally harmful in perioperative patients and the fundamental aim of the BTS guidelines holds largely true, namely to strike a balance between oxygen need and delivery. This was particularly important during the COVID-19 pandemic. We cannot prove that all patients with high-normal SpO2 did not need oxygen-therapy, but we can suggest a need for increased awareness that oxygen therapy may not always be indicated, particularly when low-flows are used. Even in early post-operative recovery, where concurrent high-normal oxyhaemoglobin saturation and oxygen therapy were most prevalent, increased use of e.g. incentive spirometry might feasibly help decrease the prevalence of over-oxygenation.

1.O'Driscoll.BR.et.al.Thorax(2017)72(Suppl1):ii1-ii90 2.BTSGuidance:issued16.04.2020;viaNICE

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Table 1. Numbers (percentages) of perioperative orthopaedic patients who had SpO2 v
≥ 97%.

	Peak 1 – patients with SpO2 ≥ 97% 30/03/20-26/04/20	Peak 2 – patients with SpO2 ≥ 97% 28/12/20-24/01/21
Pre-Operative	**Not on O_2-therapy:** 31 (83.8%) **On O_2-therapy:** 6 (16.2%)	**Not on O_2-therapy:** 53 (93.0%) **On O_2-therapy:** 4 (7.0%)
Early Recovery – Post-Op on Ward	**Not on O_2-therapy:** 23 (41.1%) **On O_2-therapy:** 33 (58.9%)	**Not on O_2-therapy:** 31 (38.3%) **On O_2-therapy:** 50 (61.7%)
Post-Op Day 1	**Not on O_2-therapy:** 28 (77.8%) **On O_2-therapy:** 8 (22.2%)	**Not on O_2-therapy:** 31 (77.5%) **On O_2-therapy:** 9 (22.5%)
Post-Op Day 2	**Not on O_2-therapy:** 21 (87.5%) **On O_2-therapy:** 3 (12.5%)	**Not on O_2-therapy:** 32 (91.4%) **On O_2-therapy:** 3 (8.6%)
Post-Op Day 3	**Not on O_2-therapy:** 25 (96.2%) **On O_2-therapy:** 1 (3.8%)	**Not on O_2-therapy:** 34 (94.4%) **On O_2-therapy:** 2 (5.6%)

*Fisher's Exact

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Poster keywords

Oxyhaemoglobin, Oxygen saturation, Orthopaedic, Hyperoxygenation

54

Reducing referrals to Cardiology from the Preoperative Assessment Clinic: the impact of a weekly Cardiology-Anaesthetic MDT

Kate Evans, Emily Lear, Eric Holroyd
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Abstract

Introduction: Optimisation of patients awaiting surgery through timely access to secondary care specialists, is a requirement identified by the Royal College of Anaesthetists1. Locally, the majority of specialist referrals from the Preoperative Assessment Clinic (POAC) are to Cardiology. This is a significant burden and can result in surgical delay, as waiting times for appointments can be 8-12 weeks. This quality improvement project aimed to assess the impact of a weekly Cardiology-Anaesthetic-MDT (CA-MDT) on outpatient cardiology referrals from POAC.

Methods: A baseline audit of all patients referred to Cardiology from POAC was performed between 1st August 2019 to 30th November 2019. At that time there was no alternative mechanism to obtain a cardiology opinion. Following this a weekly CA-MDT was established between a Consultant Cardiologist and a Consultant Anaesthetist in Preoperative Assessment. The outcomes of the discussions were collected prospectively. The data was then audited for the dates 1st November 2020 to 1st March 2021. In addition, the impact on the patients' surgical journey was classified into 3 groups: proceed; defer; do not proceed.

Results: During the baseline period of data collection (August to November 2019) 29 patients requiring cardiology input were identified. Of those, 24 patients (82.8%) were referred to outpatient cardiology clinic; 5 were discussed with a Consultant Cardiologist (prior to formalisation of the CA-MDT). 13 patients required either additional investigations or cardiac surgery necessitating delay to their elective surgery for appropriate optimisation. 16 patients (66.7%) reviewed in the outpatient cardiology did not have their medical management significantly changed. Following the 2020-2021 data collection, 92 patients were discussed at the CA-MDT. Of those, 63 patients (68.5%) proceeded to surgery without further delay. Only 31 patients (33.0%) required referral to outpatient cardiology. Of the patients referred, 11 patients (35.5%) proceeded to surgery prior to outpatient review as they required 'routine' follow-up only. The remaining 20 patients (64.5%) were deferred or cancelled pending further investigation or treatment.

Conclusion: The advent of a Cardiology-Anaesthetic-MDT substantially reduced the referral burden on outpatient cardiology clinics from POAC. Previously, nearly all patients, 82.8%, with a cardiology query required an outpatient referral and this was reduced to 33.0%. Moreover, timely access to Consultant Cardiology input ensures the safety throughout patients' surgical journey while reducing unnecessary delays.

References: Royal College of Anaesthetists. Guidelines for the Provision of Anaesthesia Services for Preoperative Assessment and Preparation, London 2019

Program permission

yes

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Poster keywords

Cardiology, Preoperative Assessment, Multidisciplinary, Referrals

55

Fit4Surgery Prehabilitation pilot service for Leicester, Leicestershire and Rutland (LLR): the first 100 patients

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Abstract

Introduction: A 2 year pilot clinical service in LLR has been developed to provide multi-modal prehabilitation for up to 300 patients undergoing major surgery to optimise patients physically, nutritionally and mentally before surgery, to enable them to have the best chance of a successful recovery, as advocated by the Prehabilitation for People with Cancer guidelines. The Fit4Surgery Prehabilitation Pilot Service opened to referrals in January 2020 and has adapted in response to the COVID-19 pandemic.

Methods: This longitudinal cohort project offers patients a holistic assessment to produce a co-developed Personalised Prehabilitation Care Plan, comprising blended supervised and self-directed exercise (aerobic + resistance), dietetics advice, psychological support and healthy lifestyle advice. Patients are supported by written material and weekly telephone calls. Patients enrolled are those listed for major cancer surgery with ≥6weeks between referral and surgery. Prehabilitation occurs both during neo-adjuvant therapy and in the pre-surgery phase. Data collection remains ongoing due to delays in surgical pathways, but interim results from the first 100 referrals between January 2020 and November 2020 are presented.

Results: 100 patient referrals were received in 41weeks. Recruitment rates were high with 8% declining and 5% having a change to the surgical plan before assessment. Of the 87 who commenced the programme, 1% withdrew and 16% had a change to the management plan during the treatment period. Patient characteristics are described in table 1. 190 assessments and 1,270 patient weeks of prehabilitation intervention have been delivered for these 100 patients. 124 prehabilitation episodes were delivered, with 33 episodes provided during neoadjuvant therapy. Mean duration of episodes was 10.4 weeks [range:2-35weeks]. 52 patients have now undergone surgery with a further 11 having a change in surgical plan after prehabilitation (see table2).

Conclusion: This project has successfully initiated a pilot prehabilitation service for people preparing for major cancer surgery in Leicester, Leicestershire and Rutland. Participation has remained high during conversion to blended delivery support due to COVID-19. Limitations during this time have been the inconsistent availability of CPET for objective exercise capacity assessment to guide exercise prescription, and restricted access to objective outcome measures.

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Demographics	
Age (years)	71 [38-87]
Male	67
Diagnosis by speciality	**n**
Colorectal	38
Upper GI	37
Urology	16
Gynaecology	7
HPB	2
Nutritional Status (n=87)	**n (%)**
BMI <20	2 (2)
BMI 20-25	28 (32)
BMI 25-30	26 (30)
BMI >30	31 (36)
Co-morbidities (n=100)	**n**
No other co-morbidities	47
1 co-morbidity	31
≥2 co-morbidities	22
Health Behaviours	**n (%)**
Current smokers	12 (14)
Alcohol consumption >21units per week	7 (8)

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Programme Status	Substatus	n
In Programme	Exercise Pre-Surgery	8
	Suspended Pre-Surgery	4
No Prehab	Declined	8
	Surgical Plan change - Before Ax	5
Partial Prehab	Surgical Plan change - During Rx	14
	Withdrawn	1
Prehab complete, Not Operated	Surgical Plan change - After Rx	11
Prehab complete, Operated	Hospital Discharge	53

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yes

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Poster keywords

prehabilitation, pilot, clinical service, exercise, dietetics

56

Effects of a clinical prehabilitation programme on pre-operative fitness assessed via 60-second sit-to-stand test

Katie Bounsall[1], Annabelle Emery[1], Heather MacKinnon[1], Kathleen Wolff[1], Andrew Packham[1,2]
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Abstract

Introduction: Pre-operative fitness level is inversely associated with the incidence of cardiorespiratory complications, duration of hospital stay, and survival in patients undergoing major surgery (Sivakumar et al., 2020). As such, fitness assessments, e.g., cardiopulmonary exercise testing (CPET), are utilised in clinical practice to inform risk stratification for major surgery (ATS/ACCP, 2001). Patients stratified as 'high-risk' during CPET may benefit from interventions to improve their fitness, with the aim of reducing perioperative and postoperative complications. Prehabilitation describes interventions performed prior to surgery which promote physical and psychological health to reduce the incidence and severity of future impairment (Silva et al., 2013). The aim herein was to evaluate the effects of the University Hospitals of Leicester "Fit4Surgery" prehabilitation programme on pre-operative fitness level.

Methods: Participants awaiting surgery ± undergoing neoadjuvant therapy were referred to the Fit4Surgery programme for multi-modal prehabilitation – including home-based and/or supervised exercise training, nutritional support, and emotional support – alongside usual care in this single-arm pilot clinical service. Functional fitness was measured using a 60-second sit-to-stand test (STS60) pre- and post-prehabilitation. The number of chair stands performed in 60 seconds was recorded. During the Covid-19 pandemic, STS60 was performed within the participant's home and supervised remotely via video call. As data were normally-distributed, mean ± standard deviation are shown, and statistical analysis was a paired t-test ($\alpha = 0.05$) and Cohen's d effect size.

Results: Pre-operative patients (N=29, 55% male, age 64 ± 11 years) exhibited a moderate improvement to STS60 performance of 5 ± 8 repetitions (P=.001, d=0.5) from pre- to post-prehabilitation. STS60 performance met or exceeded the most stringent criteria for minimum clinically important difference of 5 repetitions (Bohannon & Crouch, 2018) in N=19/29 participants (Figure 1). The proportion of participants that met age- and sex-specific normative values for STS60 (Strassmann et al., 2013) increased from 31% to 55% from pre- to post-prehabilitation.

Conclusion: The preliminary efficacy of the Fit4Surgery prehabilitation programme to improve pre-operative fitness measured via STS60 was shown. An advantage of assessing fitness via STS60 – in comparison to CPET – was the ability to implement assessments remotely during the Covid-19 pandemic. Improvements to STS60 may be clinically relevant, as prior research has shown that worse STS60 performance was associated with longer artificial ventilation post-surgery (Gofus et al., 2020). Future analysis of the Fit4Surgery programme may reveal downstream benefits for postoperative recovery.

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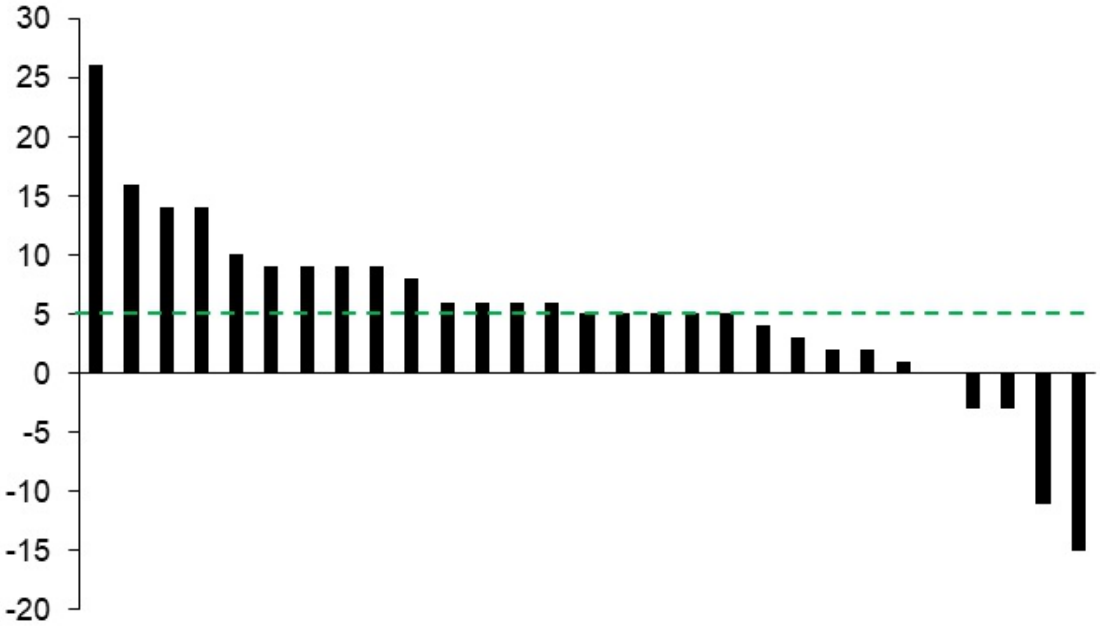

Figure 1. Change to STS60 test performance from pre- to post-prehabilitation ir *N*=29 participants awaiting major surgery. Green dashed line highlights a minimum clinically important change of 5 repetitions (Bohannon & Crouch, 2018) which was achieved by *N*=19/29 participants.

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yes

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Poster keywords

Prehabilitation, Outcome measures, sit-to-stand60, exercise

58

Risk documentation in consent form of open inguinal hernia repair

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Abstract

Inguinal hernia repair is amongst the most commonly performed general surgical operations. The high case load of groin repair in our hospital has the potential to have high risk of medical legal complications. The importance of discussing these potential complications with patients, allowing them to make informed decisions about their care, and clearly documenting them during the consent process, is clear. Aims: We aimed to assess the quality and consistency of consent forms for open inguinal hernia repairs with emphasis on the risks being documented. Objectives: 1) Assess quality of records of consent form documentation over a three-month period for open inguinal hernia repair. 2) Measure the compliance of Trust consent forms with Royal College of Surgeons (RCS) and British Hernia Society (BHS) 2016 guidelines and European Hernia Society (EHS) International guidelines for Groin Hernia Management (2019). Methodology: Retrospective consent form analysis was carried out for all (38) open inguinal hernia repairs carried out during July-September 2020. The documentation of 13 pre-determined risks,, was analysed, some specific to open inguinal hernia repairs, others general surgical complications. Results: A total of 38 Trust consent forms were audited. The majority of the consenting was done by registrars. As with the first and second phases of this audit, infection (100%) and bleeding (95%) were the most commonly documented risks. The documentation of chronic infection/abscess formation (5%), numbness (60%), testicular atrophy (31%) and scarring (34%) all increased compared to the two previous audit phases, the latter two significantly so. Unfortunately, many of the risks audited (62% 8/13) showed a decrease in compliance with documentation with only two of the examined risks meeting or partially meeting the criterion. recurrence and damage to other structures documentation dropped by over 10% (17% drop and 31% drop, respectively). • the documentation of abscess formation, urinary retention and testicular infection remains low (5% 2/38 for each criteria). Conclusions: 1) Documentation of risks remains below the desired standard 2) Trust consent forms remain in use Recommendations: 1) Regular re-audit to assess recommendations implemented. 2) Assess the documentation of sexual dysfunction at the next round of the audit. 3) Poster presentation of risks consent of hernia surgery to be put in the surgical office. 4) To introduce e-consent form. 5) To promote patient info leaflets with a confirmation statement that can be filed in the healthcare record.

Program permission

yes

59

The aPTT – A Crucial Player in the Diagnosis of Unexplained Perioperative Bleeding

William Jones[1], David Tucker[2], Michael Spivey[1]

[1]Department of Critical Care, Royal Cornwall Hospital, Truro, United Kingdom. [2]Department of Haematology, Royal Cornwall Hospital, Truro, United Kingdom

Abstract

Presentation: We present a case of a 67-year-old female who survived abdominal surgery with acute acquired haemophilia through prompt recognition and treatment of this rare condition. Our patient presented with haematuria and abdominal pain. CT KUB revealed acute cholecystitis with empyema, treated with uneventful laparoscopic cholecystectomy. Postoperatively, her Hb dropped by 3g/dL with blood in her abdominal drain, necessitating transfusion and a re-look laparoscopy which demonstrated no bleeding point. She remained haemodynamically compromised requiring Critical Care for vasopressor support with oozing of blood from drains and sites of line insertion. CT chest-abdomen-pelvis demonstrated widespread haematomas in the abdominal wall, port sites, hepatic recess and right paracolic gutter.

Investigations: The patient took no anticoagulants or anti-platelet medications. Bloods demonstrated a normal platelet count but coagulation screen revealed a newly prolonged activated partial thromboplastin time (aPTT) [Table 1]. The aPTT failed to correct with normal plasma, suggesting presence of an inhibitor in the clotting cascade. Factor VIII levels were low and a factor VIII inhibitor was detected by Bethesda assay, revealing a diagnosis of acquired haemophilia A (AHA).

Management: She was started on Factor VIII Anti-Inhibitor Coagulant Complex (FEIBA®) 50 U/kg 12 hourly and prednisolone 60mg OD, requiring a further 7 units packed red cells to maintain a Hb >7g/dL. She commenced cyclophosphamide 100mg OD. FEIBA and prednisolone were weaned and she was successfully discharged on cyclophosphamide. Over 8 weeks inhibitor levels became undetectable and factor VIII levels rose to normal.

Discussion: AHA is a rare disorder caused by spontaneous production of autoantibodies to factor VIII often leading to retroperitoneal and mucocutaneous bleeding. Mortality is high at 10-22%, often due to intra-cranial haemorrhage. Although 50% of cases are idiopathic, it can be associated with other autoimmune-disease, malignancy and drugs. Prompt recognition and treatment with FEIBA and immunosuppression is critical for survival of these patients. This case demonstrates that although a coagulation screen is not mandated preoperatively, a bleeding phenotype perioperatively must prompt a full coagulation screen.

Although the INR often claims the limelight, this case raises awareness into the importance of the aPTT, as an isolated prolonged aPTT that does not correct when mixed with normal plasma is critical in recognising this condition. AHA should be suspected in any perioperative patient with unexplained bleeding in the absence of a personal or familial bleeding history. Rapid recognition and early liaison with Haematology was key to this patient’s survival.

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Table 1.

Laboratory Investigation	Result
Platelet count (x10^9/L)	257
PT (s)	0.8
aPTT (s)	92.2
aPTT 4:1 mixing assay (s)	79.9
Factor IX, XI, XII levels (IU/dL)	All normal
Factor VIII level (IU/dL)	0.1
Factor VIII inhibitor level (Bu)	22.4

Table 1. Summary of this patient's perioperative coagulation profile

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Poster keywords

Bleeding, Haemophilia, Coagulation, Preoperative, Critical care

60

Impact of a prehabilitation programme on physical activity levels 3 months postoperatively during the covid-19 pandemic

Joshua Craig, Alexander Nesbitt, Esther Carr, Gerard Danjoux
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Abstract

Introduction: Physical inactivity in patients approaching major surgery is increasingly prevalent. It is an established risk factor for perioperative morbidity and mortality, in addition to having detrimental effects on longer-term health. Although patients prioritise short-term behaviour change for perioperative benefit (1), there is potential to influence longer-term engagement by capturing the 'teachable moment' before surgery through prehabilitation initiatives. This project aimed to assess changes in self-reported physical activity between baseline and 3-months post-surgery in patients enrolled on the PREPWELL prehabilitation programme during the Covid-19 pandemic.

Methods: Patients enrolled on the PREPWELL programme between 09/19 to 09/20 were eligible for inclusion. Self-reported physical activity levels were assessed at enrolment (baseline) and 3-months post-surgery (3MPS), using the validated Sport England short-form Active Lives Tool (2). Physical activity levels are calculated from 5 domains and categorised as Inactive (<30 minutes/week), Fairly Active (30-149 minutes/week) and Active (≥150 minutes/week) based on WHO recommendations. All patients were provided with an individualised exercise plan, for aerobic and strength training, with the majority home-based due to the Covid-19 pandemic. Number of self-reported strength training sessions was also recorded. The programme duration ranged from 4-8 weeks.

Results: Seventy referrals were received with 33 completed patient follow-ups for full analysis (24 male: 9 female, mean [range] age 69 [23-88] years).

Reasons for incomplete datasets: No surgery/discontinued=18, awaiting surgery=16, missing data=3. Median (IQR) weekly total physical activity levels were 70 (240) minutes at baseline and 70 (200) minutes 3MPS. Breakdown by physical activity category and self-reported strength sessions per week is shown in the table. The number of patients transitioning from Inactive to Fairly Active approached 10%, with numbers of Active patients unchanged. There was a slight increase in the number of patients conducting strength-training sessions at follow-up.

Conclusion: Self-reported physical activity levels ranged widely with >1/3rd of patients Inactive at baseline. One-third achieved WHO recommended activity levels throughout. Encouragingly despite Covid-19 enforced programme changes (virtual delivery), patient self-isolation for 6 months of the study period, and undergoing major surgery, nearly 10% of patients transitioned from Inactive to Fairly Active. This suggests potential for longer-term behaviour change in a substantial number of patients.

Reference(s): 1. McDonald S. Anaesthesia 2019. 2. Milton K. https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/short-active-lives-research-report.pdf

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Physical activity level	Baseline all patients (%) (n=70)	Baseline complete data se (%) (n=33)
Inactive	25 (35.7)	13 (39.4)
Fairly active	22 (31.4)	9 (27.3)
Active	23 (32.9)	11 (33.3)
>1 strength session/week	9 (12.9)	5 (15.2)

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yes

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Poster keywords

Prehabilitation, covid 19, exercise, activity levels, behaviours

61

Impact of enhanced recovery after surgery on geriatric syndromes and other outcomes in older adults undergoing elective colorectal surgery

Janani Thillainadesan[1,2,3], Minna Yumol[1], Michael Suen[1,3], Sarah Hilmer[3,4,5], Vasi Naganathan[1,2,3]
[1]Concord Hospital, Sydney, Australia. [2]Centre for Education and Research on Ageing, Sydney, Australia. [3]University of Sydney, Sydney, Australia. [4]Royal North Shore Hospital, Sydney, Australia. [5]Kolling Institute of Medical Research, Sydney, Australia

Abstract

Introduction: Enhanced recovery after surgery (ERAS) is increasingly applied in older adults undergoing colorectal surgery. This systematic review and meta-analysis evaluated the impact of ERAS on clinical outcomes including hospital-acquired geriatric syndromes, in older adults undergoing colorectal surgery.

Methods: This review was conducted according to PRISMA guidelines. Ovid MEDLINE, Embase, PsycINFO, Scopus, Cochrane Central Register of Controlled Trials, CINAHL and trial registry databases were searched. Two researchers independently screened all articles for eligibility. Randomised controlled trials evaluating enhanced recovery protocols in older adults undergoing colorectal surgery were included.

Results: Seven randomised trials (n = 1277 participants) were included. In terms of hospital-acquired geriatric syndromes, functional decline was reported in one study with benefits reported in enhanced recovery after surgery participants, and meta-analyses showed reduced incidence of delirium (RR 0.45; 95%CI, 0.21-0.98). Meta-analyses also showed reduction in urinary tract infections (RR, 0.53; 95%CI, 0.31-0.90), time to first flatus (SMD, -1.00; 95%CI, -1.98 to -0.02), time to first stool (SMD, -0.59; 95%CI, -0.76 to -0.42), time to mobilise postoperatively (SMD, -0.92; 95%CI, -1.27 to -0.58), time to achieve pain control (SMD, -0.59; 95%CI -0.90 to -0.28) and hospital stay (MD, -2.20; 95%CI, -3.46 to -0.94).

Conclusions: Enhanced recovery protocols in older adults undergoing colorectal surgery appear to reduce the incidence of delirium and functional decline, two important hospital-acquired geriatric syndromes, as well as improving other clinical outcomes. While these are promising findings, this review also highlights current evidence gaps including a lack of high quality ERAS trials that report on patient centred outcomes, and to date there have been no ERAS trials that report on older adults with frailty.

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Poster keywords

enhanced recovery, colorectal , geriatric syndromes, older adults, meta-analysis

62

Are Ice Lollies Better than Water at Quenching Post-Operative Thirst?

David Sleep, Jill Averis, Henry Murdoch
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Abstract

Introduction

Thirst is the most common source of post-operative discomfort, with up to 79% of patients experiencing moderate to severe thirst (Moonesinghe 2019). While water is often given, ice cubes have been seen to be better at quenching post-operative thirst than water (Lee et al. 2020). However, flavoured ice has also been shown to be better in laboratory studies at quenching thirst when compared to ice (van Belzen et al. 2017). Here we describe a quality improvement project using flavoured ice lollies to treat post-operative thirst. We aimed to determine whether ice lollies provided greater reduction in post-operative thirst compared with water alone.

Methods

Patients admitted to the Post-Anaesthetic Care Unit (PACU) were questioned on their pain and post-operative thirst using a Numerical Rating Scale (NRS). Glycopyrrolate or atropine administration was also recorded. Patients were given either water or ice lollies and their thirst re-scored. Patients were excluded if their questionnaire was incomplete, they were nil by mouth, had uncontrolled nausea and vomiting or if they refused the ice lolly.

Results

263 patients were recruited, with 140 and 46 questionnaires analysed in the water and ice lolly groups respectively (Table 1.). 72.0% of patients described moderate to severe post-operative thirst compared to 25.3% describing moderate to severe pain. There was no significant difference in thirst between patients given (n=45) and not given (n=141) anti-muscarinic medications. Thirst scores were initially higher in the patients given lollies ($p<0.05$). Both water and lollies reduced thirst, with no significant difference between groups after intervention. The decrease in thirst scores was therefore significantly greater in those patients given lollies than water (Fig 1. $p<0.001$).

Conclusion

Post-operative thirst is a significant source of discomfort in our department, with a greater percentage of patients describing moderate to severe thirst than pain. Whilst water is an effective means of reducing thirst, we have shown flavoured ice lollies are significantly better at reducing post-operative thirst when compared to water. The causes of increased post-operative thirst are likely multifactorial. However, in contrast to other studies (Lee et al. 2020), we have not found anti-muscarinic medications to significantly increase thirst.

The data presented here encourages the use of ice lollies to treat post-operative thirst. We plan to extend this project into other areas of our department with an aim to reduce post-operative discomfort and improve patient experience.

References

Lee CW et al. Sci Rep. 2020 09 30;10(1):16183.

Moonesinghe R. Perioperative Quality Improvement Programme, Annual Report 2018-2019. The Royal College of Anaesthetists, 2019.

van Belzen L et al. Physiol Behav. 2017 Oct 15;180:45-52.

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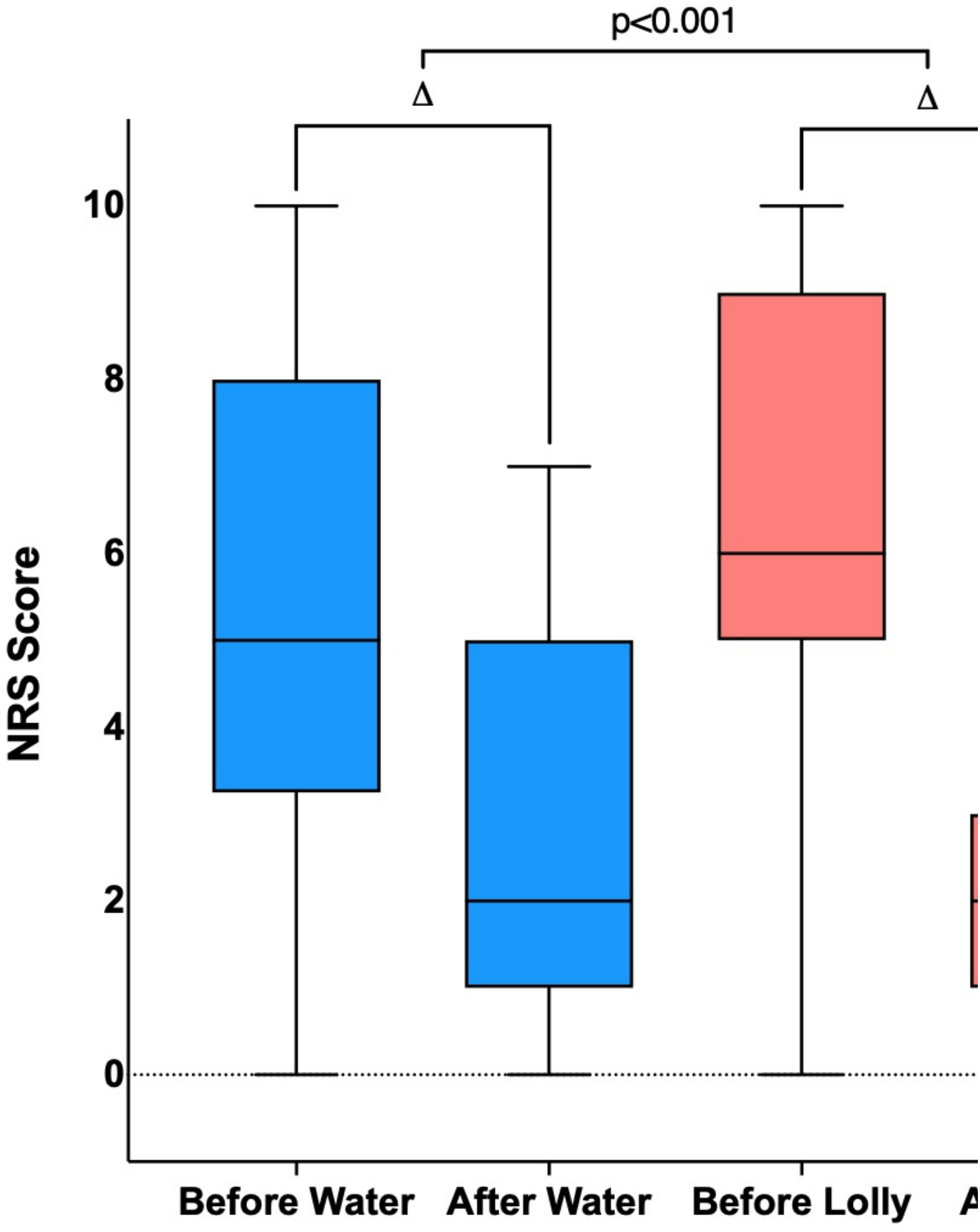

Figure 1. Box plot showing NRS thirst scores before and after interv
lollies gave a significantly greater reduction in NRS scores (Δ) than v
mean NRS reduction of 4.3 (SD±2.5) with lollies compared to 2.6 (SD±

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	Water Given		Lolly Given	
	n		n	
Total Patients	177		86	
Incomplete Questionnaires	25		11	
Uncontrolled PONV	12		7	
Refused Lolly	N/A		22	
Total Analysed	**140**		**46**	
Given Atropine	1		2	
Given Glycopyrrolate	32		13	
	n	**%**	**n**	**%**
Pain Scores				
None	59	42.1	21	45.
Mild	46	32.9	13	28.
Moderate	20	14.3	5	10.
Severe	15	10.7	7	15.
Thirst Scores				
None	11	7.9	3	6.5
Mild	36	25.7	2	4.3
Moderate	41	29.3	19	41.
Severe	52	37.1	22	47.
	mean	**SD**	**mean**	**SD**
Mean NRS score before intervention	5.4	±2.8	6.3	±2.

Mean NRS score after intervention	2.8	±2.3	1.8	±1.
Mean reduction in NRS score	2.6	±2.0	4.3	±2.

Table 1. Tabulated data derived from questionnaires performed ir operative pain and thirst, both pre and post intervention.

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Poster keywords

Thirst, Pain, Ice Lollies, Recovery, Discomfort

63

Orthopaedic Patient discharged on IV ABX Through a PICC line

karim Elfergani, Michael Hughes, Ahmed Mattar
Kings college Hospital, london, United Kingdom

Abstract

Introduction:

1) Creating a pathway for safely discharge patients with a Picc line

2) Improving the quality of documentation regarding the Picc and a long term antibiotic therapy for Orthopaedic patient

3) Ensure a good follow up of these patient including blood monitoring ,wound review and Picc line removal.

Methods:

Data collected from 01/01/2020 till 31/08/2021 287 patients discharged from the hospital with Picc line, 17 patients were orthopaedic discharged with Picc line.

Result:

1) One patients had line for 3 weeks longer than the duration of abx resulting in septicaemia admission

2) Three patients had the line after the end of abx - infected line and removed then abx therapy

3) Letter being written to DN for Line removal , they not compliant to that

4) Some taken out same day after OPC review and others taken out by conferring hospital

Discussion:

1)There is no formally agreed pathway of discharging patient with Picc line in Situ.

2) Patient are at risk of getting line infected and septicaemia

3) No leaflets are given to the patients on how to clean / flush the Picc line

4) Missing information on what should they do if there is leakage from the line

5) Highlighting the red flags of thrombus (swollen arms and neck)

6) No follow up appointment given to some patient for Abx level to be checked with the GP

Actions/conclusion/proposed changes:

1) Consider appropriate abx to be given

2) Arrange OPC review of the patients before removal of Picc line .

3) Leaflets to be given to the patients informing all what they need to know about picc line

4) Arrange GP abx level checks , FBC, U&Es, LFTs

5) Considering at the picc line details in the discharge summary to be clear for the patient and staff.

Authors: Karim Elfergani, Michael Hughes ,Ahmed Mattar, Calre Porte year 2020

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Poster keywords

Orthopaedic team, Picc line, QIP, PRUH, patient safety

64

The effect of pre-operative exercise intervention on patient outcomes following bariatric surgery: a systematic review and meta-analysis

Belinda Durey[1,2], Dominic Fritche[3], Daniel Martin[4,5,6], Lawrence Best[4,7]

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Abstract

Introduction: Pre-operative exercise is an emerging option for improving post-operative outcomes in bariatric surgery (BS), however, its efficacy remains uncertain. This systematic review aims to determine whether pre-operative exercise improves post-operative and long-term clinical outcomes for patients undergoing BS.

Search methods: In accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines an electronic review was conducted by searching MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL), SPORTDiscus, and the reference lists of relevant papers. The first search was conducted 01 March 2020. Due to the COVID-19 related delay, a second search was completed in March 2021. No further papers were identified.

Selection criteria: Two reviewers independently extracted data on outcomes and study quality. The systematic review only included studies that were randomized controlled trials and involved pre-operative exercise intervention in adult BS patients. Data collection and analysis Dichotomous data were analysed as risk ratios with 95% confidence intervals. Continuous data were analysed as mean differences with 95% confidence intervals when the outcome used the same units across trials, or standardised mean difference with 95% confidence intervals when different units were used. Study investigators of the included studies were contacted about any missing or unreported data.

Results: From 2423 articles initially screened five were included (n = 199 patients). Interventions varied in length, intensity, mode and frequency of delivery, ranging from individualised and supervised programmes to self-directed physical activity (PA) advice. Modest increases in cardiorespiratory fitness (VO2max) were found at both pre-operative (0.73 mL•kg−1•min−1 : $P \leq 0.001$) and maximum follow-up time points (0.98 mL•kg−1•min−1 : $P \leq 0.04$). There was no significant effect of exercise intervention on %total weight loss (mean difference 0.94, 95% CI -1.61 - 3.48).

Conclusion: Pre-operative exercise intervention can induce significant short- and long-term improvements in fitness in individuals with obesity. There is insufficient evidence to determine whether pre-operative training impacts post-operative clinical outcomes.

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Poster keywords

meta-analysis, bariatric surgery, preoperative intervention

65

Enhanced Peri-Operative Care – establishing a multidisciplinary quality agenda

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[1]Department of Anaesthesia and Intensive Care Medicine, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom. [2]Birmingham Acute Care Research (BACR), University of Birmingham, Birmingham, United Kingdom

Abstract

Introduction: The NHS in the UK delivers over 2.7 million general anaesthetics (GA) to patients undergoing surgical procedures annually. Overall, 48.23% of patients receiving GA are low risk (ASA 1-2), though immediate, urgent and expedited procedures are disproportionately weighted towards ASA 3-5 patients. (1) Risks may be modified during the perioperative period – traditionally requiring admission to a critical care unit. The COVID-19 pandemic reduced critical care capacity for patients receiving non-emergency surgery at the Queen Elizabeth Hospital Birmingham (QEHB); in response a dedicated postoperative care service was developed for patients at risk of deterioration and complications. Between June 2020 and May 2021, 530 patients were treated in the EPOC unit – most of whom would otherwise have been admitted to critical care (or had their procedure cancelled if no capacity). We describe here the processes used to develop a quality agenda for the unit. This will facilitate the collection of quality indicator data that is important to patients and clinicians, is aligned to national standards and best evidence, and can be used to inform quality improvement work.

Methods: A questionnaire was distributed to all key stakeholders via email. Respondents were asked to consider core values, purposes, and aims for the new EPOC service. Responses were grouped into themes, and used as prompts for discussion during the subsequent meeting.

Results: Responses to the questionnaire were received from 28 members of the multidisciplinary team (Table 1). The most commonly expressed core values for the EPOC service were safety, teamworking and individualised care. The most commonly expressed purposes were to unburden ICU, and to act as a bridge between ward-level and critical care. Views of patients admitted to the EPOC was combined with clinicians' ideas to generate key themes for ongoing service development (Figure 1). These values, purposes and aims were discussed at a meeting between key stakeholders (simultaneously in-person and via video conferencing). Minutes from this meeting were recorded in real-time on an interactive web-based platform (Padlet®, 3) and used to produce a departmental vision and driver diagram.

Conclusion: The survey findings and subsequent meeting have been used to develop a 'mission statement' for the EPOC service, which will define its function as the service continues development.

1. Sury MRJ, Palmer JHMG, Cook TM, Pandit JJ. The State of UK anaesthesia: a survey of National Health Service activity in 2013 †. British Journal of Anaesthesia. 2014 Oct;113(4):575–84. 2. Https://padlet.com

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Table 1: breakdown of to pre-meeting questio
Member of the multidisciplinary team
Anaesthetist
Critical care doctor
Surgeon
Physiotherapist
Hospital manager
Pharmacist
Healthcare assistant
EPOC nurse

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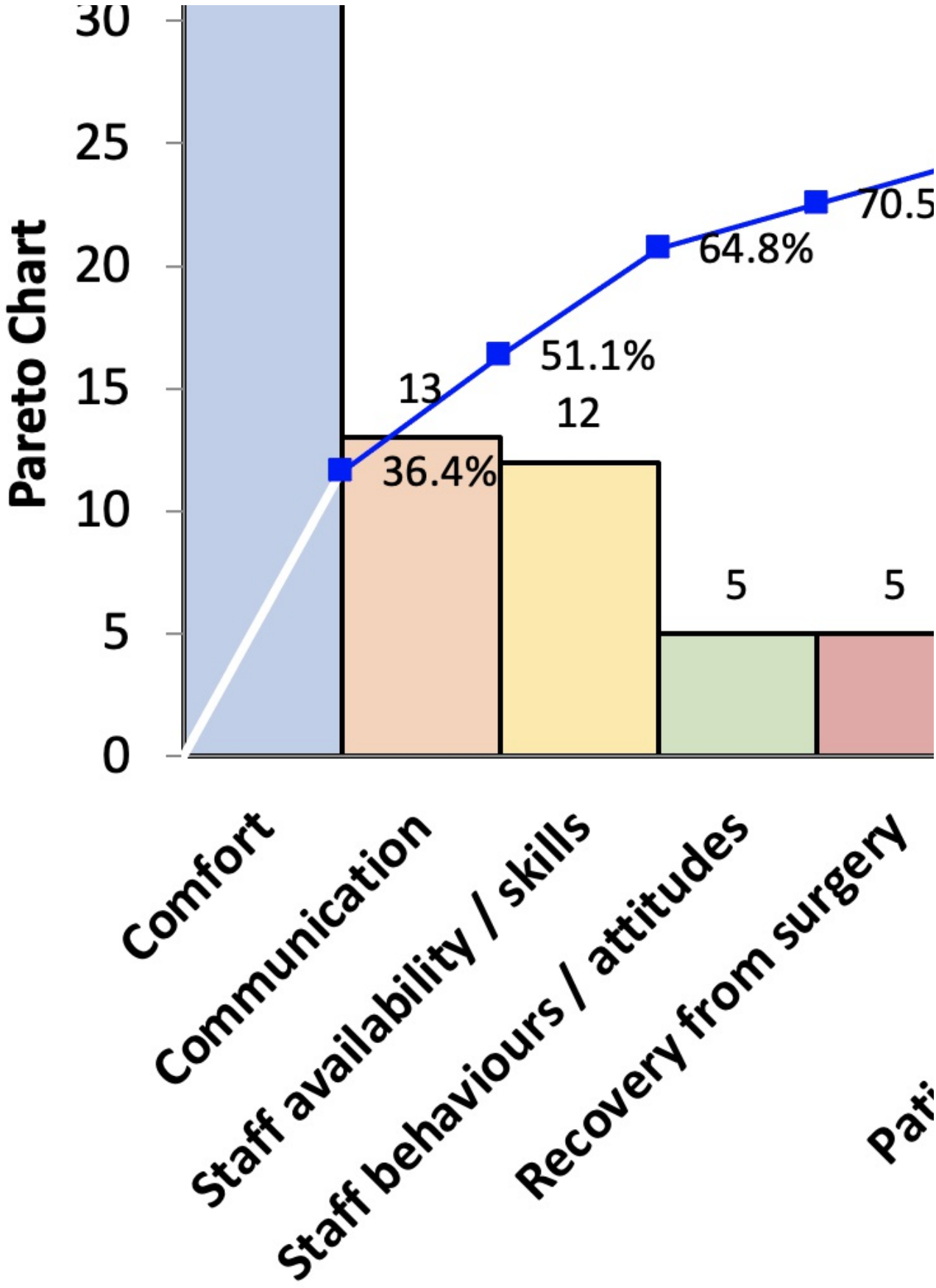
Pareto Chart
30
25
20
15
10
5
0
13
12
5
5
36.4%
51.1%
64.8%
70.5
Comfort
Communication
Staff availability / skills
Staff behaviours / attitudes
Recovery from surgery
Pati

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Poster keywords

Level 1, Postoperative care, Quality improvement, Multidisciplinary

66

Contrast Induced Nephropathy in Patients with Renal Impairment

Schnell D'Sa*, Savraj Kalsi*, Soubhik Pal
Peterborough City Hospital, Peterborough, United Kingdom

Abstract

Background: Contrast induced nephropathy (CIN) is defined as kidney damage related to the exposure of CT contrast.(1) The most common measurement used to define kidney injury is a rise in serum creatinine of ≥25%.(2,3) Timely administration of IV fluids before and after contrast administration can significantly reduce the risk of CIN.(4) At Peterborough City Hospital, no guidelines exist regarding the prevention of CIN in patients with impaired renal function.

Method: Data collection between June 2019 and May 2020 included 88 patients with an eGFR <30 having a contrast CT and repeat renal function test within 72 hours. Patients on haemodialysis/ peritoneal dialysis or who had missing data were excluded, leaving 51 patients. Comorbidities (CKD, HTN, DM, HF, LF) , medication history (NSAIDs, ARB, ACEi, Diuretics, Antibiotics), renal function and IV fluids pre- and post-contrast were collected and analysed using Microsoft Excel.

Results: CIN was defined as a reduction >20% in eGFR within 72 hours after contrast administration. Accordingly, 4 out of 51 patients (7.8%) developed CIN, of which 2 (50%) received IV fluids before and after contrast. Of the entire cohort 29 out of 51 patients (57%) received IV fluids pre-contrast CT. Within the CIN group 75% were on nephrotoxic medications compared to 39.2% in the non-CIN group. The CIN group was found to have an average of 2.5 comorbidities per patient and non-CIN group had 1.8 comorbidities per patient.

Key messages: There is a low rate of CIN at Peterborough City Hospital according to our study, however the small sample size may not provide a good representation. Notably, there is poor administration of IV fluids in patients with known renal impairment prior to contrast CT. ICE system intervention to prompt IV fluid administration on requesting contrast CT will be implemented and evaluated in future study.

References: 1)Mohammed, N., Rafie, I., Mahfouz, A., Achkar, K. and Hajar, R., 2013. Contrast-induced nephropathy. Heart Views, 14(3), p.106. 2)Mehran, R. and Nikolsky, E., 2006. Contrast-induced nephropathy: Definition, epidemiology, and patients at risk. Kidney International, 69, pp.S11-S15. 3) Murphy, S., Barrett, B. and Parfrey, P., 2000. Contrast Nephropathy. Journal of the American Society of Nephrology, 11(1), pp.177-182. 4)Goldenberg, I., 2005. Nephropathy induced by contrast media: pathogenesis, risk factors and preventive strategies. Canadian Medical Association Journal, 172(11), pp.1461-1471. * Please note that authors Schnell D'Sa and Savraj Kalsi contributed equally to this work.

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Poster keywords

Nephrology, Contrast Induced Nephropathy, Renal Impairment, Quality Improvement Project, Radiology

67

Survey to review how clinicians consent surgical patients for a blood transfusion pre and post operatively and if this aligns with consent advice provided by national standards

Shaida Khodatars, Duncan Kemp, Sonali Thakrar
Hammersmith Hospital, London, United Kingdom

Abstract

Hammersmith Hospital is a tertiary referral centre for specialist surgery including cardiac, hepatobiliary and complex gynaecological surgery where blood transfusions are a common occurrence. We were interested in reviewing the process by which patients are consented for blood transfusions and if the consent process met the national standards as set out by the National Institute for Health and Care Excellence (NICE) (1) and the Joint United Kingdom Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee (2).

Methods: An online survey of clinical staff between 05/06/2020 and 10/07/2020 comprising of questions related to their usual practice for consenting patients for blood transfusions. Analysis of data was performed by using microsoft excel 2010.

Results: We obtained 55 responses from a mix of surgeons, intensivists and anaesthetists. Consultants contributed the most with the remainder of responses being from registrars and senior house officers. The results showed that 18% of clinicians did not routinely consent their patients for blood transfusions. Of those who did, only 15% offered alternatives such as cell salvage, tranexamic acid, etc. Figure 1 shows the different risks clinicians consented their patients for (N/A being the option for no consent to risks). All respondents confirmed they did not routinely inform patients that they would no longer be eligible to donate blood in the future. No respondents reported providing written information.

Conclusion: Our survey shows a number of clinicians are unaware of the common risks of blood transfusions and do not offer alternatives. In accordance with NHS blood and transplant, we believe patients should be fully informed and involved in decision making. We therefore proposed providing patients a blood transfusion information leaflet on the day of surgery to ensure they are fully informed and can be involved in shared decision making. We aim to distribute leaflets to all elective surgical patients on the morning of their procedure and subsequently audit the provision of patient information on blood transfusion in due course. A re-fresher in education on blood transfusion will also be offered to clinicians.

References: www.nice.org.uk. (n.d.). Quality statement 4: Patient information | Blood transfusion | Quality standards | NICE. [online] Available at: https://www.nice.org.uk/guidance/qs138/chapter/Quality-statement-4-Patient-information [Accessed 10 Jul. 2020b]. www.transfusionguidelines.org. (n.d.). Consent for Blood Transfusion. [online] Available at: https://www.transfusionguidelines.org/transfusion-practice/consent-for-blood-transfusion-1 [Accessed 10 Jul. 2020].

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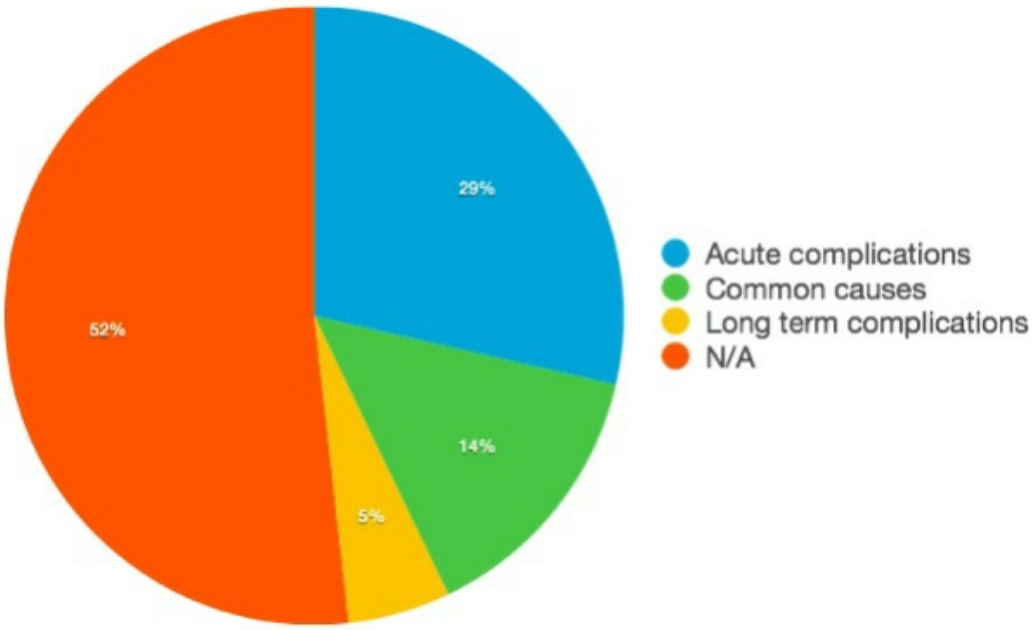

Figure 1: Pie Chart to show the different percentages of each complication consented for.

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Poster keywords

blood, transfusion, consent, survey, risk

68

Pre-operative presentation of a Ventricular Septal Defect at a District General Hospital

Rebecca Hawes, Deepa Kurup
Barnsley District General Hospital, Barnsley, United Kingdom

Abstract

Introduction: Ventricular Septal Defects (VSD) can present with potentially serious perioperative consequences. They have been categorised by the European Society of Cardiology as one of four causes of pulmonary arterial hypertension (PAH)[1]. VSDs are a rare (1-2%) complication following an acute myocardial infarction commonly occurring within 14 days of the event.

Case report: A 74-year-old woman attended pre-operative assessment clinic following a new diagnosis of breast cancer planned for an urgent mastectomy. She reported a history of hypertension and minimal breathlessness on exertion. Her medical records identified a hospital admission five months prior with lethargy and breathlessness. Investigations at the time showed iron deficiency anaemia with no clear cause, and an ECHO revealed moderately reduced biventricular systolic function and evidence of PAH without quantification. Angiography showed severe proximal diagonal branch disease, not amenable to stenting, but all other vessels were clear of disease. She was later discharged following medical management of pulmonary oedema.

The pre-assessment clinician requested a repeat ECHO to evaluate her PAH. A high peak pulmonary artery systolic pressure of 52-57mmHg was found, but no evidence of shunt. Subsequent review of the images identified a VSD with an 82mmHg pressure gradient. Her case was discussed with the regional cardiothoracic unit who advised transfer of care. Trans-oesophageal ECHO highlighted an apical VSD with left to right blood flow, pulmonary-systemic flow ratio of 1.7. Apical dyskinesis was seen with an impaired ejection fraction of 36%. The operator felt the appearance was in keeping with a post-infarction muscular defect. She underwent an urgent repair at the cardiothoracic centre and later received uneventful surgical treatment for her breast cancer locally.

Discussion: Ventricular septal rupture is a rare complication of acute MI; failure to identify and treat carries high mortality[2]. The patient did not recall any episodes of chest pain indicating a triggering event. We can only presume that prior to her hospital admission five months earlier she had a cardiac event. Evidence of PAH was present on the initial ECHO; however, it was not a focus of the request; and was neither quantified nor followed up. This case highlights the need for further investigation in those without a known cause of PAH to prevent unnecessary perioperative risk.

References: 1.Galiè N, Humbert M, Vachiery JL, et al., European Heart Journal, 37, 67-119, 2016. 2.Khazi FM, Al-Safadi F, Karaly Y et al., Annals of Cardiac Anaesthesia, 22, 30-34, 2019.

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Poster keywords

Ventricular Septal Defect , Pulmonary Hypertension, Perassessment, ECHO

69

Retrospective data audit reviewing pre-operative pregnancy testing in women of childbearing age compared to NICE guidelines

Shaida Khodatars, Duncan Kemp, Sonali Thakrar
Hammersmith Hospital, London, United Kingdom

Abstract

Pregnancy testing in all women of childbearing age should be performed pre-operatively to ensure there is no case of unknown pregnancy which could potentially be affected by anaesthesia and or surgical intervention by causing miscarriage, intra uterine growth restriction or low birth weight (1). Hammersmith hospital is a busy tertiary referral centre with a high turnover of complex surgical procedures. We reviewed retrospective data to conclude if the trust adequately documented pre-operative pregnancy test results as set out by the National Institute for Health and Care Excellence (NICE) guidelines (2)

Methods: Retrospective review of case notes of women aged 16-49 attending for surgery between 04/12/2019 and 30/12/2019 pre-COVID. Statistical analysis was performed using Microsoft Excel 2010. Results 106 notes were collected. We excluded ERCP procedures as pregnancy would be confirmed by ultrasound prior to surgery. Analysis of the results showed that 93% of the procedures were elective of which the majority were from gynaecology, renal, ENT and HPB specialties. The majority of gynaecology procedures being that of hysteroscopy.

Compared to the NICE guidelines, only 79% had a documented conversation regarding their pregnancy status, 6% had written consent for a urine test, and 59% had had their pregnancy test documented. Figure 1 shows the patients whom had a documented pregnancy test. Of the patients with a documented pregnancy test, four of the patients had no preceding conversation or given consent for the test. It was also found that for two patients who tested positive on their test, the anaesthetist had not had a conversation regarding the effects of anaesthesia with the patient.

Conclusion: Our audit shows inadequate consent and documentation of patients' pregnancy status when considering NICE guidance. We propose to alter our perioperative WHO checklist to include confirmation of pregnancy status at sign in and to offer an education cycle for nurses, anaesthetic assistants and anaesthetists with regards to preoperative tests and NICE guidance. We aim to prospectively re-audit the data following our interventions.

References: Walton N, Melachuri V, Anaesthesia for non- obstetric urgery during pregnancy, British Journal of Anaesthesia, 2006; 6: 83-85. Nice.org.uk. (2016) Recommendations / Routine preoperative tests for elective surgery / Guidance / NICE [online] Available at: https://www.nice.org.uk/guidance/ng45/chapter/Recommendations

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Figure 1. Pie chart to show the number of patients with a documented pregnancy test

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Poster keywords

pregnancy, NICE, testing, WHO checklist

70

Audit - Neck of Femur Fracture Management compliance with national guidelines.

Amit Kurani[1], Sunita Setty[2]
[1]Royal Free London Foundation Trust, London, United Kingdom. [2]Department of Anaesthetics, Barnet Hospital, Royal Free London Foundation Trust, London, United Kingdom

Abstract

Introduction: The annual incidence of neck of femur fractures is 77,000 (1) and the estimated cost of treatment per patient is £25,000. It is imperative to optimise patients peri-operatively and provide excellent care. The average age at presentation is 83 years old, and early surgery is the key to successful outcomes (2).

Objective: We set out to retrospectively profile local compliance with national standards (NICE (3)) for peri-operative care of neck of femur fractures.

Method: 20 patients were retrospectively, randomly selected from the database and their records reviewed.

Results: The mean presentation age was 82 years old and 85% of cases were ASA grade 3 and above. The Nottingham Hip Fracture Score was documented in 0% of cases and a clinical frailty score was documented in 50% of cases. Orthogeriatrician review should take place within 72 hours of admission (compliance in 82% of cases). Surgery should be performed within 36 hours of admission (compliance in 65% of cases). In the remaining 35% of cases, 20% had an acceptable delay due to further pre-operative optimisation and 15% of cases had unacceptable delay.

Pre-operative delirium assessment was performed in 80% of cases and reassessed in 30% of cases post-operatively. 90% of patients had pre-operative albumin checked. A low albumin is associated with increased post-operative morbidity (3). All patients received optimum analgesia in first 24 hours of admission. The average length of stay was 18.4 days compared with the national average of 15.5 days. The post operative mortality within 30 days of admission was 20% compared with the national average 6.5% (4).

Conclusion: This audit highlights the areas of good performance such as analgesia on admission and prompt orthogeriatrician assessment. The implementation of a national neck of femur fracture framework pathway and ongoing education of trainees would be a step towards excellent and safe care.

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yes

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Poster keywords

Audit, Neck of Femur, NICE

71

Electronic Pre-Assessment: A New Era

Georgina Eaton[1], Hanna Harrison[2], Sarah Bland[2], Alexa Mannings[2], Andy Dennis[2], Stephen Radley[2]
[1]The University of Sheffield, Sheffield, United Kingdom. [2]Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom

Abstract

Introduction: Sheffield Teaching Hospitals (STH) has used an electronic personal assessment questionnaire (ePAQ-PO) to help streamline the pre-operative assessment (POA) process for the past three years. The questionnaire provides a standardised approach for selected patients (anticipated to be ASA I or II) and aims to improve the pre-assessment experience for the patient, providing a more targeted approach to subsequent clinician led review and assessment. Incorporation of this electronic questionnaire was found to reduce the POA appointment time with the nurse by over 50%(1).

Patients would complete this questionnaire at a computer terminal within the pre-op assessment clinic. In March 2020, during the first wave of the COVID-19 pandemic in the UK, a process began involving review of ePAQ-PO to inform the generation of an updated version of the questionnaire. Redeployment of POA staff to support wards and critical care, loss of pre-assessment facilities, social distancing, and efforts to minimise face-to-face contact and hospital attendance meant that the department was unable to continue to utilise ePAQ-PO as a POA tool (see figure). Our goals shifted to developing an electronic questionnaire that could adapt to meet the challenge of providing remote off-site patient assessment.

Methods: Alongside our planned work to review individual questions and their validity and effectiveness we worked with developers to generate electronic tickets and automated email invitations to enable patients to and complete the questionnaire via their own electronic devices.

Other changes include:

•Questionnaire report review via telephone consultation

•Expansion of inclusion criteria for ePAQ-PO pathway

•Adaptation of questions to suit remote POA

Results: Utilising remote access, we have been able to utilise ePAQ-PO to allow the unit to achieve substantially higher numbers of pre-op assessments than we could achieve face-to-face during this challenging time.

Conclusions: Supporting remote electronic patient completed pre-op assessment has been a long-term goal for the ePAQ-PO project. The challenges of COVID-19 have driven and accelerated the development of this pathway with many benefits to the POA clinic and patients, in conjunction with work done to improve the questionnaire and bring it more in-line with local pre-op assessment guidelines.

References: 1. Taylor SK, Andrzejowski JC, Wiles MD, Bland S, Jones GL, Radley SC. A prospective observational study of the impact of an electronic questionnaire (ePAQPO) on the duration of nurse-led preoperative assessment and patient satisfaction. PLoS One. 19;13(10). 2018

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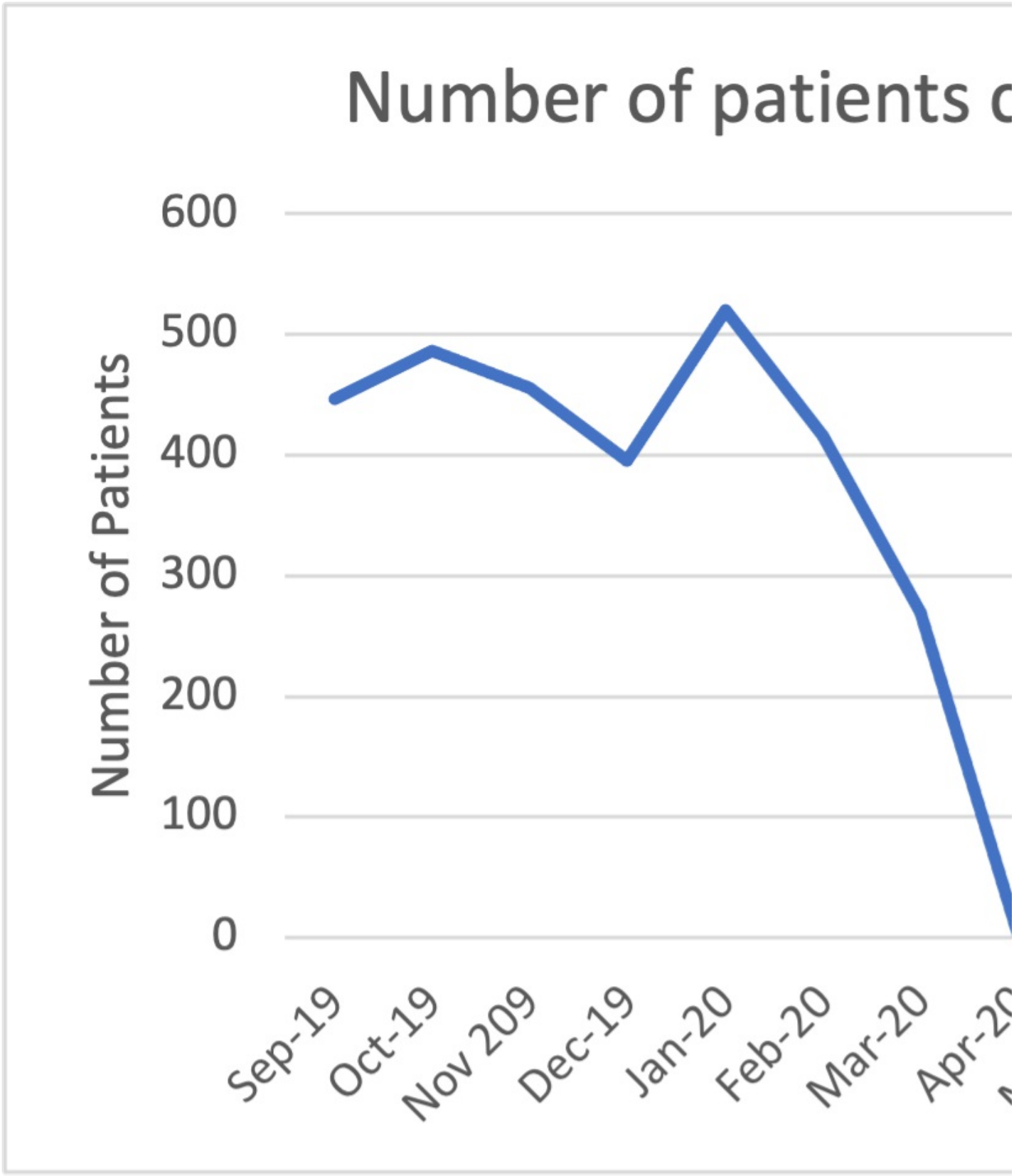

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Poster keywords

Pre-operative Assessment, Electronic Pre-operative Assessment, Pre-operative, Subjective Airway Assessment, Airway Assessment

72

Comprehensive geriatric assessment, a useful tool to support shared decision making in the management of abdominal aortic aneurysms

Catherine Meilak[1], Judith Partridge[2], Jawaharlal Senaratne[1], Thomas Rix[1], Emma Sans Solachi[1], Lizzie Forsyth[1], Jugdeep Dhesi[2]

[1]East Kent Hospitals University NHS Foundation Trust, Canterbury, United Kingdom. [2]Guys and St. Thomas' NHS Foundation Trust, London, United Kingdom

Abstract

Introduction: The controversy around whether, when and how to repair abdominal aortic aneurysms (AAAs) persists as a consequence of limited long-term data reporting on modern day techniques, guidelines such as those developed by NICE and the resulting consultation, editorials and recent studies 1,2,3. Whilst we await multicentre studies and big data registries to answer unanswered questions regarding AAA repair, the interruption to elective aneurysm surgery necessitated by the COVID-19 pandemic, has resulted in growing waiting lists and requires an immediate response. This should be viewed as an opportunity to redesign pathways and services better aligned to patients' wants and needs 4,5.

Methods: We established a consultant-led, multidisciplinary, comprehensive geriatric assessment (CGA) based Perioperative care of Older People undergoing Surgery (POPS) service at a district general hospital.

Referral criteria: multimorbidity, frailty, cognitive impairment and difficult decision making. Prospective data was collected to analyse patient outcomes.

Results:

•102 AAA patients were seen between October 2019-Febuary 2021.

•Figure 1 shows the clinic and shared decision making (SDM) outcomes. •26% of all patients seen in POPS clinic decided not to pursue surgery.

•24 patients (24%) seen were subthreshold, 14 (58%) of these, chose to not pursue surgery (all of the AAAs in this latter group, had AAAs found incidentally).

•26% of patients seen had 'do not resuscitate' discussions undertaken, 29% had an anticipatory planning discussion documented in the clinic letter. Where appropriate, this included a management plan to be followed in the event of AAA rupture, including place of end of life care.

•Figure 2 shows the relationship between frailty severity and SDM outcome.

Conclusions: Our service demonstrates the positive impact of a CGA based, collaborative surgical, anaesthetic and geriatric medicine service on informing shared decision making with patients presenting with asymptomatic aneurysms. There is a need for a holistic assessment and expertise in appraising anticipated prognosis and expected functional status, from the aneurysm, the surgical intervention and coexistent multimorbidity and geriatric syndromes such as frailty. Embedding such approaches into routine clinical care for patients with AAA can facilitate patient centred decision making, the opportunity to assess and optimise patients prior to surgery, appropriate use of surgical intervention and proactive anticipatory care planning. Even more pertinent during the recovery from the COVID-19 pandemic.

References: 1) https://www.nice.org.uk/guidance/ng156. 2) Bradbury, A et al. Eur J Vasc Endovasc Surg. 2021 Mar 5;S1078-5884(21)00140-4. 3) Oliver-Williams, C et al. https://doi.org/10.1161/CIRCULATIONAHA.118.036966. Circulation. 2019;139:1371–1380. 4)

www.choosingwisely.co.uk 5) https://cpoc.org.uk/shared-decision-making

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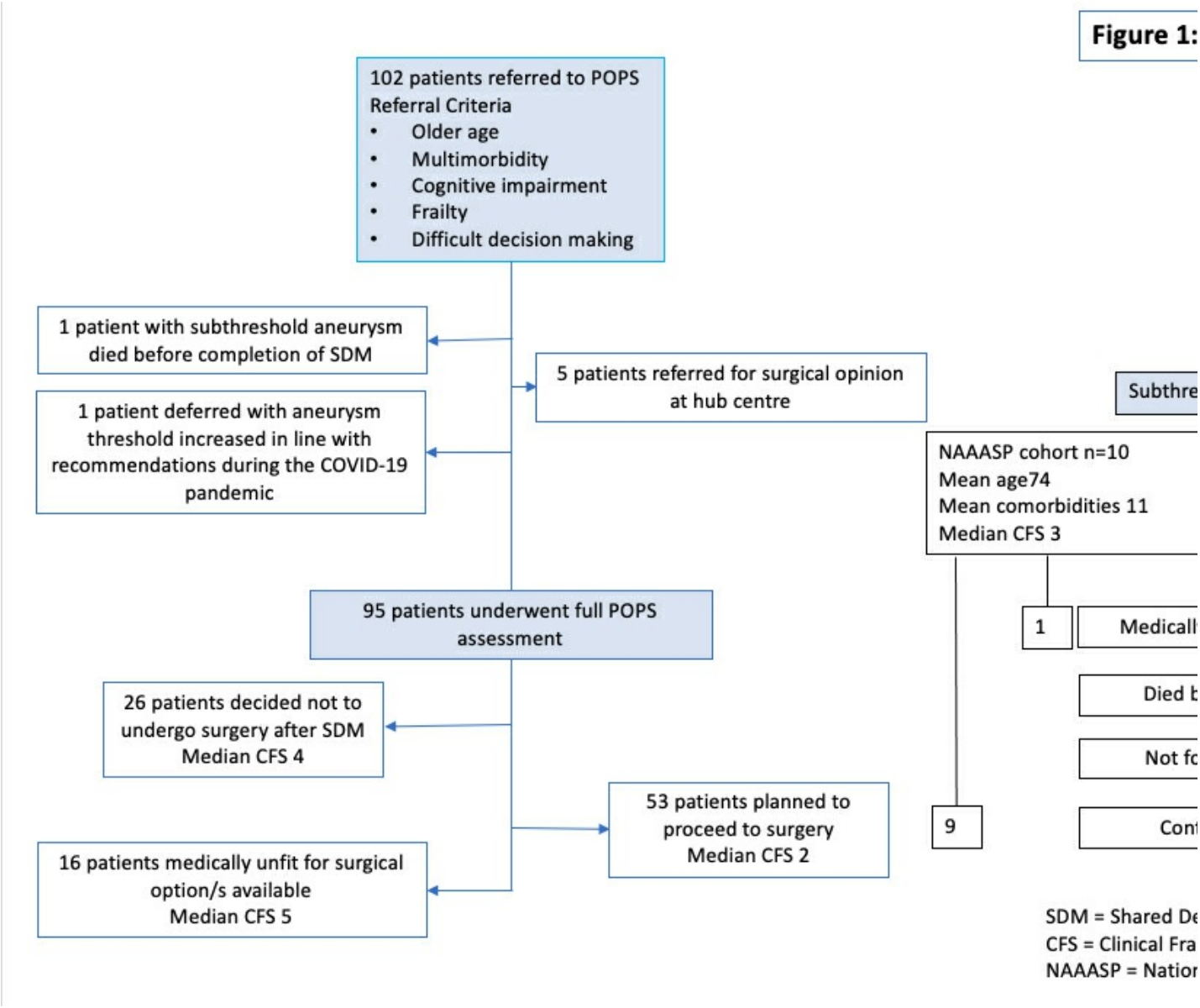

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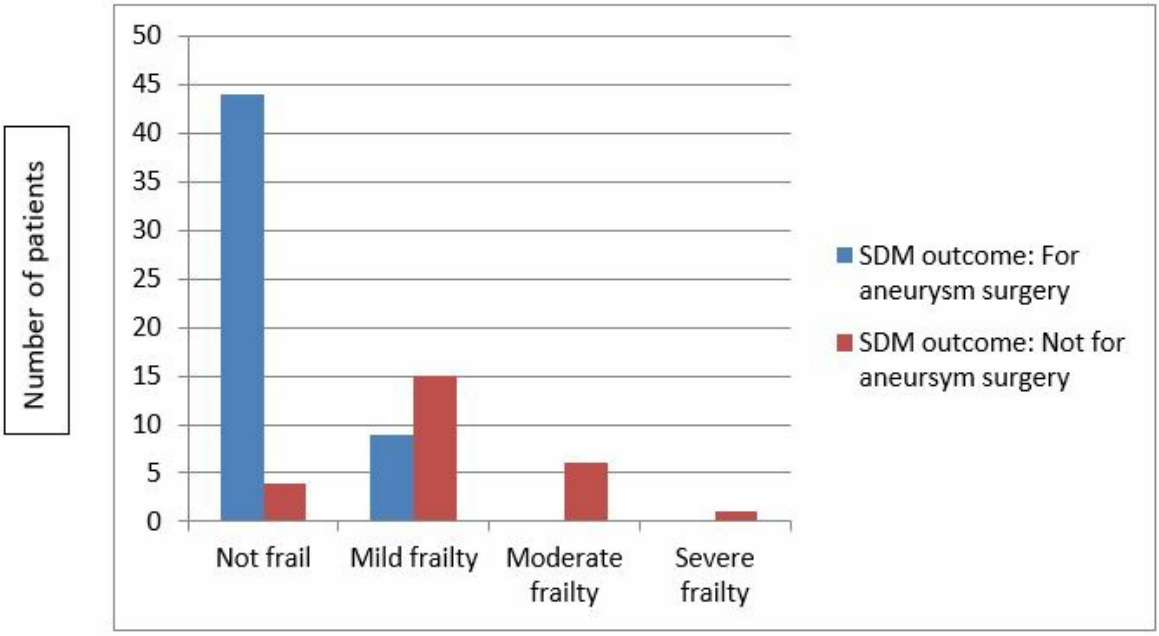
Figure 2: Shared decision making outcome according to degree of frailty



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Poster keywords

Abdominal aortic aneurysms, Comprehensive Geriatric Assessment, Shared Decision Making, Perioperative assessment, Opimisation

73

Improving pre-operative nutritional assessment and post-operative nutrition within a colorectal ERAS pathway.

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Royal Victoria Infirmary, The Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, United Kingdom

Abstract

Introduction: Inadequate nutrition is associated with increased perioperative morbidity and mortality(1). NICE recommends screening patients before intermediate or major surgery(2). The Pre-Operative Nutritional Screening (PONS) tool identifies patients at risk of nutritional deficiency, using BMI, weight loss, oral intake and albumin.(1). We undertook a Quality Improvement (QI) project to ascertain if nutritional status was assessed at the pre-operative assessment clinic (PAC) and to estimate the incidence of nutritional deficiency.

Methods: There were 3 strands to this QI work:

1. We identified patients who had attended PAC before major colorectal cancer surgery and extracted retrospective PONS data from electronic records.

2. We prospectively used the PONS tool with colorectal cancer patients attending consultant anaesthetist consultation in PAC and recorded PONS scores.

3. We measured time taken to achieve ‘adequate’ post-operative nutrition through collection of post-operative Braden Scores by ward nursing staff.

Results: The retrospective review of 22 patients’ notes showed 100% had BMI recorded in PAC and 8 (36%) had documentation referring to weight loss or oral intake. Five (23%) patients were identified as at risk of nutritional deficiency by the PONS tool. Prospective use of the PONS tool in 15 consecutive patients attending clinic identified 4 (27%) at risk of nutritional deficiency. There was significant delay in time to achieving adequate post-operative nutrition: only 13 (59%) patients had adequate nutrition by day 5 post-operatively.

As a result of this, for patients on the ERAS pathway: oWe introduced the Malnutrition Universal Screening Tool (MUST) in PAC (this tool was already used elsewhere in the Trust). oHigh protein oral nutritional drinks were prescribed post-operatively. Review of post-operative nutrition in 18 patients who followed the ERAS pathway showed 15 (83%) had nutritional assessment using a formal tool in addition to BMI and 12 (67%) had documentation of a MUST score pre-operatively. Time to adequate nutrition has decreased: 12 (67%) of patients had adequate nutrition by day 2 post-operatively and 16 (89 %) by day 5.

Conclusion: This QI project demonstrated lack of formal nutritional screening before major colorectal surgery and highlighted almost a quarter of these patients are at risk of nutritional deficiency. We have successfully implemented a screening tool into our ERAS pathway and we intend to extend this screening to other surgical groups of patients in PAC.

References: 1)Wischmeyer et al. Anaesthesia and analgesia, 126:1883-1895; 2018 2) National Institute for Health and Care Excellence. NICE; 2019.

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Poster keywords

Pre-assessment, Nutrition, ERAS, Quality Improvement, Perioperative Medicine

74

Establishing a Surgical Enhanced Care Unit to provide safe postoperative care for elective high risk surgery during the Covid-19 pandemic at Croydon University Hospital.

Leonora Bowen, Karen Erskine, Kate Fletcher, Ravishankar Jakkalasaibaba, Steven Vidgeon, Maria Chereshneva
Croydon Health Services, London, United Kingdom

Abstract

Introduction. To deliver safe elective surgery throughout the pandemic, patients must be protected from contracting nosocomial COVID-19, whilst minimising surgery delay, especially for malignancy. At Croydon University Hospital (CUH) we opened the Croydon Elective Centre (CEC), a designated "clean" Covid-19 protected area allowing day-case and uncomplicated inpatient surgery to continue. Self-isolation according to guidelines and COVID-19 negative swab were required prior to admission to allow a safe restart of day-case elective procedures.

However, we also needed safe postoperative provision for more complex cases, whilst our critical care beds were unavailable. Following FICM guidelines, we set up a four bedded Surgical Enhanced Care Unit (SECU) within the CEC. Opened in October 2020, SECU provides up to 48 hours of level 1.5 postoperative care.

Methods. The creation of SECU was agreed by the stakeholders, after appraising available options to facilitate restarting of elective surgery. Multidisciplinary consensus was reached regarding SECU's capabilities, by reviewing the staff's existing skills, the anticipated requirements (e.g. arterial lines), and safety in a relatively remote environment (e.g. excluding vasopressors). Funding for staffing costs and four bedside monitors for continuous invasive monitoring was secured. Strict admission criteria and review processes were established. These measures ensured that patients received high standard of care and enabled us to carry out cancer and high risk surgery.

Results. Since October 2020, 63 patients have safely been admitted through SECU, including 40 cancer cases. Of the additional 27 bookings, eight were deemed to require HDU instead, 15 went directly to ward beds, and four were cancelled when inpatient elective services paused briefly in the second Covid-19 wave. Key performance indicators showed only two patients have been escalated to HDU for vasopressor support, and there have been no nosocomial Covid-19 infections. Specific documentation has also been created to aid patient follow up, identify potential problems and to facilitate ongoing quality improvement initiatives.

Discussion. The successful and timely creation of SECU provides a reproducible model for other acute hospitals to facilitate more complex elective work despite the pandemic's impact on critical care provision. Patient selection is key, and a flexible approach to working with staff and existing processes is vital. Though developed during the pandemic, SECU is intended as a permanent facility, with evolving capabilities such as respiratory support.

References. 1.The Faculty of Intensive Care Medicine, Critical Futures Initiative. Enhanced Care: Guidance on service development in the hospital setting. May 2020 https://www.ficm.ac.uk/sites/default/files/enhanced_care_guidance_final_-_may_2020-.pdf

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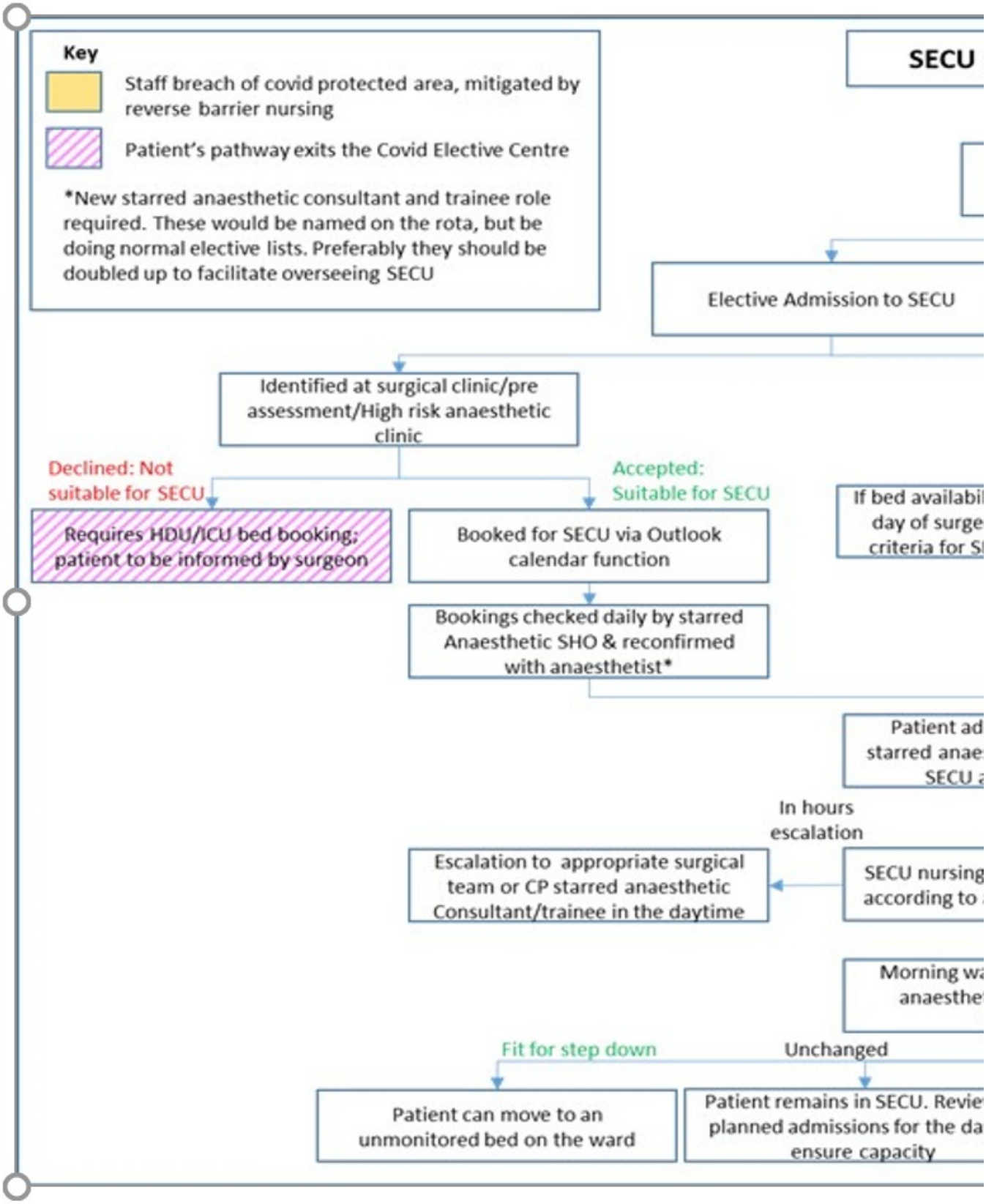

Proposed SECU patient pathway

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Poster keywords

enhanced care, high risk surgery, elective surgery, post-op care, service improvement

75

Evaluating and Improving Healthcare Staff Knowledge of the [NG179] NICE Guidelines on Elective Surgical Care during the COVID-19 Pandemic

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Abstract

The first wave of the COVID-19 pandemic saw several countries issue guidance postponing all non-urgent diagnostic evaluations and operations, leading to an estimated backlog of 28 million cases worldwide and over 4 million in the UK alone (1, 2). In an attempt to regulate the resumption of elective surgical activity, the National Institute for Health and Care Excellence (NICE) introduced the ‘COVID-19 rapid guideline [NG179]’ on perioperative care (3).

This project aimed to increase healthcare staff knowledge of the aforementioned guideline to a targeted score of 100% in the disseminated questionnaire within 3 months, at the Royal Free Hospital in London, UK. A standardised online questionnaire was used to assess the knowledge of surgical and medical healthcare staff at baseline and following each 4-week-long Plan-Study-Do-Act (PDSA) cycle. During PDSA1, the A4 visual summary accompanying the guideline (4), was visibly placed in all relevant clinical areas and the full guideline was distributed to the staff in charge together with a short briefing on the salient points.

PDSA2 involved brief small-group teaching sessions. A total of 218 responses was collected. Mean percentage scores increased significantly from 51±19% at baseline to 81±16% after PDSA1 ($t=10.32$, $p<0.0001$) and further to 93±8% after PDSA2 ($t=4.9$, $p<0.0001$), with 54% of participants achieving a perfect score. The targeted distribution of guideline printouts and visual aids, combined with small-group teaching sessions, were simple and effective ways of educating healthcare staff about the new standards of elective surgical care at the time of COVID-19. This could facilitate the safe restoration of surgical activity, which is critical in order to mitigate the far-reaching consequences of surgical delays on an unprecedented scale during a time of great crisis and uncertainty.

1.Negopdiev D, Collaborative C, Hoste E. Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. British Journal of Surgery. 2020;107(11):1440-9. 2.England N. Consultant-led referral to treatment waiting times data 2019-20. National Health Service England. 2020. 3.NICE. COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services. NG179.2020. 4.NICE. COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services. NG179 - Visual Summary.2020.

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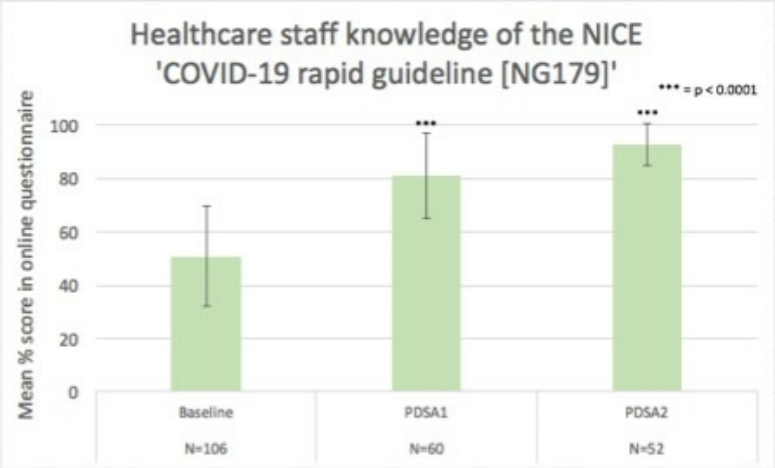

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Poster keywords

Elective, Surgery, COVID-19, NICE, GUIDELINES

77

How Informed is Our Informed Consent for Anaesthesia?

Cindy Luximon, Payal Kajekar
Luton and Dunstable University Hospital, Luton, United Kingdom

Abstract

Introduction: The Royal College of Anaesthetist (RCOA) and The Association of Anaesthetists of Great Britain and Ireland (AAGBI) have set guidelines regarding the consent process prior to the provision of anaesthesia in order to give patients the opportunity to make a more informed decision. We aimed to assess the current consenting practice in our Anaesthetics department in order to improve compliance with RCOA/AAGBI guidelines and to develop a Trust patient information leaflet.

Methods: A two-phase retrospective, single-centre study was carried out between October and November 2020. The first phase involved surveying anaesthetists (Consultants, trainees and Staff Grades) to determine compliance with the information that should be given to patients pre-operatively according to RCOA/AAGBI guidelines. The second phase involved reviewing anaesthetic charts to analyse whether complications had been documented pre-operatively.

Results: 37 anaesthetists completed the survey. 70% (n=24) of respondents stated they “always” documented the risks/benefits. A total of 106 anaesthetic charts were analysed and 59% (n=61) had a risk/benefit discussion documented on the chart. There appears to be a discrepancy between the complications that are believed to be documented and what is actually being documented in the anaesthetic chart (table 1), many of which are significant complications. For patients undergoing regional anaesthesia (n=17), 41% (n=7) of cases had a documented discussion for the risk of nerve injury. Patient information leaflets were provided to 23% (n=24) of patients pre-operatively.

Conclusion: This study highlighted the need to improve the informed consenting process in our anaesthetic department in order to meet the RCOA/AAGBI standards. Patients should be fully informed about risk/benefits of the anaesthetic ideally well before their surgery. Future work to improve the consenting process may include redesigning the anaesthetic chart and the provision of a Trust patient information leaflet in order to provide patients with information in pre-assessment so they can make a more informed decision.

References: 1) The Association of Anaesthetists of Great Britain & Ireland, Consent for anaesthesia 2017 https://anaesthetists.org/Portals/0/PDFs/Guidelines%20PDFs/Guideline_consent_for_anaesthesia_2017_finaver=2018-07-11-163753-600&ver=2018-07-11-163753-600 2) RCOA Consent and Ethics: adults: https://rcoa.ac.uk/documents/consent-ethics-adults/definitions-distinctions

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	ASA 1		ASA 2	
Complications	**Survey (n=37) %**	**Anaesthetic chart (n=19) %**	**Survey (n=37) %**	**Ana cha**
Cardiovascular problems	3	11	3	
Awareness	16	5	14	
Aspiration	11	5	16	
Death	0	5	0	

Table 1: complications stated as documented in the s
the anaesthetic chart

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Poster keywords

Consent, Anaesthetic, Documentation, RCOA, AAGBI

78

The value of vascular clerking proforma in peri-operative management of emergency vascular surgeries.

Fui Yong, Mugilan Suppaya, Sarah Welch
Freeman Hospital, Newcastle Upon Tyne, United Kingdom

Abstract

Introduction: Vascular patients often have multiple comorbidities and co-existing polypharmacy. Anaesthetic management is challenging, especially those for emergency vascular interventions. There is often limited time for anaesthetic pre-assessment and optimisation; delays in pre-op investigations and initial medical management of their co-morbidities could add on to the time pressure, which results in delays or cancellation of surgery and poor patient outcome. This project assessed whether introduction of a clerking proforma improve documentation of patient information, ordering of pre-op investigations, management of diabetes mellitus and anticoagulation therapy.

Methods: The first survey audited patient notes before introduction of proforma (n=30) over one month period. Only emergency vascular admissions were selected, admission clerking includes past medical and drug history, investigations include electrocardiogram, group and safe, COVID test, and documentation of diabetes and anticoagulation management were reviewed. The proforma contains sections for medical and drug history, social history, physical examination and drop-down list for investigations and non-surgical management. The second survey audited the same information (n= 25), after introduction of proforma. An online questionnaire was sent to vascular junior doctors (n= 7) to assess functionality of the proforma.

Results: All clerking documents contained past medical and drug history in the first survey, although missing information was noted. Pre-operatively, 50% and 3% of patients had no electrocardiogram and group and save done respectively, while 13% of patients had no Covid test performed. 40% of patients were diabetic, only 23% had diabetes management documented. 17% of patients were on anticoagulation and 55% had no documented plan for anticoagulation therapy.

Only 25 out of 122 admissions in second survey used the proforma. All sections in the proforma were filled in, except 2 proformas which drug history were not documented. All pre-op investigations were performed and slight improvement of diabetes management (33%) and anticoagulation therapy (52%) was noted. 4 junior doctors responded to the questionnaire, 75% found the proforma easy to use and all found it useful as a guide for clerking and management planning.

Conclusion: A comprehensive proforma improves clerking documentation, aids pre-op planning of essential investigations and medical management of pre-existing co-morbidities. As a result, this could cut down on time for anaesthetic pre-assessment, improve peri-operative planning and management, prevent delays in surgery and ultimately improve patient outcome.

References: Kentley J, Fox A, Taylor S, et.al The use of a proforma to improve quality in clerking vascular surgery patients BMJ Open Quality vol 5,issue 1,2016.

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Vascular Clerking Proforma

Consultant in charge* :
***Check eRecord: if known to vascular consultant in last 2 years for same issue - please keep under same consultant**
Presenting complaint(s) :

History of PC:

Past Medical History :

Systems Review :

Medications : Please list all home medications
Antiplatelet Y/N
Anticoagulation Y/N
Diabetic medication Y/N . Insulin Y/N . OHG Y/N

Allergies:

Functional status :
Exercise Tolerance:
AMT- 4 (Age, DOB, Place, Year) Score:
Has the person been more forgetful in last 12 months affecting their daily life? Y/N

Social history :
Smoking : Y/N/ex
Alcohol : Y/N units
Dependent/ Independent ; home with ____ / alone , residential/nursing care ; no carers/ carers ____/day

Physical examination :

BMI

Cardiovascular

Respiratory

GI

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Grip strength

Vascular:
Pulses
Upper:

	RIGHT: Present (Y/N	LEFT: Present (Y/N)
Radial		
Brachial		
Carotid		

Lower:

	RIGHT: Present (Y/N)	LEFT: Present (Y/N)
Femoral		
Popliteal		
Posterior Tibial		
Dorsalis Pedis		

Aorta:

Groin Examination:
Other comments on visual inspection including scars, missing digits/limbs:

Management :

1. Investigations : bloods, ECG, CXR, CT, US , ankle brachial pressure index and action
   - Consider echocardiogram (If considering op and new symptoms or signs of heart failure/ Known cardiac failure with worsening symptoms/ Known valvular disease with significant worsening of symptoms / New arrhythmia (AF, LBBB, Q waves)
2. Medication review inc diabetes plan, anticoagulation, statins?
3. Pain control strategy + (laxatives)
4. Consider alcohol withdrawal treatment and smoking cessation/nicotine replacement
5. Physiotherapy, occupational therapist referral
6. Consider food chart and dietitian review
7. Discharge planning , ? discharge destination
8. Consider early treatment escalation plan / DNACPR, what are patient's wishes ?
9. Any discussion with other specialties planned/ required?

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Poster keywords

Vascular surgery, Clerking proforma

79

Incidence of respiratory depression amongst patients treated with intrathecal morphine in high dependency unit at a tertiary medical centre: a retrospective audit.

Raymond Hu, Luke Fletcher, Mohammad Fahad Sorefan, Anuj Krishna, Victor Yi, Peter Atallah
Austin Health, Melbourne, Australia

Abstract

Introduction We aimed to describe the incidence of respiratory depression in patients who were administered intrathecal morphine (ITM) for post-operative pain management in the high dependency unit. ITM is an effective modality of analgesia that carries the risk of respiratory depression. The incidence of respiratory depression associated with ITM in contemporary Australian patients is not well documented in literature.

Methods We designed a retrospective audit at our tertiary university hospital from April 2017 to August 2018. Patients included in this audit were administered ITM and admitted to the critical care unit (CCU) and were not intubated. Respiratory depression was defined as one or more of the following criteria: RR <10/min, SaO2 <90%, PaCO2 >50mmHg, Richmond Agitation Sedation Score (SS) ≤ -3, based on the practice guidelines by the American Society of Anesthesiologists and the American Society of Regional Anesthetists and Pain Medicine (1). Demographic, clinical and perioperative data were collected from the electronic medical record systems.

Results 187 cases were identified of which 66.3% (124/187) were male. Mean(SD) age was 61.7 (14.6) and median (IQR) Charlson comorbidity score was 4 (2-6). 64.7% (121/187) had ASA of ≥3. Mean(SD) surgical duration was 5.1(2.4) hours. Mean(SD) dose of ITM was 312(82) micrograms. The incidence of respiratory depression was 56% (104/187), with 24.1% (45/187) experiencing RR <10/min; 2.1% (4/187) experiencing SaO2 <09%; 40.1% (75/187) experiencing PaCO2 >50mmHg; and 3.7% (7/187) experiencing SS ≤-3. Two patients with respiratory depression required naloxone during their CCU admission, compared to one patient without respiratory depression who required naloxone.

On univariate analysis, respiratory depression was not associated with age, comorbidities, ITM dose, type of surgery, ARISCAT score or 24-hour post-operative oral morphine equivalent dose administration. However, post-operative regional anaesthesia was associated with a risk reduction in respiratory depression (unadjusted OR=0.40, 95%CI=0.18-0.90, p=0.026). ITM dose administered was negatively associated with age, history of acute myocardial infarction, history of chronic kidney disease; and positively associated with hepatobiliary surgery and duration of surgery.

Conclusion There was a high incidence of respiratory depression amongst Australian patients receiving ITM for surgery that required CCU admission without invasive ventilation. Regional anaesthesia appeared to be protective. Further work is required to confirm this. Additionally, the clinical significance of defining respiratory depression using these criteria remains to be determined.

References (1) Practice guidelines for the prevention, detection, and management of respiratory depression associated with neuraxial opioid administration. Anesthesiology. 2016;124(3):535–52.

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Poster keywords

Respiratory depression , Intrathecal morphine

80

Painfully lacking? Analgesia for Emergency Laparotomy: a systematic review

Sara Scott[1], Eimhear Lusby[2], Neha Passi[3], James Durrand[4], Sarah Hare[5], Charles Oliver[3]
[1]Royal Victoria Infirmary, Newcastle, United Kingdom. [2]St Richards Hospital, Chichester, United Kingdom. [3]University College London Hospital, London, United Kingdom. [4]James Cook University Hospital, Middlesbrough, United Kingdom. [5]Medway Maritime Hospital, Gillingham, United Kingdom

Abstract

Introduction: Emergency laparotomy is a common surgical intervention and is associated with high incidences of postoperative morbidity and mortality.1 The National Emergency Laparotomy Audit (NELA) has collected data including case-mix, process and structural information since December 2013 but doesn't include information on postoperative pain scores or analgesic techniques.2,3 Patients undergoing elective laparotomies who have good perioperative pain management have lower rates of postoperative morbidity.4

It is not known if this also applies to emergency cases. The primary aim of this systematic review was to compare relative efficacies of perioperative analgesia modalities in emergency laparotomy. Secondary aims were to identify the incidence of moderate-to-severe postoperative pain associated with different treatment modalities and the incidence of potentially attributable adverse events. Methods: Searches were conducted across Medline & Medline in-process, Embase, PubMed, Web of Science and SCOPUS.

Inclusion criteria: adults over 18 years undergoing emergency open laparotomy for general surgical pathology. Papers were excluded if: surgery was elective, non-general or included non-abdominal sites; no general anaesthesia; postoperative rather than perioperative pain interventions were made; patients remained sedated or intubated over the period of interest; there was no formal assessment of pain scores; non-comparator studies or non-English language papers. Each paper was screened by two independent investigators using the predefined criteria.

Results: Initial searches identified 2389 papers. After removal of duplicates 1147 papers were identified for further review. There were a very limited number of full manuscripts which reported efficacy of a single analgesic agent or modality. No papers were identified which compared methods of analgesia in emergency laparotomies and therefore we are unable to comment upon either the primary or secondary outcomes.

Conclusion: Despite taking great pains to conduct a systematic review we found there to be a lack of evidence to guide decision making to optimise analgesia post emergency laparotomy. Given the number of patients undergoing this procedure and the associated morbidity and mortality, it seems there is scope for further research. Whilst it can be difficult to randomise interventions for emergency surgery, opportunities for sprint audit projects or extending the scope of NELA to review current practice are needed to ensure quality of care continues improving for this high-risk group.

References: 1. Oliver CM et al. British Journal of Anaesthesia. 121; 1346-1356 2018 2. NELA Project Team, 1st Patient Report, 2015 3. NELA Project Team, 6th NELA report, 2020 4. Wilson F, Jones CN. Digestive Medicine Research. 2, 1-8, 2019

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Poster keywords

Emergency laparotomy , Postoperative Analgesia

81

Impact of a ‘digital joint school’ within elective orthopaedic surgery

Paul Baker[1], Natalie Clark[1], Rebecca Martin[1], Joanne Gray[2], Rhiannon Hackett[1], Gerard Danjoux[1], Stephen McCarthy[2]

[1]South Tees Hospitals NHS Foundation Trust, Middlesbrough, United Kingdom. [2]Northumbria University, Newcastle, United Kingdom

Abstract

Introduction Effective provision of procedure specific educational material is essential when preparing patients for surgery. This should be delivered throughout the perioperative pathway (prehabilitation to rehabilitation) and be presented in a readily digestible format (NICE:NG157). To address this problem we implemented ‘Digital Joint School’ (DJS), using a web-based platform (GoWellHealth). This was designed to provide individualised remote support and education across the entire perioperative pathway, thereby enhancing self-empowerment and decision-making by placing the patient at the centre of care. To evidence the value of our DJS we aimed to demonstrate (1) high levels of patient engagement; (2) enhanced patient experience; (3) system and patient level outcome benefits

Methods All patients listed for primary elective hip and knee replacement were offered access to the DJS program. Between 09/17 and 05/20 1195 patients were registered. To assess our aims, we performed 3 discrete analyses: (1)An evaluation of patient engagement focussing on the impact of patient demographics (2)Qualitative semi-structured interviews with a subset of patients who had completed the program and were ≥90 days post-surgery. (3)Comparison of outcomes (length of stay, 6-month EQ5D index and Oxford Hip/Knee Score) for a cohort of patients receiving the DJS (n=595) versus those that did not (n=1811). Statistical comparisons were modelled and adjusted for differences in age, gender and comorbidity score

Results (1)832 patients (70%) actively engaged with the DJS, accessing it a median of 15 times and spending a mean of 83 minutes browsing content, with no statistically significant influence of age or gender. Older patients favoured computers for access, whereas younger patients favoured phones ($p<0.001$). (2)Three key positive themes were identified in relation to the DJS: (a) Impact on health behaviours; (b) Contribution to recovery; (c) Delivery of information. Patients reported the DJS improved understanding and preparedness as well as supporting rehabilitation/recovery. (3)Patients registered within the DJS demonstrated significant improvements in their EQ5D index (hips $p=0.002$;knees $p=0.04$), Oxford Hip/Knee scores (hips =0.009; knees 0.002) and a reduction in length of stay (hips only $p<0.001$).

Conclusions A DJS providing procedure specific education and support spanning the entire patient pathway is deliverable, demonstrates high levels of patient engagement and a positive patient experience. This method of care delivery is also associated with improvements in patient flow, health utility and functional outcomes.

A digital model also reduces the requirement for face-to-face interaction, reduces cost and standardises information giving, leading to a more consistent approach to care.

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Poster keywords

Patient Education, Prehabilitation, Digital, Orthopaedics , Patient experience

82

Living the DrEaM: 2-day shorter length of stay after major colorectal surgery

CM Oliver[1,2], GF Singleton[1,3], S Warnakulasuriya[1,2], D McGuckin[1,3], SR Moonesinghe[1,2,3], for the PQIP delivery team and PQIP Collaborative .[3]

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Abstract

Introduction: Enhanced recovery (ER) is considered the default approach for many patients undergoing major surgery. Increased compliance with ER pathways (ERPs) has been associated with improved outcomes, (1) but pathways with multiple components are less likely to be adhered to than those with fewer elements. (2) The concept of DrEaMing (drinking, eating and mobilising) after surgery has been promoted as it succinctly reflects the key principles of ER. (3) This analysis of the Perioperative Quality Improvement Programme (PQIP) explores the relationship between DrEaMing at 24 hours after surgery and shorter postoperative length of stay (LOS).

Methods: This is a prospective multi-centre observational study using the PQIP dataset. Patients were eligible for inclusion if; they had undergone an elective anterior resection, right hemicolectomy with anastomosis, excision of sigmoid colon or left hemicolectomy with anastomosis; if they survived to hospital discharge; if LOS data items were recorded and if surgery was before 1st March 2020. Hospitals in which more than five eligible cases were recorded were stratified into equally sized quintiles by the proportion of patients that were DrEaMing 24 hours post surgery. Postoperative LOS distributions were compared graphically between quintiles and the association with hospital delivery of DrEaMing at 24 hours quantified using Wilcoxon Mann Whitney test.

Results: Following exclusions, 7230 cases were identified from 113 hospitals. 4,341 (60%) patients were DrEaMing within 24 hours of surgery but this varied substantially between hospitals (median 63%, IQR 37 – 73%). Median post-operative LOS was 7 days (5-9) in the lowest performance quintile of hospitals (≤ 33% of patients DrEaMing) and 5 days (4-8) in the highest performance quintile (≥ 82% of patients DrEaMing), $p<0.001$.

Conclusion: DrEaMing was associated with a 2-day reduction in postoperative LOS in a representative multi-centre cohort of colorectal patients. 60% of patients achieved DrEaMing within 24 hours, and the magnitude of between-hospital variation suggests that more patients could be supported to achieve this simple metric. We suggest that ERPs should be redefined to prioritise DrEaMing for all colorectal surgical patients.

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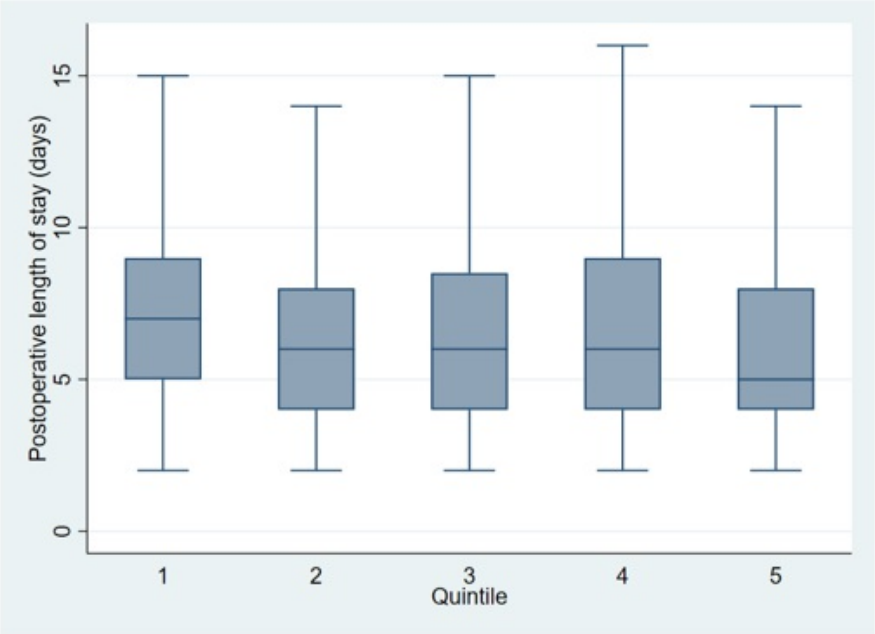

Figure 1. Length of stay b
quintile (proportion of pati
DrEaMing at 24-hours) af
colorectal surgery (p<0.0

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Poster keywords

Perioperative Quality Improvement Project (PQIP), DrEaMing, Length of stay, Colorectal, Enhanced Recovery

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Temporal trends in perioperative process measures for patients having colorectal surgery at hospitals participating in the Perioperative Quality Improvement Programme (PQIP).

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Abstract

The Perioperative Quality Improvement Programme (PQIP) is an ongoing project aiming to improve outcomes after major surgery through improved delivery of evidence-based perioperative care. PQIP promotes local quality improvement activities through regular feedback of hospital-specific and national data and quality improvement resources and support. We assessed temporal trends in compliance with perioperative process measures for colorectal patients at hospitals participating in PQIP.

Methods: Patients recruited to PQIP who had colorectal procedures between December 2016 and February 2020 were included. Process measures assessed were;

Preoperative (Individualised pre-assessment, HbA1c measurement, carbohydrate loading),

Intraoperative (Antibiotic prophylaxis, active warming, normothermia in recovery, cardiac output monitoring),

Surgical (Minimally invasive techniques, avoiding nasogastric tubes (NGTs) and abdominal drains),

Postoperative (Drinking, Eating, and Mobilising on day one, individually and composite “DrEaMing” measure).

Study duration was divided into three time cohorts. Compliance with process measures was compared between cohorts for the overall sample and at a hospital level (for hospitals recruiting at least 20 eligible patients per cohort). Cohorts were compared using two sample tests for equality of proportions, the significance threshold was set at 0.05.

Results: 11,393 patients from 116 hospitals were included. There were significant improvements overall between year one and three for seven process measures (Table 1). Other process measures were unchanged, except for NGTs which deteriorated (increasing 1.5%). There was wide inter-hospital variation in compliance with all process measures (Graph 1). Hospital level temporal trends were analysed for 34 hospitals. For all process measures except for abdominal drains and nasogastric tubes at least 10% of hospitals showed a significant improvement of greater than 10% between year one and year three.

Conclusion: Several process measures have shown improvement over the period PQIP has been running. Some of these, including individualised risk assessment, HbA1C and ‘DrEaMing’ have been PQIP improvement priorities, and this association may be causal. Conversely, surgical process measures including rates of NGTs and drains and process measures which are still debated in terms of their evidence base (e.g. carbohydrate loading and cardiac output monitoring) do not appear to be as amenable to change.

Even for process measures that are unchanged overall there are hospitals that are showing positive

deviance in terms of baseline compliance or improvement trends. Successful and sustainable improvement will require an understanding of cultural and structural factors influencing compliance, and these outlier hospitals provide an opportunity for qualitative research to elucidate these and inform future interventions.

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Table 1. Compliance with perioperative process measures by year, with inter-year comparisons

	Percentage of Patients with Process Measure Completed			Year Two Compared to Year One	Year Three Co Year T
	Year One n = 3227	**Year Two n = 3968**	**Year Three n = 4198**	**Difference (95% CI[1]) [2]**	**Differer (95% CI**
Preoperative					
Risk Assessment	64.46%	66.75%	69.70%	1.3% (3.5%, -0.95%)	3.9% (6.0%, 1.9
HbA1C Measurement	72.54%	71.48%	81.47%	-1.1% (5.0%, -7.2%)	10.0% (15%, 4.7
Carbohydrate Loading	67.68%	68.20%	66.94%	0.52% (2.7%, -1.7%)	-1.3% (0.80%, -3
Intraoperative					
Appropriate Antibiotics	*97.92%*	*98.49%*	*98.52%*	*0.56% (1.2%, -0.09%)*	*0.04% (0.59%, -0*
Active Warming	96.90%	98.39%)	99.02%	1.5% (2.2%, 0.74%)**	0.64% (1.2%, 0.1
Normothermic in Recovery [3]	88.41%	88.56%	89.35%	0.15% (1.7%, -1.4%)	0.79% (2.2%, -0.
Cardiac Output Monitoring	28.85%	27.00%	28.33%	-1.9% (0.26%, -4.0%)	1.3% (3.3%, -0.
Surgical					
Minimally Invasive	64.1%	69.2%	72.92%	5.1% (7.3%, 2.9%)**	3.7% (5.7%, 1.7
Abdominal Drain Present	42.76%	42.62%	42.16%	-0.15% (2.2%, -2.5%)	-0.45% (1.7%, -2
Nasogastric Tube Present	8.96%	9.20%	10.43%	0.24% (1.6%, -1.1%)	1.2% (2.5%, -0
Postoperative					
Drinking	84.78%	91.63%	92.23%	6.8% (8.4%, 5.3%)**	0.60% (1.8%, -0.
Eating	63.92%	64.70%	68.19%	0.78%	3.5%

				(3.0%, -1.5%)	(5.6%, 1.4
Mobilising	78.46%	79.75%	79.13%	1.3% (3.2%, -0.62%)	-0.62% (1.2%, -2
'DrEaMing'	55.61%	57.14%	59.42%	1.5% (3.9%, -0.81%)	2.3% (4.5%, 0.1

*[1] Confidence Interval. [2] Two sample test for equality of proportions. [3] Temperature >36 degrees Celsius. ** = p <0.0*

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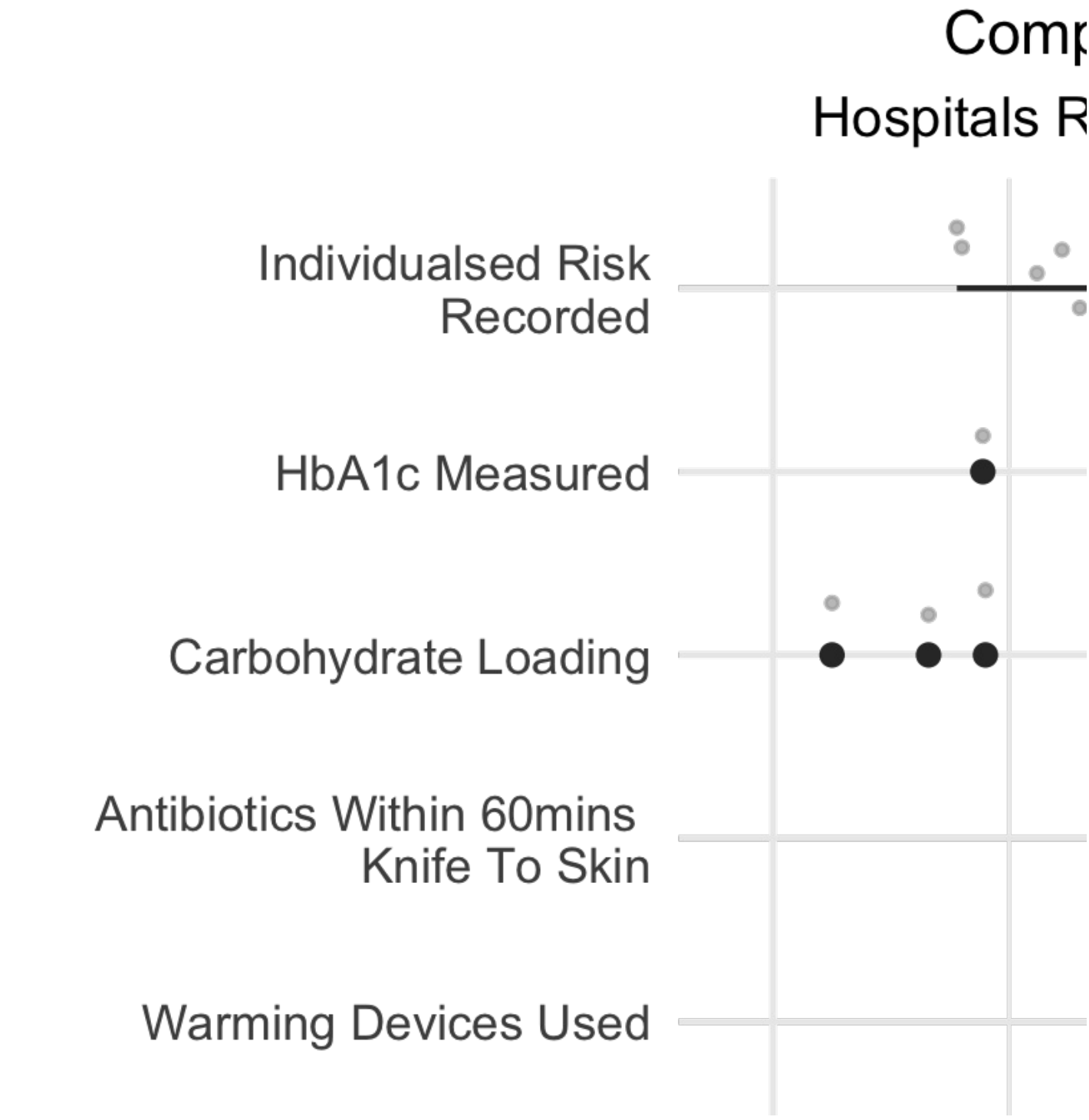

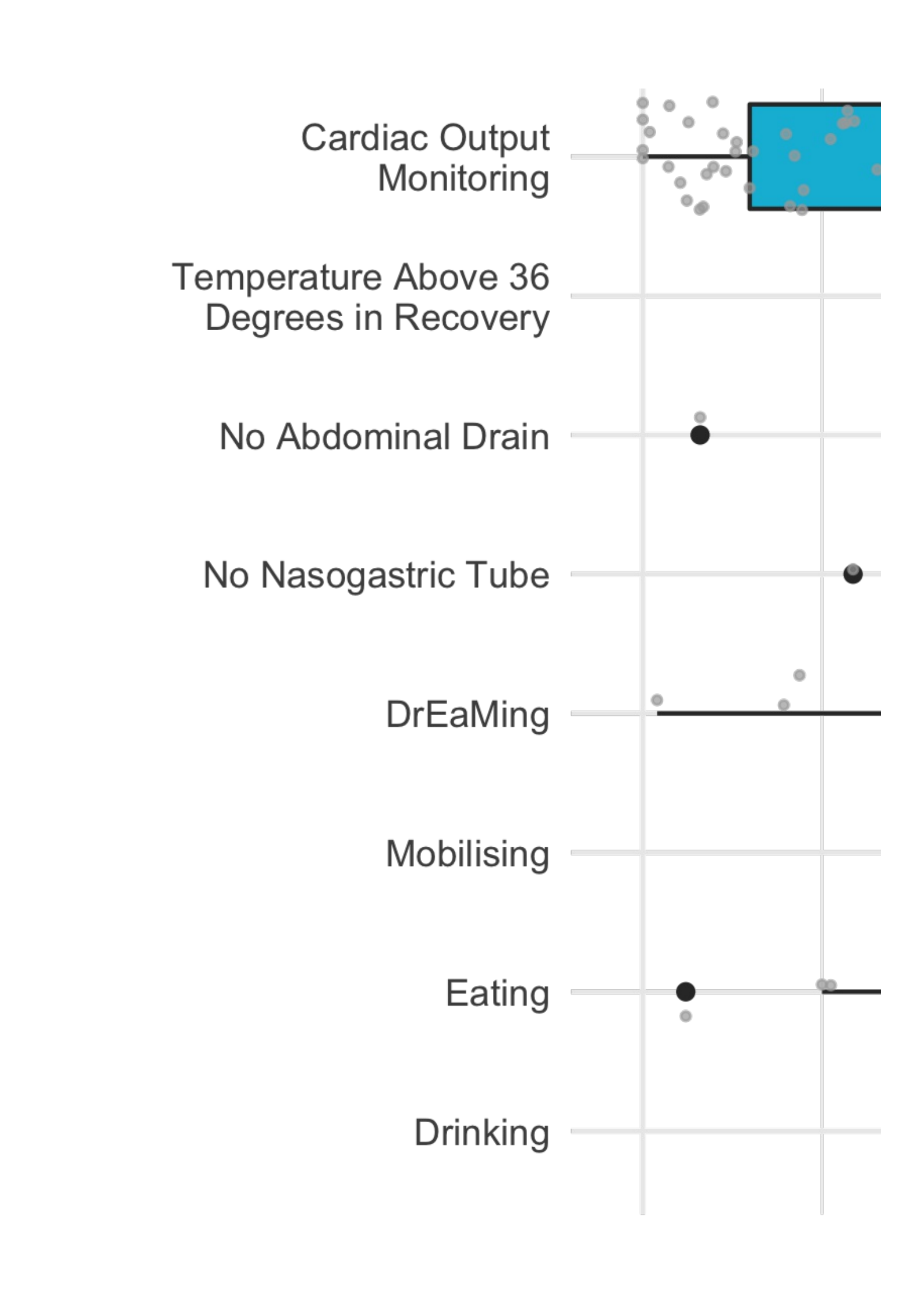
Cardiac Output Monitoring
Temperature Above 36 Degrees in Recovery
No Abdominal Drain
No Nasogastric Tube
DrEaMing
Mobilising
Eating
Drinking

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Poster keywords

Processes, Quality Improvement, Colorectal, Enhanced Recovery, Perioperative Quality Improvement Project (PQIP)

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Initial experience of a perioperative medicine MDM in a tertiary hospital: analysing the referral patterns, decision making process and cost implications of multidisciplinary discussion of high risk surgical patients.

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Abstract

Introduction: Perioperative medicine MDMs have not been previously evaluated, and there are concerns they are excessively costly or difficult to organise to be feasible(1). However multidisciplinary collaboration can improve care and reduce costs(2), and change surgical plans(3). The study aimed to evaluate a new perioperative medicine MDM, and understand the referral patterns, decision making, and value of the MDM. The study hypothesised that the MDM would review complex patients, recommend alternatives to surgery, and reduce cost to the organisation.

Methods: The project was a prospective observational study of the RMH Perioperative Medicine MDM, extracting measures from MDM reports. Patients were included if they were referred to the MDM during the study period. The primary outcome was the recommendation to proceed to surgery or pursue alternative care. Secondary outcomes included factors associated with MDM decisions and cost impacts.

Results: A total of 43 patients were referred. The median age was 77 years. The median ASA score was 4. The median Clinical Frailty Scale score was 5. The median mortality risk was 2.0%, the mean risk of nursing home discharge was 41.2%, while the median risk of delirium was 11.2%. Of the patients referred, 17/43 (39%) were recommended to proceed to surgery. Using logistic regression, the only significant variable associated with not proceeding to surgery was the Clinical Frailty Score (OR 4.1 $p<0.027$). Non-significant associations included the age, sex, ASA score, and risks of mortality, rehabilitation facility or nursing home discharge, Charlson comorbidity index, cancer surgery, residing at home, wheelchair use, and use of a non-wheelchair mobility aid. The total saving attributable to the MDM was $193,261.

Conclusion: This analysis of the implementation of a perioperative medicine multidisciplinary meeting showed that it was a useful improvement on existing processes. Around 39% of patients were recommended to proceed to surgery, and a further 47% were recommended to pursue alternatives to surgical care. Overall cost was reduced for the organisation by $193,261 over the study period.

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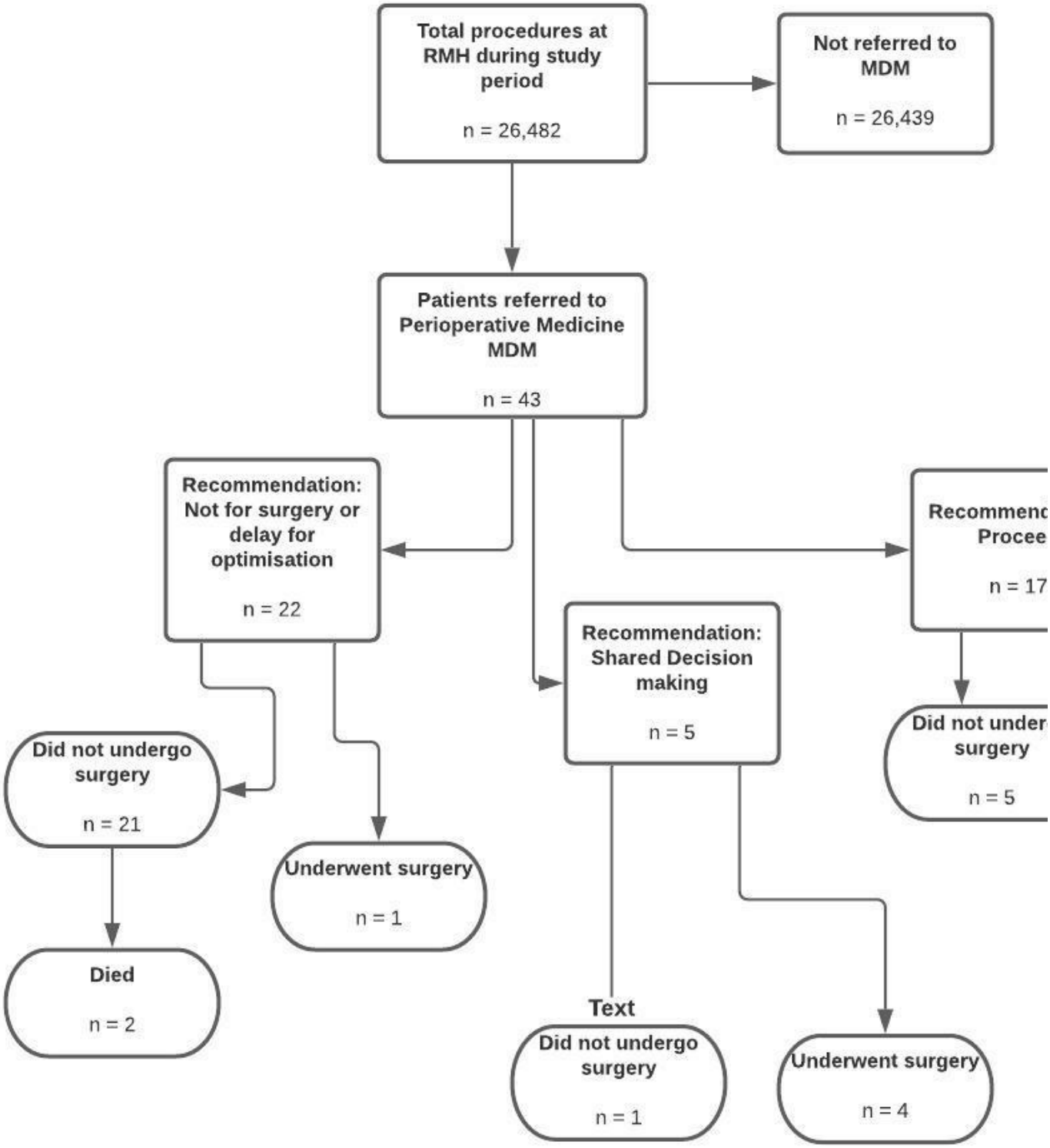

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Variables associated with a recommendation against proceeding to surgery	OR	9
Age	1.1	0
Sex	21.9	0
ASA score	1.0	0
NSQIP mortality risk	0.91	0
NSQIP nursing home discharge risk	1.4	0
Charlson comorbidity index	1.4	0
Cancer surgery	12.9	-
Home residence status	0.78	0
Use of a non-wheelchair mobility aid	1.2	0

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Poster keywords

Multidisciplinary, Coordination, Futility, Shared decision making

85

The introduction of an Enhanced Recovery Programme for Transoral robotic surgery (TORS) – a year down the line

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Abstract

Introduction: With the rise of telerobotics, transoral robotic surgery (TORS) has been used as a minimally invasive approach to operate on head and neck tumours using robotic arms via the mouth. Royal Surrey County Hospital (RSCH) is a tertiary centre for ENT and Maxillofacial surgery and has advanced to the use of TORS since December 2019 utilising the Da Vinci Xi. TORS has been used to resect oropharyngeal tumours but is now advancing to further surgical procedures such as supraglottic laryngectomies.

Systematic reviews have shown that TORS has improved functional outcomes and reduced surgical complications such as blood loss and wound infection, whilst also having lower rates of patients needing gastrectomies and tracheostomies(1). Due to the nature of the disease, patients tend to be young but have several co-morbidities increasing their risk of post-operative complications and need for further intervention.

Enhanced Recovery after surgery (ERAS) programmes have become widely established and include multimodal peri-, intra and post-operative pathways which are due to improve patient care and accelerate recovery. A strong emphasis remains on patient engagement and multi-disciplinary teamworking.

Methods: A multi-disciplinary approach was taken to design and introduce an Enhanced Recovery Programme (ERP) for patients undergoing robotic head and neck surgery at RSCH. The protocol was developed with input from: anaesthetics, ENT surgeons and specialised head and neck nursing staff. A subgroup analysis was undertaken comparing patient data prior and post-ERP introduction reviewing post-op outcomes.

Results: A total of twenty-six (26) patients were included at a median age of 56 years of age. Length of stay varied from 1.6 days prior to introduction of the ERP to 1.28 days post introduction. Time to return to normal diet showed a 46% reduction with introduction of the ERP reducing from 5.6 to 3 days. There was a 32% reduction in cessation of analgesia from 12.6 to 8.5 days post ERP introduction. Table showing TORS performed

Conclusion: Successful introduction of the TORS ERP requires patient engagement and multidisciplinary collaboration. The Enhanced Recovery pathway has demonstrated a faster time to resumption of normal diet and time to cessation of analgesia.

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Operation	Nr of cases performed
Oropharyngectomy	11 (42%)
Tongue base resection	7 (26.9%)
Tonsillectomy	7 (27%)
Tongue base mucosectomy	1 (3.8%)
Malignant disease: 18 (69%)	

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Poster keywords

robotic, ENT, ERAS

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Communication in PPE: How is it affected and how can it be improved?

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Abstract

Introduction: When communication is difficult or fails, errors can occur, potentially compromising patient safety. [1,2] The Coronarvirus pandemic has required the use of Personal Protective Equipment (PPE) to be worn throughout healthcare settings, but this physical barrier, and associated new systems have led to unexpected challenges when communicating in the clinical setting. A quality improvement project (QIP) was conducted to explore the extent of these challenges and identify methods to overcome them.

Method: An anonymous online questionnaire using Survey Monkey™ was emailed to anaesthetists, critical care doctors and ODPs, to assess the communication issues experienced when wearing PPE. Two simulations were written based in the theatre setting. The first demonstrated the common issues experienced by healthcare professionals when communicating in PPE, based on the survey responses. Examples included difficulty hearing and the inability to recognise colleagues.

The second simulation demonstrated enhanced communication techniques, in order to demonstrate how those issues seen in the first simulation, could be overcome or minimised. The enhanced techniques used verbal and non-verbal methods of communicating, such as using closed loop communication and ID badges over PPE. The videos were recorded and sent via video link to the critical care department. This ensured social distancing and avoided wasting PPE. A repeat survey was designed to assess the response to, and usefulness of the enhanced communication techniques.

Results: A total of 39 pre-video questionnaire responses; 95% confirmed they experienced difficulty communicating in PPE. The most common issues reported were speaking and listening, colleague recognition and lip reading. Notably, over 50% of responses reported delays, and stress within the team due to communication issues. A total of 12 post-video questionnaire responses were received. 92% agreed the scenarios were reflective of the issues faced, and would be likely to adopt the enhanced communication techniques. Conclusion This QIP has been performed across two hospitals in Merseyside, with consistent results. The study identified methods for improving communication in PPE, which can improve patient safety, reduce errors and avoid stress within the team.

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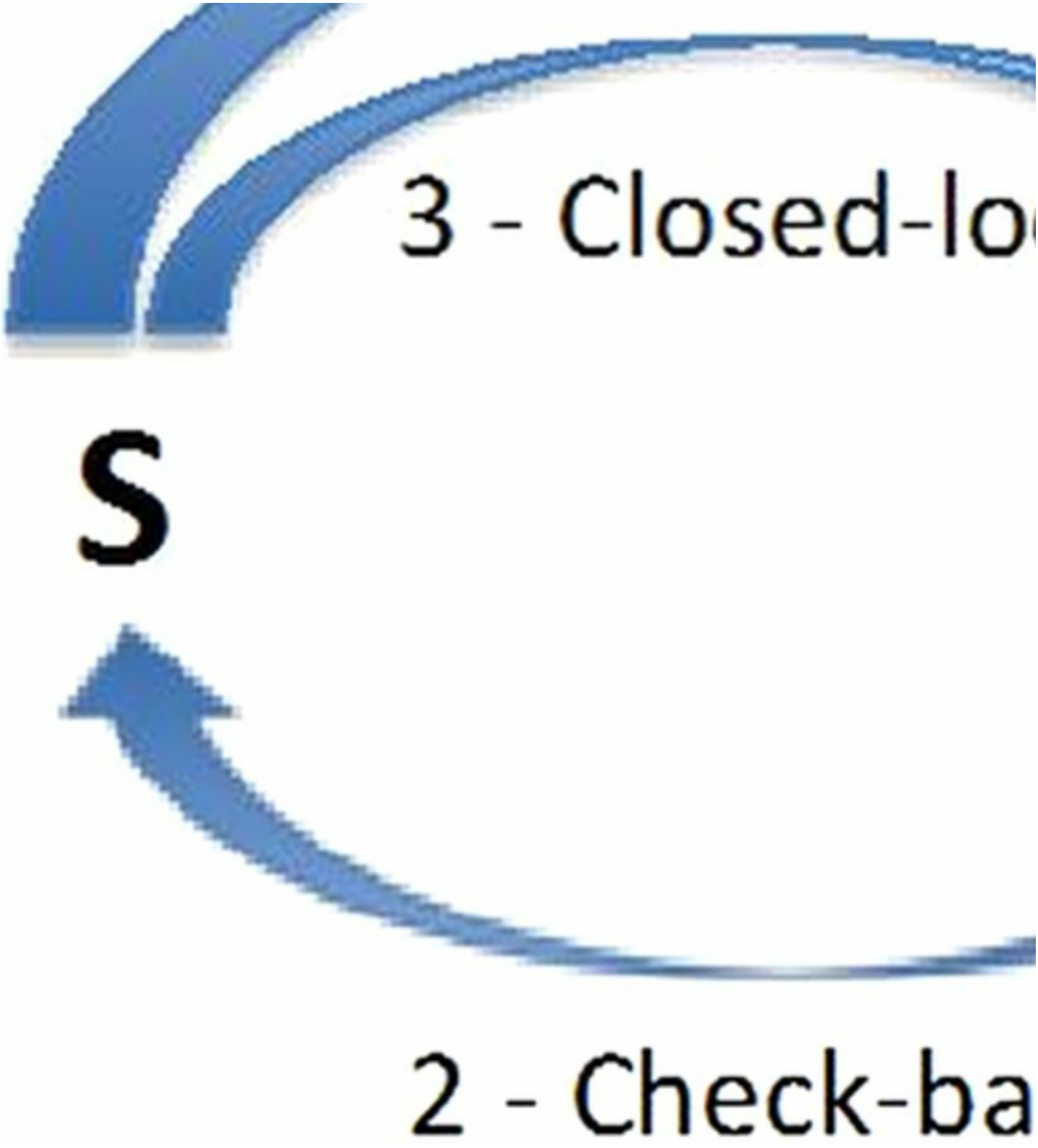

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Poster keywords

Communication, PPE, Coronavirus

87

Implementation of perioperative interventions and the incidence of postoperative pulmonary complications after major hepatobiliary surgery

Gianluca Trisolini Longobardi, Nadine Jones, Catherine Britton-Jones, Sara Churchill, Jo Mclaughlin, Sian Thomas, Carole Jones, Trish Duncan, Christopher Coomber
University Hospital of Wales, Cardiff, United Kingdom

Abstract

Introduction: Post-operative pulmonary complications (PPC) after major surgery has a significant impact on patients' perioperative recovery, morbidity and mortality.1 Independently collected data and local PQIP reports showed that patients having hepatobiliary surgery had an overall incidence of PPC of 9%. We collaborated as a perioperative team to create a respiratory bundle and introduce inspiratory muscle training (IMT) to those undergoing major hepatobiliary surgery.

Methods: We collected baseline data including compliance with lung protective ventilation and recruitment manoeuvres. Retrospectively we collated data on PPC and ARISCAT scoring in patients undergoing hepatobiliary surgery. We introduced a bundle sticker suggesting measures with moderate evidence of benefit in PPC prevention2 and all hepatobiliary patients were entered onto the bundle. Simultaneously the physiotherapists received referrals for IMT. Due to capacity; we referred only those who met the criteria for cardiopulmonary exercise testing, therefore those deemed the highest risk based on standardised measures and not solely ARISCAT.

Results: 44 patient notes were correlated prior to introduction of the bundle and IMT. Incidence of PPC in the baseline data was 18%, in those who had treatment with only the bundle, incidence of respiratory complications was 11.1%. Of those who had IMT and were enrolled on the bundle 30.7% developed a respiratory complication. Of those that developed PPC after IMT and introduction of bundle, the mean ARISCAT score was higher; reflecting the bias placed by referring only the highest risk patients. Following IMT, the median maximum inspiratory pressure increase was 2.9%. These changes had no effect on overall length of stay, however in those who had the respiratory bundle and IMT in those at higher risk the median length of stay was reduced.

Conclusion: Our data may not be reflective of the benefit of IMT and respiratory bundles. Our baseline data was collected during the COVID pandemic when the highest-risk patients - in whom it was appropriate - were delayed until the risk of perioperative COVID-19 was reduced. Recruitment to IMT was based on those at greatest risk of perioperative morbidity, the category in which we may ultimately see more benefit in perioperative outcomes.

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	Low risk on ARISCAT			Intermediate Risk on ARISCAT	
	Pre bundle	Bundle	Bundle & IMT	Pre bundle	Bundle
Length of stay (median days	N/A	5	N/A	6	6

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Poster keywords

ariscat, bundle, LPV, PPC, MIP

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In 25 degrees back up position,glottic view becomes easier as compared to supine sniffing position

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Abstract

Endotracheal intubation using rapid sequence intubation (RSI) is the cornerstone of emergency airway management. Several methods exist to quickly assess the probability of success during tracheal intubation.

Objective: To compare the mean time to intubation with 25° back-up position compared to horizontal supine sniffing position in patients undergoing elective surgery Material & Methods Study Design: Randomized control trial Setting: The operation theaters of Jinnah hospital, Lahore Duration: 06 months

Data collection: After meeting the inclusion criteria 200 patients were enrolled. The time between the beginning of laryngoscopy and detection of end-tidal CO2 after the successful placement of the endotracheal tube was recorded.

Results: The mean age of the patients was 42.49±12.95 years, 124(62%) were male. ASA type I was noted in 137(68.5%) patients. In 25° back-up group the mean time of intubation was 23.84±2.004 seconds while in control group was 26.82±2.64 seconds (p-value<0.05)

Conclusion: Intubation with 25° back-up position increases the ease of intubation than to intubation in horizontal supine sniffing position

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Poster keywords

25 degrees backup, supine sniffing position, glottic view

89

Documentation of Risk for Emergency Surgery at MMUH: do we really know the risk?

Ross Bowe, Naomi Fearon, Peter Conroy, Bill Boyd, Pádraig Ó Scanaill
Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Introduction The number of older, multimorbid patients presenting for surgery is increasing. An acute surgical episode as an inpatient can lead to postoperative complications, which can have a serious impact on perioperative outcomes and long term function1. There has been a gradual shift towards the use of risk prediction tools in the context of multimorbidity and major surgery. For example, the use of a risk scoring tool for patients presenting for an emergency laparotomy in the United Kingdom is now embedded into a national practice pathway The aim of this audit was to review the practice of documentation of perioperative risk for emergency surgical patients at the Mater Misericordiae University Hospital. No national guidance exists in Ireland surrounding the use of perioperative risk prediction tools.

Methods The population chosen were all ‘category 2’ cases booked for emergency surgery during the month of November at MMUH. Data was collected using the Theatre Management System (TMS). This audit was done retrospectively, by reviewing the medical notes, consent forms and anaesthesia records of patients for the documentation of perioperative risk or the documentation of the use of an objective risk prediction tool. The sample size expected was > n=100. For logistical and practical reasons, the final retrospective review was done for the month of November 2020 only (n=126) Results N=126 patients were identified as having emergency surgery in November 2021. Several charts were missing or unretrievable for data collection (n=13), leaving a total of n=113 for final analysis. In relation to the documentation of perioperative risk or an objective risk score in the medical notes, 97% (n=110) did not have risk documented. 99% (n=112) did not have an objective risk documented in the consent form. In the anaesthesia record, for risk other than the ASA score, 98% (n=112) of patients did not have objective risk or a risk prediction tool documented.

Conclusion This audit reveals that for ‘category 2’ emergency surgery cases booked for the month of November 2020 in MMUH, that perioperative risk or an objective risk prediction tool was not documented in the vast majority of cases. This audit may allow for a follow up quality improvement project surrounding the use of objective risk scoring and prediction tools and its documentation in the perioperative period.

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Poster keywords

Risk, Communication, Risk Scoring, Mortality, High-risk

90

Evaluation of a pilot Nurse / Allied Health Professional (AHP) education module in Perioperative care for the Older Patient undergoing Surgery (POPS)

Jason Cross[1], Judith Partridge[1], Mevan Gooneratne[2], Jugdeep Dhesi[1]

[1]Guys and St Thomas NHS Foundation Trust, London, United Kingdom. [2]Barts NHS Trust, London, United Kingdom

Abstract

Introduction Upskilling the workforce to deliver perioperative medicine for older patients is a hot topic, with national organisations including the Centre for Perioperative Care working with Health Education England (HEE) to develop multidisciplinary curricula for perioperative medicine. Cognisant of a shortage of geriatricians and recognising the benefit of nurses and allied health professionals as part of the perioperative MDT, POPS at Guys and St Thomas NHS Trust (POPS@GSTT) developed and evaluated an educational resource to upskill the alternative workforce.

Methods The educational resource includes;

- Capability framework (pay bands 5-8)
- Learning outcomes
- Two days of taught content (topics below)
  - Perioperative pathways of care
  - Comprehensive geriatric assessment oSarcopenia and nutrition
  - Understanding frailty oCondition management (hypertension / atrial fibrillation / respiratory disease / delirium / acute kidney injury / diabetes)
  - Cognitive impairment
  - Discharge planning
  - Multimorbidity
- Online module hosted through the British Geriatric Society (BGS) website.

Local and national AHPs participated in pilot training following an open email invitation sent internally at GSTT and to external parties who had expressed an interest in perioperative medicine. All were given access to the BGS online module one month prior to taught content, with a course pack and learning outcomes. Taught content was delivered by the POPS@GSTT multidisciplinary team using a virtual classroom (MSTeams). Participants completed a post course anonymised evaluation of the taught content and online module.

Results Thirteen AHPs participated in the pilot (9 nurses, 2 occupational therapists, 1 physiotherapist, 1 physicians associate, pay bands 6-7). All participants reported relevant and well-presented content. All reported the taught content and online module enhanced their practice and understanding of perioperative medicine for older people. Twelve of 13 participants stated the content was delivered at an appropriate level (one band 6 nurse reported some discussion and multimorbidity teaching was above her current level of understanding). All reported the online module was challenging with the pass mark of 80% too high and issues with retaking the quizzes.

Conclusion A mixed taught and online perioperative medicine educational resource for AHPs has been successfully developed. Based on pilot evaluation, minor changes to the online module are being made to flag correct answers when undertaking the assessment quizzes. To further this work an HEE grant to align the POPS education programme with other advanced practice credentials has been secured. The resource will be linked with local higher education institutions to develop work based learning academic credit options.

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Poster keywords

Nurse, Allied Health Professional, Workforce Development, Education, Perioperative

91

Association between perioperative fluid management and patient outcomes: a single centre retrospective study

Michael McCusker, Thomas Reevell, Gary Thomson, Lucy Guile, Sonya McKinlay
Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Introduction Fluid therapy is an integral component of postoperative care. Postoperative complications increase hospital length of stay and patient mortality. Optimal perioperative fluid therapy should therefore decrease complications and improve patient outcomes. This study aimed to determine associations between volume of fluid administered and patient outcomes.

Methods All patients undergoing major surgery requiring post-operative high dependency care during a two-month calendar period were included. Surgical specialty, mode of surgery (laparoscopic / open surgery), baseline patient characteristics (age, sex, oncological, ASA) and mode of anaesthesia (GA +/- addition of I.T. opiate, epidural, wound catheters) were recorded. SORT morbidity and SORT mortality were also calculated. Fluid volume was determined utilising anaesthetic records, fluid prescription charts and fluid balance charts.

The total volume of intravenous fluid included fluid administered intra-operatively (including blood products) and all subsequent intravenous fluid prescribed and given until the end of post-operative day 3. Patients were then categorized into quartiles depending on total volume of fluid. Primary patient outcomes were determined using the Postoperative Morbidity Survey (POMS) on post-operative day 7. POMS is a nine-domain tool validated to describe in-hospital morbidity following major surgery. Hospital mortality, discharge destination and hospital length of stay were also recorded.

Results 68 patients were included in the study. There was one mortality, occurring on post-operative day 47. There was a progressive increase in hospital length of stay and day 7 post-operative morbidity as the total volume of fluid increased . Interestingly, the average SORT morbidity score was lowest in the quartile of patients who received the largest volume of fluid, suggesting that fluid administration may be independent of type of surgery and patient co-morbidities.

Conclusion Increasing total volume of fluid was associated with an increase in patient morbidity and hospital length of stay. Whilst it is impossible to determine whether fluid is causal in the development of detrimental patient outcomes, this study is suggestive that increased fluid is likely to cause harm. Adopting evidence-based fluid management protocols may confer potential benefits and expedite patient recovery.

References T.E. Miller, P.S. Myles. Perioperative fluid therapy for major surgery Anesthesiology, 130 (2019), pp. 825-832 T.E. Miller, M Mythen, D Shaw. Association between perioperative fluid management and patient outcomes: a multicentre retrospective study. British Journal of Anaesthesia, 126 (3): 720e729 (2021) Bennett-Guerrero, Welsby I. The use of a postoperative morbidity survey to evaluate patients with prolonged hospitalization after routine, moderate-risk, elective surgery. Anesth Analg. 1999 Aug; 89(2):514-9.

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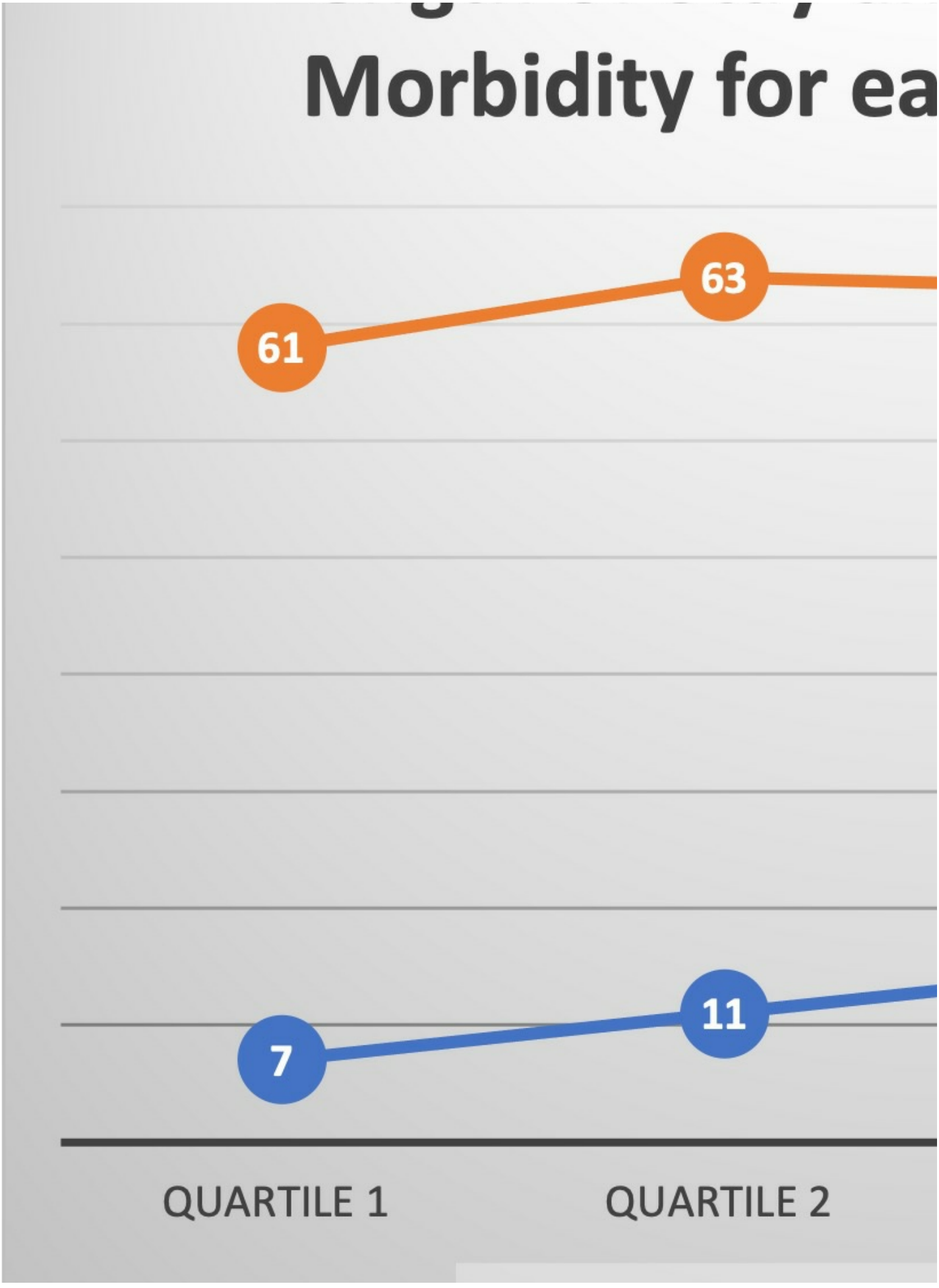
Morbidity for ea
63
61
11
7
QUARTILE 1
QUARTILE 2

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Column1	Quartile 1	Quartile 2
Number of patients	17	
Fluid Range (Total fluid until end of post-op day 3	3179 - 6080 mls	6081 - 925
Median length of stay (days)	7	
Average length of stay (days)	7	
Day 7 Respiratory Morbidity (% of cases)	5.90%	
Day 7 infectious Morbidity (% of cases)	17.64%	
Day 7 Renal Morbidity (% of cases)	0.00%	
Day 7 Gastrointestinal Morbidity (% of cases)	17.65%	
Day 7 Cardiovascular Morbidity (% of cases)	0%	
Day 7 Neurological Morbidity (% of cases)	0%	
Day 7 Wound morbidity (% of cases)	5.90%	
Day 7 Haematological Morbidity (% of cases)	0%	
Day 7 Pain Morbidity (% of cases)	0%	
Average SORT morbidity at day 7 (%)	61%	

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Poster keywords

fluid administration, patient outcomes, morbidity, SORT morbidity, length of stay

93

A retrospective audit in the incidence of preoperative anaemia amongst major non-cardiac surgical patients in a large tertiary referral centre.

Alison Deasy, Lindi Synman
Tallaght University Hospital, Dublin, Ireland

Abstract

Introduction: Iron deficiency is the commonest nutritional deficiency worldwide, affecting approximately two billion people (1). The prevalence of iron-deficiency anaemia amongst non-cardiac surgical patients ranges from 34% to 60%(2). Anaemia is a recognised risk factor for poor postoperative outcomes and contributes to an increased likelihood of peri-operative autologous blood transfusion, which itself is associated with higher rates of post-operative morbidity and mortality (1). The diagnosis and treatment of anaemia and iron deficiency should commence as early as possible in the peri-operative period.

Methods: This was a retrospective study, performed in a single 560 bed university teaching hospital. All patients who underwent an elective hip and/or knee replacement surgery over a three month period (October 1st to December 31st 2019) were identified by review of the hospital information system. Their pre- and postoperative haemoglobin (Hb) levels and any instances of the administration of intra-operative allogenic blood transfusion products were recorded.

Results: Anaemia (Male Hb <13.0g/dL, Female Hb <11.5g/dL) was present in 29 of 70 patients (41.4%). 4 out of the 29 patients with preoperative anaemia received one or more allogenic blood products during their in-patient stay (13.7%). The threshold for relevant intra-operative blood loss was characterised by a reduction in haemoglobin levels of >2g/dL. This was identified in a total of 23 patients (32.8%). 13 of those patients (18.5% of the total) had a reduction in haemoglobin levels of >3g/dL.

Conclusion: We conclude that recognition and management of preoperative anaemia is suboptimal in our institution. It is clear that preoperative anaemia can contribute to adverse outcomes. We aim to introduce a peri-operative pathway for the management of patients with anaemia that extends from the decision to operate to complete recovery from surgery. Major, non-urgent surgery should be postponed to allow the diagnosis and management of anaemia and iron deficiency. Intravenous iron is a safe and efficacious therapy in patients who require urgent surgery.

References: 1.Munoz M, Acheson AG, Auerbach M, Besser M, Habler O, Kehlet H, et al. International consensus statement on the peri-operative management of anaemia and iron deficiency. Anaesthesia. 2017;72(2):233-47. 2.Munoz M, Laso-Morales MJ, Gomez-Ramirez S, Cadellas M, Nunez-Matas MJ, Garcia-Erce JA. Pre-operative haemoglobin levels and iron status in a large multicentre cohort of patients undergoing major elective surgery. Anaesthesia. 2017;72(7):826-34.

Program permission

yes

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Poster keywords

Preoperative , Anaemia, Optimisation, Iron, Pathway

94

Orthopaedic Oncall Bleep Log

Karim Elfergani, Thananjeyen Srirangarajan, Ahmed Mattar, Amit Patel
kings college Hospital, london, United Kingdom

Abstract

Introduction: Oncall Bleep (SHO) / (SpR) receive bleeps from the ward nurses requesting jobs that should be completed by the ward SHO Distract from time essential tasks Post take/ trauma meeting jobs Managing trauma list admin (TCI) Clerking and managing referrals Redirecting the bleep

Method: Asked SHO/ SpR to log all their bleeps they receive during their day oncall. Information Collected Time of bleep, time acted upon Location bleep came from Reason for bleep Action performed Information Analysed Total number of bleeps per shift data collection : Number of New Referrals/ Advice ED, UCC, Ward Number of On call Admin Jobs TCI, Bed Manager, Trauma List, Admitted new patients Number of In Hours Ward Admin Ward patient review, ward patient prescription, ward patient query Number of Out of Hours Admin Ward patient review, ward patient prescription, ward patient query results : Total Oncalls 22 Days Shifts Between May 2020 – Oct 2020 8 Different Doctors- table of result included in the next section(image uploaded).

Discussion/ Conclusion: 30% of oncall bleeps are for in hours ward review/ admin We acknowledge oncalls are variable – heavy vs. light Oncalls Role In Hours New Referrals/ Advice Clerking, acute management, follow up, med review etc. Urgent Admin – TCI calls, Trauma list NOT – Routine Ward review/ jobs Prescriptions, talk to patient, talking to family, patient review, EDN

Recommendations: Ward Team needs to be more accessible Ward Nurses need to be aware about orthopaedic team structure Collecting information on ward nurses perspective Consider change in ward bleeps – standard “14” or WiFi Phone What is the standard weekend ward bleep? Re-Audit – Oncall Log after intervention

Author: Karim elfergani / Thananjeyen Srirangarajan / Ahmed Mattar / Clare Porte / Amit Patel .

Image upload

Result- Average bleeps

CATEGORGY	Total Number of Bleeps	Number of New Referrals/ Advice	Number of Oncall Admin
AVERAGE BLEEPS	14.5	5	4
RANGE	5-28	3-9	0-9

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yes

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Poster keywords

Orthopaedic team, bleep log, on call duties, PRUH, QIP

95

Improving the Diagnosis and Management of Iron Deficiency Anaemia in Pre-operative Patients with Colorectal Cancer: A Quality Improvement Project

Frederick Wyn-Griffiths, Kate Adams, Mandeep Dhanda, Aninda Chandra, Atul Garg
Walsall Healthcare NHS Trust, Walsall, United Kingdom

Abstract

Improving the Diagnosis and Management of Iron Deficiency Anaemia in Pre-operative Patients with Colorectal Cancer: A Quality Improvement Project

Introduction: Pre-operative anaemia in patients with cancer increases the risk of peri-operative blood transfusions and is associated with poorer outcomes post-surgery (1). Through engaging in a quality improvement programme, the team aimed to increase pre-operative haemoglobins and decrease the need for blood transfusions.

Methods: A traditional Plan, Do, Study, Act (PDSA) cycle was followed at Walsall Manor Hospital (WMH). From June 1st 2019 to November 30th 2020, data was collected from 137 patients in the ERAS colorectal cancer database. Data was collected on Hb, ferritin, T-sats/CRP, pre-op iron transfusion and post-op blood transfusion. We diagnosed iron deficiency anaemia (IDA) in keeping with the international consensus statement on peri-operative management IDA (2). Data was collected retrospectively prior to the intervention over a 5 month period from 47 patients from June 2019 to October 2019. An interventional educational evening surrounding management of pre-operative IDA was attended by a multi-disciplinary team with various stakeholders. The subsequent data from 90 patients was prospectively collated from November 2019 to end November 2020 (13 months).

Results: In the 5 months prior to the intervention, 8 out 26 (31%) anaemic patients had their ferritin levels checked and none of these patients with possible IDA had treatment with IV iron pre-operatively. In the subsequent 13 months, collaboration amongst the team and with engagement with the hospital as a whole, 32 out of 55 (58%) anaemic patients had ferritin levels and 17 out of 24 (71%) patients with confirmed IDA had IV iron pre-operatively. In terms of blood transfusion per patient, initially this was 0.85 units but decreased after the intervention to 0.66.

Conclusion: Despite interruption from COVID-19, there was a clear improvement in pre-operative iron transfusion and a decrease in blood transfusions per patient. In conjunction with the Quality Improvement academy, we are developing an operating policy in order to standardise assessment, diagnosis and management of patients at WMH. The intervention required fractional expense to initiate multi-disciplinary buy-in. It has resulted in a reduction in post-operative blood transfusion which should be cost-effective and sustainable.

References: 1.Musallam KM, Tamim HM et al. Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study. Lancet 2011;378: 1396-407 2.Munoz M, Acheson et al. International consensus statement on the peri-operative management of anaemia and iron deficiency. Anaesthesia 2017;72:233-47

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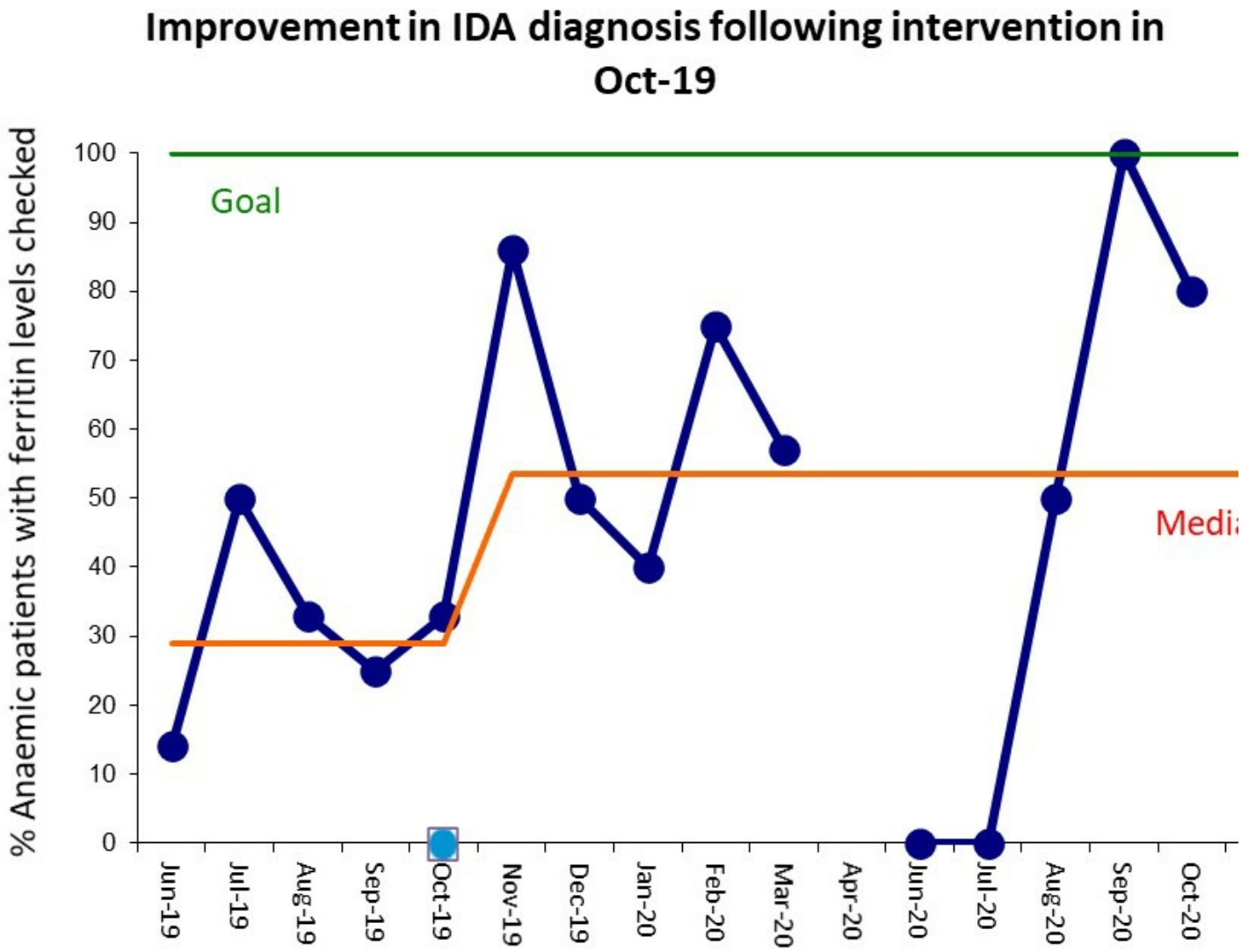

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Poster keywords

Iron deficiency anaemia, Pre-operative, Colorectal, Cancer, Quality improvement

96

Abdominal wall reconstruction: The significance of pre-operative rehabilitation on post-operative success

Maani Aghahoseini
York district hospital/Hull York medical school, York, United Kingdom

Abstract

Introduction: Abdominal wall reconstruction (AWR) is associated with a variety of post-operative complications including recurrence and surgical site infection (SSI). Recently there has been a significant increase in Prehabilitation programs aiming to improve the pre-operative modifiable risk factors, to ultimately minimize peri-operative morbidity.

Objectives: To analyse the impact Prehabilitation programs have on post-operative complications, following AWR, and outline potential recommendations for improved recovery in conjunction with the York abdominal wall unit

Methods: A literature search was conducted with the PubMed database from its inception to 2020. Selected studies included literature reviews or case series in peer-reviewed journals. The selection criteria are shown in figure 1 (uploaded)

Findings: The four most effective modifiable risk factors in lowering post-operative complications were obesity, glycaemic control, smoking and malnutrition. Two year risk of recurrence in patients with a BMI between 40-49 kg/m2 was 25%, Weight over 6 months was found to reduce both SSI and recurrence. Tobacco use increases risk of infection by 2.5-fold. Following cessation, levels of SSI's, wound healing and pulmonary complications were similar to non-smokers. Postoperative hyperglycaemia increased the risk of post-operative infection by 30%. The risk of infection doubles and dehiscence triples when glucose levels are above 200 mg/dL. Greater mortality is reported in patients with protein malnutrition, primarily arginine and methionine. A 10-fold increase in infection was shown in patients with low serum albumin.

Discussion: A MDT approach to weight loss has been shown to be >90% effective. This was maintained for up to 18 months post-surgery. Methods involve a supplemented protein sparing, modified fast, with individualised plan, regularly reviewed by a dietician and surgeon. On tobacco use it was repeatedly shown that 4-week smoking cessation reduces all risks to that of a non-smoker. Methods of cessation varied as nicotine replacement may result in vasoconstriction and impaired wound healing. Various counselling and when permitted, nicotine replacement all where statistically successfully in reducing tobacco use.

In diabetic patients, manage through insulin, and target pre-meal glucose of <140 mg/dL with a random BG of <180 mg/dL. In non-diabetic patients, target glucose levels of 80-110 mg/dL. Screening tools including Nutritional Risk Screening 2002 and Nutrition Risk in Critically ill are effective tools in measuring metabolic impact. Five days prior to surgery pre-operative supplementation of omega-3 fatty acids and arginine significantly lowers LOC, and hospitalisation cost. Post-operative protein goals of 1.5-2.5 g/kg/day should be prioritised for optimal preservation of muscle mass and functionality.

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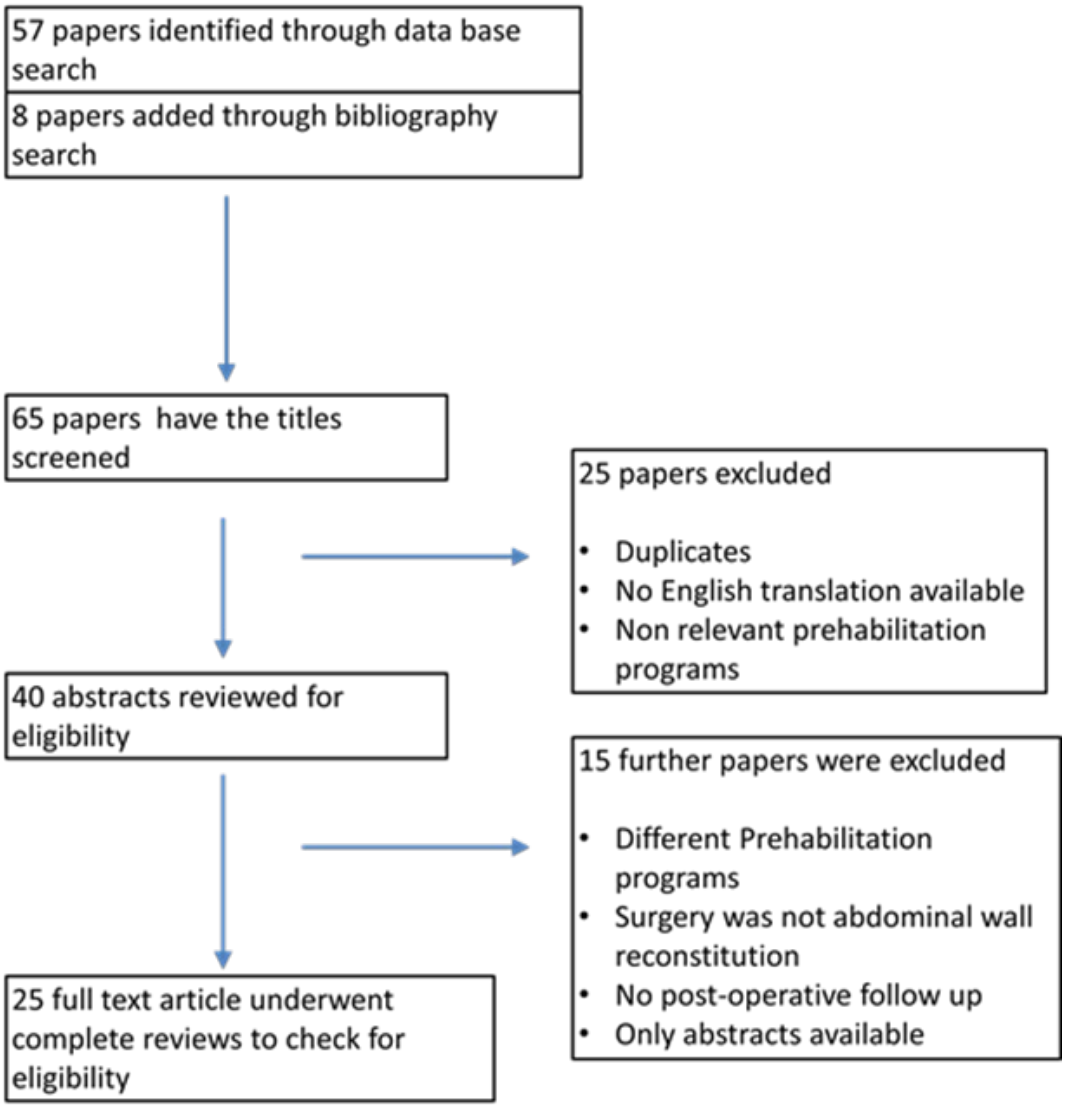

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Poster keywords

Abdominal wall reconstruction, Preoperative medicine , Postoperative medicine, Rehabilitation , Morbidity and mortality

97

Radiological Derived Metrics as an alternative measurement of Frailty in Emergency Laparotomy Patients irrespective of age.

Robert Maybin, Helen Oliver, Caron Sandhu, Stephen Laver
Royal United Hospitals, Bath, United Kingdom

Abstract

Title: Radiological Derived Metrics as an alternative measurement of Frailty in Emergency Laparotomy Patients irrespective of age.

Introduction: Clinical Frailty scores are used to prognosticate and make treatment decisions, but their use is not validated in all patient groups, including those under 65 years old (1). Sarcopenia can be determined by radiological examination of skeletal muscle composition and used as a proxy measure for clinical frailty. (2) Emergency laparotomy patients receive CT abdomen-pelvis and critical care input as NELA recommendation (3). With no additional radiation dose, CT derived frailty may offer a more objective measure of frailty in emergency laparotomy patients than current frailty scoring methods.

Methods: A retrospective cohort analysis of one calendar years emergency laparotomy patients with bowel pathology admitted to a general intensive care unit was performed. A secondary analysis of verified ICNARC data was obtained in conjunction with a retrospective analysis of Abdominal and Pelvic CT scans reviewing psoas muscle area, composition and abdominal fat was completed by a Consultant Radiologist. The L3 psoas muscle index (LPMI) and Hounsfield Units (HU) attenuation of the Psoas muscle bulk at the level of the L3 vertebrae were recorded. Statistical analysis was used to observe correlation between these radiological metrics, Rockwell Clinical Frailty Scores and age to see any correlation with length of hospital stay in patients who survived their hospital stay.

Results: 11 patients died during hospital stay and were excluded (11.2%). Please see table

Conclusion: LPMI is an independent measure for frailty that relates to hospital length of stay irrespective of age. The CFS was not a predictor of increased length of stay in those under 65. Radiological assessment of frailty may be a more accurate prediction of recovery from emergency bowel surgery than CFS.

References: (1)Specialised Clinical Frailty Network, Specialised Clinical Frailty Scale, https://www.scfn.org.uk/clinical-frailty-scale, Last Accessed 05/21 (2)Taehwan Yoo, MD, Wilson D.Lo BS, DavidC.Evans, FACS, Trauma and Critical Care, Volume 162, P377-384, 2017 (3)National Emergency Laparotomy Audit, NELA Standards, https://www.nela.org.uk/Standards-Documents#pt , Last Accessed March 2021

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Number of Patients	N=155 (f=78, m=77)		Hypothesis (where frail is CFS of at least 4)	
Age in years (median, IQR)	66(55-76)		CFS of at least 4 as a predictor of increased LOS.	
Clinical Frailty Score (CFS) (median, IQR)	3 (2-4)		Frail and age over 65yrs versus LOS	
UK Apache 2 score (median, IQR)	11 (8-14)		Frail and under 65yrs versus LOS	
ITU LOS in days (median, IQR)	2(1-4)		Frail versus non frail LPMI	
Hospital LOS in days (median, IQR)	14(9-22)		Frail versus non frail LOS	
HU score	42.2(35.4-48.4)		Frail versus non frail HU	
LPMI	5.14(4.04-6.56)		Frail HU versus non frail LOS	

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Poster keywords

Critical Care, Radiology, Frailty, Laparotomy, CT

98

Pre-operative Cardiopulmonary Exercise Testing in a patient with previous laryngectomy

Jonathan Lloyd-Evans, Michael Adamson, Richard Davies
University Hospital of Wales, Cardiff, United Kingdom

Abstract

Introduction A 66 year old male was referred for cardiopulmonary exercise testing (CPET) prior to right hemicolectomy for biopsy proven colorectal cancer. His medical history included significant cerebrovascular disease, excess alcohol consumption and ischaemic heart disease. Of note he had undergone a laryngectomy one year prior to CPET referral for recurrent head and neck cancer. As there are currently no commercially available systems to connect the flow sensor to a laryngectomy stoma we describe the assembly of readily available anaesthetic equipment to allow assessment in patients presenting with laryngectomy or tracheostomy.

Methods The laryngectomy stoma was intubated with a size 8 Traceo® Twist tracheostomy (Kapitex Healthcare Ltd, Wetherby). The tracheostomy cuff was inflated with 10mls of air and the end briefly occluded to exclude a cuff leak. We connected our MedGraphicsTM CPET mouthpiece and flow sensor (MedGraphicsTM, Gloucester, UK) to the tracheostomy tube using a 132mm length, 15mm female to 22mm female catheter mount (Flexicare Group Ltd, Mountain Ash), and a 22mm male to 30mm male scavenging connector (Intersurgical Ltd, Berkshire) as shown in Figure 1. The catheter mount was connected to the tracheostomy and the male end of the scavenging connector fitted securely into the rubber mouthpiece.

Results The patient completed baseline spirometry using the described system before undergoing exercise testing. His pulmonary function tests were consistent with mild to moderate COPD. The test concluded at a peak work of 67watts (59% predicted) due to leg fatigue. His peak oxygen consumption (PVO2) was 12.5mlO2.kg-1.min-1 and ventilatory equivalents for carbon dioxide (VE/VCO2) of 48. His anaerobic threshold was indeterminate because his respiratory exchange ratio (RER) was persistently elevated >1. Failure to achieve a PVO2 >15.4mlO2.kg-1.min-1 with VE/VCO2 >34 placed this patient in a high perioperative risk group as per local criteria. The results facilitated an informed discussion of perioperative risk and supported a patient centric collaborative decision making process which ultimately led to the patient deciding to proceed with surgery.

Conclusion Variables derived from CPET have repeatedly been shown to predict post-operative outcomes in colorectal surgery (1) and as such it has become an invaluable component of pre-operative assessment in selected individuals. We have demonstrated that disruption to the normal anatomy of the upper airways should not necessarily prove a barrier to equitable access to CPET and the individualised perioperative risk assessment that it provides.

References 1. West MA et al. Br J Surg. May;103(6):744-752. 2016

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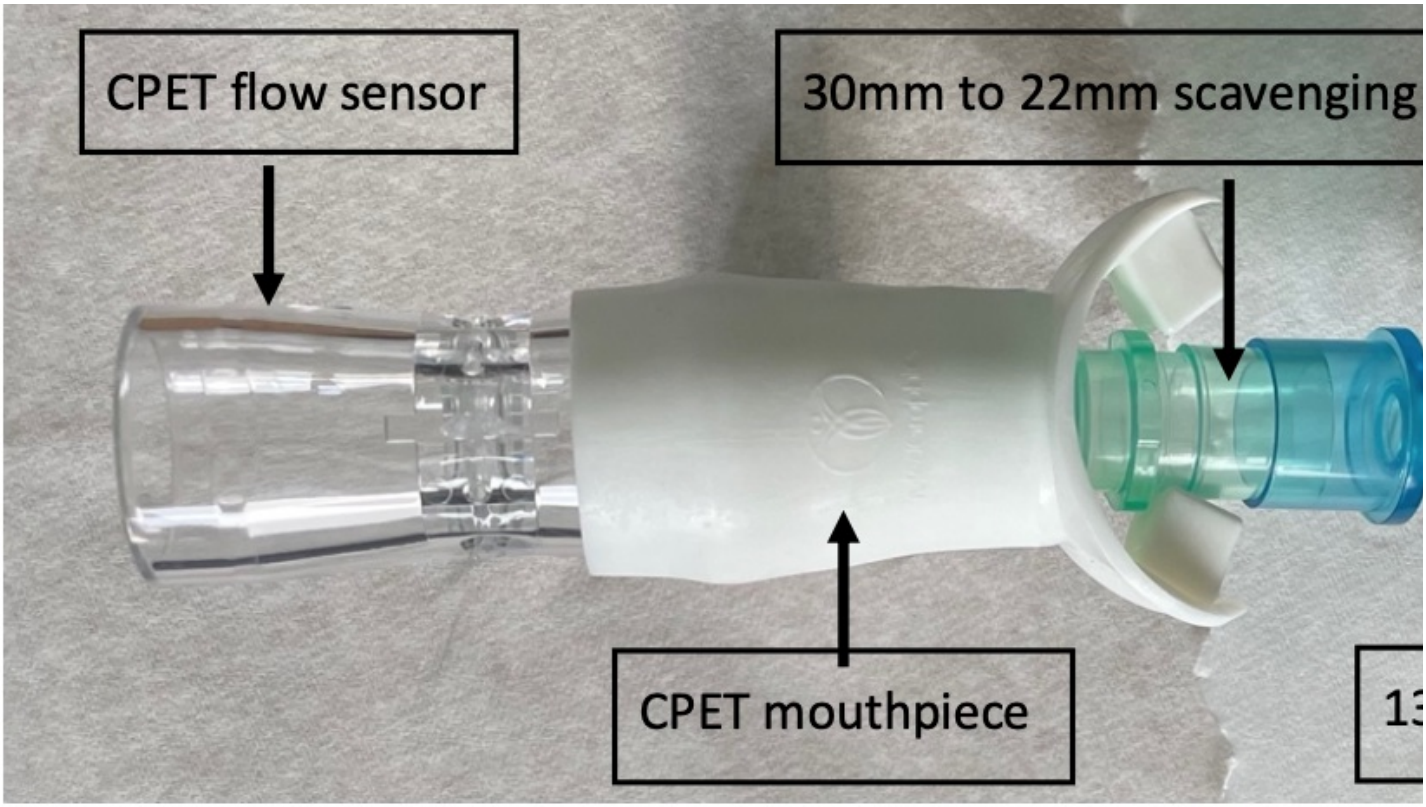

Figure 1. Labelled equipment configuration

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Poster keywords

CPET, Laryngectomy, Tracheostomy, Cardiopulmonary exercise testing

99

Cavitating pulmonary lesions in patients with COVID-19 pneumonia - a case series

Ciara Hayden, Mai O'Sullivan, Zohaib Aslam, Kim O'Brien, Barry John Kelly
Cork University Hospital, Cork, Ireland

Abstract

Introduction: Severe Acute Respiratory Coronavirus 2 (SARS-CoV-2) is primarily a respiratory pathogen. The typical radiological findings seen on computed tomography of the thorax in patients with COVID-19 pneumonia are well described and most commonly include ground glass opacities and consolidation. Bilateral, multifocal involvement, opacities with rounded morphology and reticulation are also commonly seen. A small number of case reports have described pulmonary cavitation associated with SARS-CoV-2 infection however it is considered a rare finding. Here we present a series of five cases of Covid-19 pneumonia who developed cavitating lung lesions.

Case series: Five patients admitted to our ICU with COVID-19 pneumonia developed pulmonary cavitation. At admission all had expected radiological findings and no evidence of cavitating disease. All required intubation and positive pressure ventilation. All patients were treated with corticosteroids and one received tocilizumab. The median time to radiological diagnosis of the cavitating lesion was 28 days. All patients were found to be AFB negative with no evidence of venous thromboembolism. Three of the patients died in ICU from complications of COVID-19.

Discussion: Cavitating lesions associated with COVID-19 pneumonia are considered rare. The exact mechanism leading to their formation is unclear. All of our patients had positive microbiology and superimposed fungal or bacterial infection or an opportunistic infection in iatrogenically immunosuppressed patients are potential pathogenic mechanisms. Another potential mechanism is microvascular pulmonary endothelialitis as small vessel vasculitis is a known cause of cavitation. Cavitating lesions have been described in association with pulmonary embolus in COVID-19 disease. In our patients, cavitating lesions developed later in the course of the disease and may be part of the natural history of severe disease.

Conclusion: This series describes a rare yet significant complication of COVID-19 pneumonia. The literature is thus far limited to case reports. The exact mechanism remains unclear and is likely multifactorial. The possibility of such complications should be considered in all patients with severe disease.

References: 1) Selvaraj, V. and Dapaah-Afriyie, K., 2020. Lung cavitation due to COVID-19 pneumonia. BMJ Case Reports, 13(7), p.e237245. 2) Ackermann M, Verleden S, Kuehnel M et al, 2020. Pulmonary Vascular Endothelialitis, Thrombosis, and Angiogenesis in Covid-19. New England Journal of Medicine, 383(2), pp.120-128. 3) Menter T, Haslbauer JD, Nienhold R et al. Postmortem examination of COVID-19 patients reveals diffuse alveolar damage with severe capillary congestion and variegated findings in lungs and other organs suggesting vascular dysfunction. Histopathology. 2020 Aug; 77(2):198-209.

Program permission

yes

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Poster keywords

COVID 19 , SARS-CoV-2, Pulmonary cavitation , Pulmonary complications

100

Peri-operative provision of steroids for patients taking long-term steroids: a quality improvement project

Victoria Tuckey, Nedal Dabab, Adam Revill
Torbay Hospital, Torquay, United Kingdom

Abstract

Introduction Adult patients taking long-term steroids, defined as ³5mg prednisolone or equivalent for one month or more, are at risk of hypothalamic-pituitary-adrenal axis suppression and therefore adrenal crisis at times of physiological stress, including the peri-operative period.1,2 This includes steroids given via multiple administration routes including oral, inhaled, intravenous, intra-articular and topically.1 This quality improvement project aimed to determine baseline practice with regards to steroid supplementation in patients on long-term steroids, introduce measures to improve adherence to guidance and introduce changes to systems to increase likelihood of at-risk patients being identified.

This project is relevant given the 2020 publication of a new national guideline for glucocorticoid management in the perioperative period in patients with adrenal insufficiency and the recent National Patient Safety Alert which highlights that healthcare providers should be prompted to check for risk of adrenal crisis in patients undergoing surgery.1

Methods Baseline data were collected from PICIS (pre-operative assessment system) and Anaesthesia Manager (computerised anaesthetic chart) including dose of steroid, route of administration of steroid patients were prescribed at time of pre-assessment and type and dose of steroid given intra-operatively. The percentage adherence to national guidance on a monthly basis was presented in table and bar chart form at a departmental meeting. Interventions included; adding alerts to electronic systems, staff education at meetings and presentation of data in the anaesthetic department, development of a local guideline.

Results Baseline data were retrospectively collected between May 2019-November 2020. The baseline data showed a mean appropriate steroid provision of 30.6% over an 18-month period prior to the introduction of primary and secondary drivers. After the introduction of measures the mean appropriate steroid provision increased to 48.9%.

Conclusion Improvement was seen in the adherence to national guidance for peri-operative provision of steroids to patients at risk of hypothalamic-pituitary-adrenal axis suppression from long-term steroid provision after introduction of staff education and information technology changes. However, further work is required to meet a target of 100% adherence to guidance.

References 1.Woodcock, T., Barker, P., Daniel, S., Fletcher, S., Wass, J.A.H., Tomlinson, J.W., Misra, U., Dattani, M., Arlt, W. and Vercueil, A. (2020), Guidelines for the management of glucocorticoids during the peri-operative period for patients with adrenal insufficiency. Anaesthesia, 75: 654-663. https://doi.org/10.1111/anae.14963 2.Nicolaides NC, Pavlaki AN, Maria Alexandra MA, et al. Glucocorticoid Therapy and Adrenal Suppression. [Updated 2018 Oct 19]. In: Feingold KR, Anawalt B, Boyce A, et al., editors. Endotext [Internet]. https://www.ncbi.nlm.nih.gov/books/NBK279156/

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Poster keywords

Steroids, Glucocorticoids, Quality Improvement

101

Acute pancreatitis in a patient with COVID-19 pneumonia

Ciara Hayden, Brian O'Brien
Cork University Hospital, Cork, Ireland

Abstract

Introduction: SARS-CoV-2, the etiological agent of Covid-19 disease, although primarily a respiratory pathogen, has multiorgan tropism. ACE2, the SARS-CoV-2 receptor, is highly expressed in the pancreas, rendering it a potential coronaviral target [1]. Pancreatic injury manifests as acute pancreatitis, which can range from mild, self-limiting to a more serious life-threatening form. Whilst gallstones and alcoholism are known to be the most common etiological agents, 10% of cases are thought to be infectious in origin [2]. We describe a case of a patient with severe Covid-19 who developed acute pancreatitis.

Description 68 -year -old man, developed severe Covid-19, requiring admission to ICU. He was treated antibiotics, corticosteroids and remdesivir. On day 14 of his ICU course, while he remained intubated and ventilated, a sudden unexplained rise in liver enzymes prompted CT imaging which showed changes of early pancreatitis, with an associated elevated amylase (1704 U/ml). A subsequent CT on day 34 showed acute interstitial pancreatitis and a peri pancreatic fluid collection. No other apparent etiological cause for pancreatitis was identified. The patient currently remains in ICU, a ventilator weaning protocol has been commenced and supportive care continues.

Discussion 10% of cases of pancreatitis are believed to be infectious in origin. We propose that our patient’s pancreatitis was related to SARS-CoV-2 infection, either directly, as a result of medications used to manage the condition, or both. Viral binding and entry into the pancreatic cell is postulated to result in direct cellular injury. Proposed indirect mechanisms of pancreatic injury include cell death due to overwhelming immune response, exaggerated SIRS or due to microvascular injury, thrombosis or shock. This case describes acute pancreatitis in the setting of Covid 19 infection and its treatment, supporting other reports that acute pancreatitis is an extra pulmonary manifestation of Covid 19 disease [1]. Timely diagnosis and appropriate management is important as co-existence of pancreatitis and Covid 19 has been reported to result in an increased incidence of multi organ failure.

References 1.Wang F, Wang H, Fan J, Zhang Y, Wang H, Zhao Q. Pancreatic Injury Patterns in Patients With Coronavirus Disease 19 Pneumonia. Gastroenterology. 2020 Jul;159(1):367-370. doi: 10.1053/j.gastro.2020.03.055. Epub 2020 Apr 1. PMID: 32247022; PMCID: PMC7118654. 2.Rawla P, Bandaru SS, Vellipuram AR. Review of Infectious Etiology of Acute Pancreatitis. Gastroenterology Research.2017;10(3):153-158. doi:10.14740/gr858w

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Poster keywords

COVID 19 , Extrapulmonary complications, Pancreatitis, SARS-CoV-2

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102 Virtual Prehab4Cancer - remote service delivery model

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Abstract

Introduction: The Prehab4cancer [P4C] model in Greater Manchester [GM] is the first system wide prehabilitation and recovery service in the UK for cancer patients [1]. The initial model is based upon face to face delivery by the P4C team through the GM Active leisure centre network. With the advent of Covid-19, it was necessary to suspend the face to face delivery of the programme and develop a P4C Remote Service Delivery model for cancer patients in GM.

Methods: The P4C team developed a Personalised Home Exercise Pack which could be tailored to each patient and sent out by email or post, with the inclusion of resistance bands to support home exercise. The Prehab4cancer team continued to perform assessments over the telephone/video calls placing patients in Universal (40%) or Targeted (60%) arms to receive the necessary level of support. For targeted patients this consisted of twice weekly telephone or video call exercise sessions, and for Universal patient group, weekly telephone/video call exercise sessions.

These sessions were supported by further development of the prehab4cancer.co.uk website with a new YouTube channel containing additional exercise videos and support on nutrition and wellbeing, live online classes (14 per week), 1-2-1 video sessions and remote digital heart rate monitoring (MyZone). The P4C team worked closely with GM cancer pathway leads to ensure that the surgical teams were aware of the virtual service.

Results: Between March 2020 and April 2021, 1136 patients have engaged with the P4C remote service delivery. 215 of these were existing patients whilst 921 have been new referrals since the new virtual service began. The uptake rate following referral was over 85%. Assessments are completed at 4 time points during the programme (Baseline, preop, post-op and post rehab). The table below shows the outcomes of 3 of the assessments performed: As shown improvements were made in the sit to stand data in both the prehab and rehab phases. There is a positive impact on the WHODAS score indicating improvements in quality of life and an increase in the self-efficacy of exercise.

Conclusion: Virtual model of P4C has been successfully implemented in Greater Manchester with excellent engagement and adherence rate, positive outcome measures and supports a blended delivery model planned going forward.

Ref: 1.Implementing a system-wide cancer prehabilitation programme: The journey of Greater Manchester's 'Prehab4cancer' Eur J Surg Onco 2021 Mar;47(3 Pt A):524-532. Moore et al

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Assessment data for Virtual Prehab4cancer programme

	Baseline (789 patients)	Pre Op (402 patients)	Post Op (265 patients)
Sit to Stand – 60 second	24	28	24
WHODAS	4.4	3.3	5.3
Self Efficacy of Exercise Scale	68	74	70

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Poster keywords

Virtual prehab, Cancer, Surgery, Prehab4cancer

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Core Outcome Measures for Perioperative and Anaesthetic Care (COMPAC)

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Abstract

Background: Outcome measures selected for clinical trials underpin the interpretation of trial results. Inconsistency and variability in outcome selection and reporting hinders comparison and pooling of different trials' results, reducing the utility of research findings to end users.(1) Core outcome sets help promote consistency and standardisation in trial outcome reporting, thereby reducing unwarranted variation in outcome selection.

Methods: We conducted an iterative consensus process involving a wide and inclusive range of stakeholders to develop a set of Core Outcome Measures for Anaesthesia and Perioperative Medicine trials, according to the established Core Outcome Measures for Effectiveness Trials (COMET) methodology.(2) First, we undertook a systematic review of randomised controlled trials published in high impact journals, to describe the range of outcomes currently reported.

We then conducted a survey exploring the views of patients, carers, researchers and perioperative clinicians regarding important outcomes after surgery. Finally, a purposive sample of stakeholders took part in a modified Delphi process to develop a core outcome set recommended for reporting in future perioperative and anaesthesia trials.

Results: Our systematic review revealed inconsistency in outcome reporting, with variable (or sometimes absent) definitions, levels of detail and temporal criteria. 3,986 participants from 30 UK hospitals completed the survey, in which the vast majority of patients, carers and clinicians rated clinical outcome measures critically important, but clinicians rated patient-centred outcomes less highly than patients and carers.

Sixty-seven participants contributed to the Delphi process, which yielded the following final core outcome set from a longlist of 64 candidate outcome measures: (i) Mortality/survival (postoperative mortality, long-term survival); (ii) Perioperative complications (major postoperative complications/adverse events using accepted, validated definitions; complications/adverse events causing permanent disability or harm); (iii) Resource use (length of hospital stay, unplanned readmission within 30 days); (iv) Short term recovery (discharge destination from hospital, and/or level of dependence); and (v) Longer-term recovery (overall health-related quality of life [using a validated scoring tool]).

Conclusions: The above core outcome set should guide the selection of outcomes in future perioperative medicine or anaesthesia trials. Mapping these alongside standardised endpoint definitions will yield a comprehensive perioperative outcome framework.

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Poster keywords

Core Outcomes, Surgery, Perioperative, Patient-Centred

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Peri-operative Fasting Times Amongst Elective and Emergency Surgical Patients

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Abstract

Introduction Peri-operative fasting guidelines for adult patients prior to anaesthesia suggest 2 hours for clear fluids, and 6 hours for food (1). Fasting aims to minimise the risk of aspiration of gastric contents during anaesthesia or sedation, but extended fasting may have implications for sub-optimal patient physiology and experience (1). We sought to identify fasting times in a sample of elective and emergency surgical patients in our unit.

Methods Study instructions were communicated to anaesthetists in advance via email. A data collection form was designed and attached to the front of the anaesthetic chart. The form collected data on clear fluid and food/non-clear fluid fasting times at the point of anaesthetic assessment and then on arrival to the anaesthetic room. Data was collected over a 1-week period from 52 elective and 15 emergency cases. Of 52 elective cases, 51 had complete data on clear fluids and 45 complete data on food/non-clear fluids. 1 was excluded completely due to insufficient data. Of 15 emergency cases, 13 had complete data on clear fluids and 12 on food/non clear fluids. 2 were excluded completely due to insufficient data. Data was analysed in Microsoft Excel.

Results Of 13 emergency patients, 5 received intravenous fluids prior to arrival in the anaesthetic room. Fluid fasting times for emergency and elective patients who had not received prior intravenous fluids are shown in Figure 1. In the elective patient population 57% last had clear fluid >4 hours prior to anaesthesia, and 14% >8 hours prior. 80% had food or non-clear fluids >12 hours prior, and 13% > 18 hours prior. In the emergency patient population 86% last had clear fluids (and no intravenous fluid) > 4 hours prior to anaesthesia, and 43% > 8 hours prior. 83% had food or non-clear fluids >12 hours prior, and 50% >18 hours prior.

Conclusion Fasting times for both elective and emergency patients were often prolonged in our unit. We plan a number of simple interventions followed by re-assessment of fasting times. These include staff education, use of visual cues, review of pre-assessment clinic instructions, and patient education tools.

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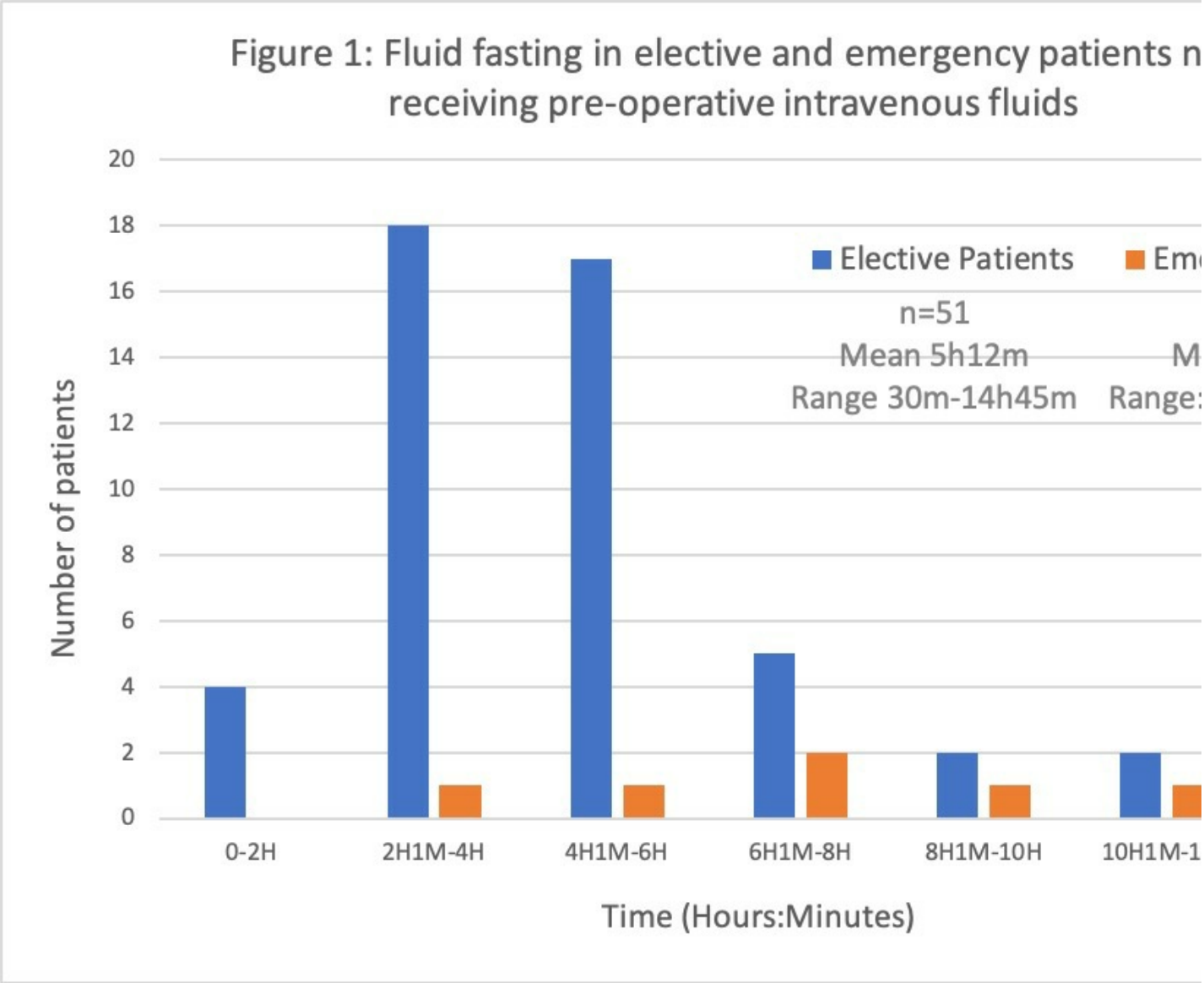

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Poster keywords

Fasting, Peri-Operative Medicine, ERAS, Patient experience, Optimisation

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Audit on preoperative fasting practices for elective abdominal surgery patients in the university teaching hospital

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Abstract

Introduction. Presurgical fasting guidelines have evolved, and current recommendations allow for clear fluid intake up to 2 hours before the procedure requiring anesthesia. A light meal may be consumed up to 6 hours prior, and larger meals with fatty foods no less than 8 hours before surgery.1 The ERAS and Cochrane guidelines advise shortening the fluid fasting improves patient outcomes.2,3 However, the adherence to international guidelines is often overlooked and the conventional "nil per os" advice is widely practiced in patients undergoing elective abdominal surgery. Our study sought to investigate how the current guidelines are met and what are the roadblocks to their implementation.

Methods. An audit of preoperative fasting time was performed in University Teaching Hospital in Ukraine. Data came from 200 elective surgical cases requiring general anesthesia over 6-month period in the abdominal surgery department. Data was collected from medical records stating the time of the last solid food/ liquid intake and the time of arrival to operational theater; also from patient interviews.

Results. The patient age range was 36-77 years, 110 (55%) patients were male and 90 (45%) female. The mean fasting time to solids and liquids was 11.8 hours and 6.2 hours respectively. The maximum fasting time was 17 hours, the minimum was 6 hours. Overall results indicate that only 24 patients (12%) completely adhered to recommended guidelines. 11 % of patients reported being confused or not properly informed by the staff on the recommended fasting times, 75% were misinformed to follow the 'nil per os' approach.

Conclusion. The recommended preoperative fasting practices are poorly met in patients undergoing elective abdominal surgery. The most evident barriers to adoption of preoperative fasting guidelines are lack of knowledge and training, also lack of communication at ward level. We hope that the audit results will increase awareness and facilitate a more effective implementation of the recommended fasting practices, reducing negative patient outcomes due to prolonged fasting.

References. 1.M. Megan Chacon et al. Part of the Great Fluid Debate—Are Fasting Patients Hypovolemic?,Journal of Cardiothoracic and Vascular Anesthesia, Volume 33, Issue 9, 2019,Pages 2428-2430, ISSN 1053-0770, https://doi.org/10.1053/j.jvca.2019.03.032. 2. Aarts MA, Okrainec A, McCluskey S, Siddiqui N, Wood T, Pearsall E, & McLeod RS. Enhanced Recovery after Surgery Guideline. SAGES 2014 1-30 3. Brady MC, Kinn S, Stuart P, Ness V. Preoperative fasting for adults to prevent perioperative complications. Cochrane Database of Systematic Reviews 2003, Issue 4. Art. No.: CD004423. DOI: 10.1002/14651858.CD004423.

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Poster keywords

preoperative fasting (POF), audit, elective , abdominal , surgery

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Systems Engineering to Patient Care in a Rural Perioperative Surgical Home

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Abstract

Introduction: Rural health centers have the greatest need to coordinate surgical care to improve patient access and outcomes. The Perioperative Surgical Home (PSH) has been used widely by urban health systems to coordinate surgical care episodes. However, limited PSH evidence exists for rural healthcare facilities particularly of how to implement PSH with limited supporting microsystems. This study assessed the currently functioning of a PSH within a rural, community hospital in order to create a system-level model to adapt/customize PSH to meet the needs of the staff, clinicians, patients, and communities served across three rural counties.

Methods: An initial PSH system model was created using field-based user observations during normal clinic operations, investigator-led debriefs of all 4 primary staff members, and longitudinal tracking of 20 patients. Using process mapping, the critical path method, bottleneck analysis, and cause and effect diagramming, the PSH system was adapted to better meet both staff and patient needs.

Results: Since many different stakeholders and microsystems exist in the PSH system, multiple iterative models and rapid improvement iterations were needed to identify ideal patient flows through the clinic while ensuring quality patient care and productive staff. The average visit time and standard deviation was 70 minutes and 24 minutes (n=20 patients). Since the clinic's volume has been rapidly increasing, revised processes were brainstormed to decrease visit time including hand-offs, consultations, and documentation procedures.

Conclusion: PSH's pre-operative physical assessment, sleep apnea screening, and post-acute inpatient care scheduling were significant bottlenecks in the rural PSH system. Using root-cause analysis and lean process improvement methods to several processes were rapidly integrated and are currently being assessed. Since the rural PSH clinic opened, average length of stay decreased, readmission rates fell, and patient satisfaction improved. Yet, future research is needed to understand issues including same-day cancellations, major adverse events, payer mix, cost savings and rural patient barriers to access PSH and its supporting microsystems.

Acknowledgments: This report was funded, in part, by a grant from the Montana Healthcare Foundation.

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Figure 1. PSH

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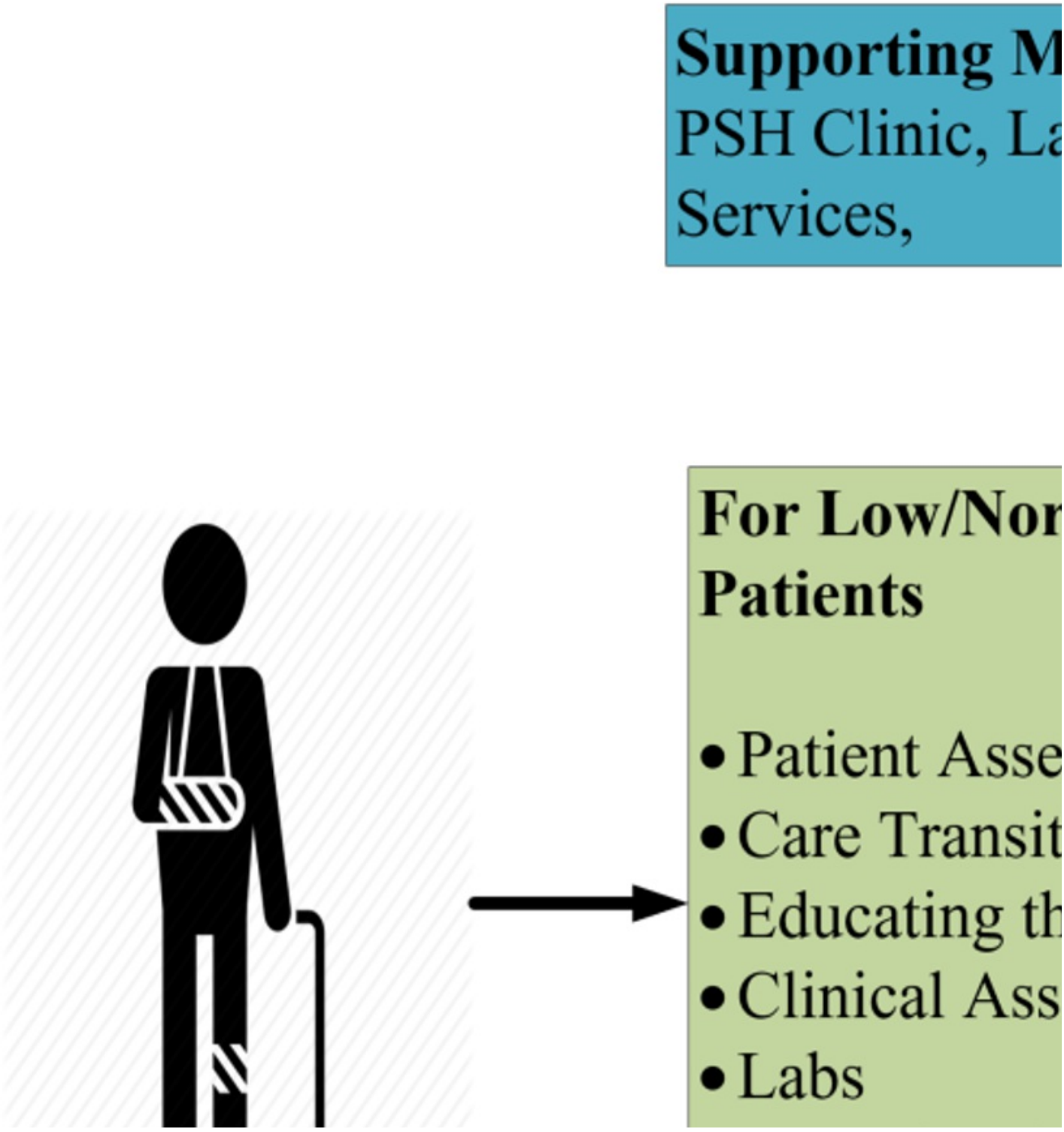

Figure 2

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Poster keywords

systems engineering, rural health, bottlenecks, Lean six sigma , optimization

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Patient Engagement in Perioperative Care at a Rural Community Hospital

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Abstract

Introduction: Patients in rural and socioeconomic deprived communities typically require more perioperative 'optimization' for surgery (Campbell et al., 2020). Unfortunately, these patients often experience less than optimal surgical outcomes and satisfaction primarily due to limited resources (staff, technology, facility type, supporting microsystems) in rural healthcare systems (Figure 1). In particular, rural hospitals have limited capacity and the ability to effectively engage and track patients over the 120-day perioperative period to limit post-surgical complications (Lesher et al., 2021). This study assessed longitudinal patient engagement within a newly established perioperative surgical home (PSH) at a rural community hospital to identify barriers and best practices to engage with a rural tri-county area that spans 9,000 square miles.

Methods: A digital patient engagement platform was implemented to assess longitudinal patient outcomes and engagement from 30 days pre-operative to 90 days post-operative. After enrollment, patients engaged with the system nine times at critical perioperative phases (-30 days baseline, day of surgery, post-operative days 1, 2, 3, 7, 30, 60, and 90). The research team (systems engineers teamed with clinicians) retrospectively analyzed 2-years of collected patient data (n=312) primarily consisting of orthopaedic procedures.

Results: The digital engagement system's email and text messages allowed patients and PSH staff to track outcomes, experiences and collaborate on post-surgical issues (pain management, functional recovery, medication, readmissions) across extensive geography and siloed care systems. Patients were, on average, 68.17 (± 8.75) years and predominantly male (59.6%). The overall average patient engagement was 30% (Figure 2). Most patient engagements were observed during the baseline pre-operative period (44%) followed by day 30 (36%). More than half of the patients engaged either in a pre-operative education class or the digital engagement system.

Conclusion: Patient engagement was critically important to optimize perioperative care particularly in this rural and underserved area. Digital longitudinal patient engagement was successful across the rural area as deployed by a community hospital's PSH. System modifications are being deployed to better engage patients and primacy care managers in the region to reduce actual and perceived perioperative barriers. Acknowledgments: This report was funded, in part, by a grant from the Montana Healthcare Foundation.

References: Campbell, K. et al. (2020). Using Patient Engagement Platforms in the Postoperative Management of Patients. Current reviews in musculoskeletal medicine, 13(4), 479-484. Lesher, A. P. et al. (2021). Surgery and the Smartphone: Can Technology Improve Equitable Access to Surgical Care? Journal of Surgical Research, 263, 1-4.

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Figure 1. Rural Perioperative Surgical Ho

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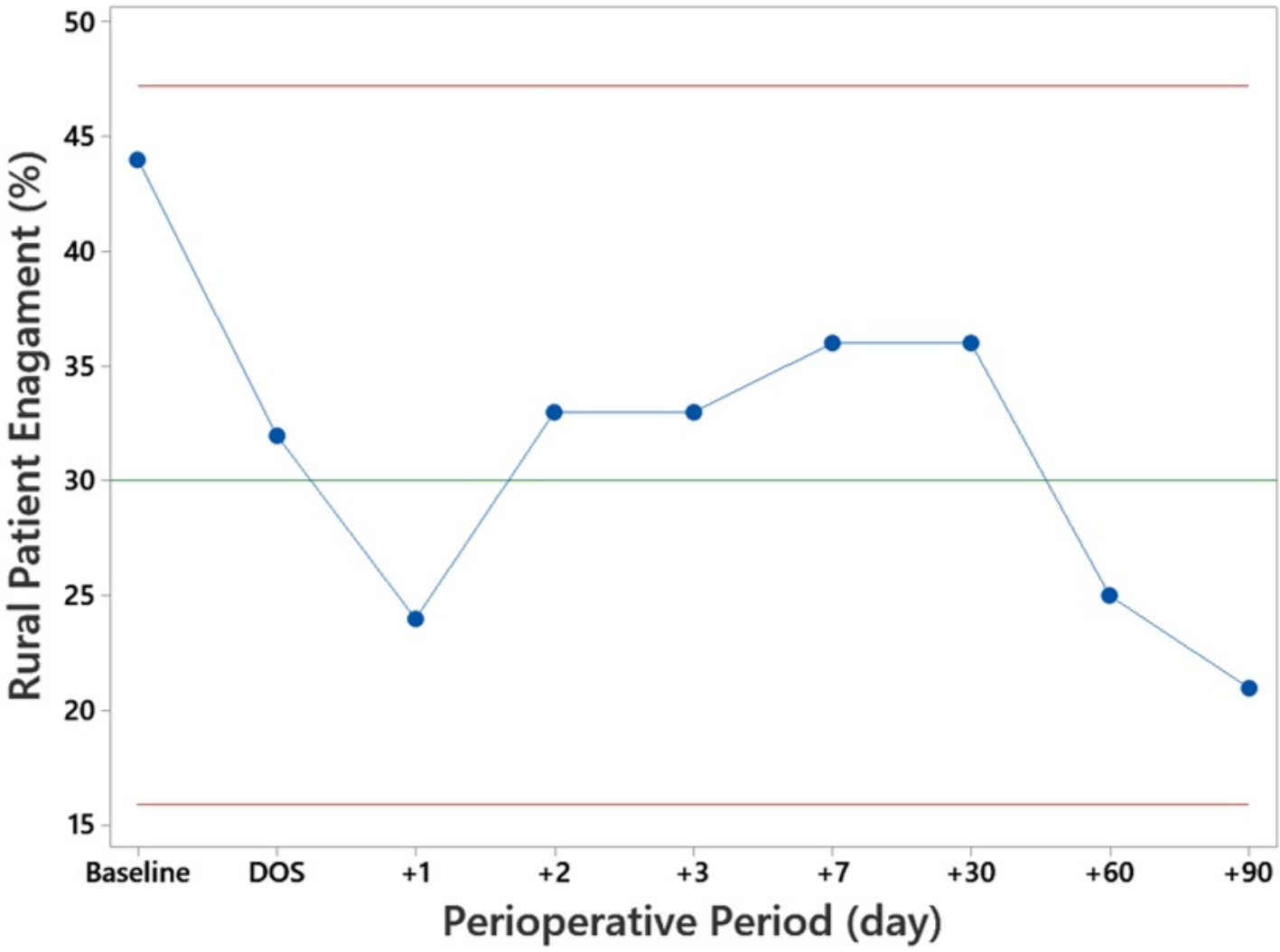

Figure 2. Rural PSH Patient Engagement

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rural health, PROMs, engagement, co-management , digital health tracking