



EBPOM World Congress 2022

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An audit of pre-operative anaesthetic assessments performed at Princess Alexandra Hospital and Queen Elizabeth II Hospital

Michelle Liu, Sarah Bowman
QLD Health, Brisbane, Australia

Abstract

Introduction:

A thorough pre-anaesthetic consultation prior to any surgical procedure has been identified as one of the most important factors in patient safety. This applies to situations whereby there is administration of general anaesthesia, as well as regional anaesthesia/analgesia and sedation [1, 2]. As stated in the ANZCA documents, one of the key duties of the anaesthetist is to provide perioperative medical services [1, 3]. The ultimate goals of the pre-operative assessment are to reduce the patient's surgical and anaesthetic perioperative morbidity and mortality, and to optimize pre-operative health to a standard that is suitable to undergo a procedure.

Method:

The aim of this audit is to determine if pre-operative anaesthetic assessments are consistently being performed as per ANZCA guidelines, to identify areas lacking safety and to propose strategies to address these issues.

This audit is a retrospective analysis of 200 random patients who underwent a procedure between February and March of 2021. Each patient will be audited on if, when and where their pre-anaesthetic assessment was performed, the adequacy of documentation, and any associated complications.

Results:

A total of 69.5% of patients were assessed on the day of surgery, and 30.5% of patients assessed 1-2 months ahead of surgery in pre-admission clinics. 2% of patients across PAH & QEII did not have any documentation of a pre-anaesthetic assessment on the healthcare digital system (iEMR) posing a medicolegal risk. 3 out of 200 anaesthetic related complications were identified. All emergency cases were assessed on the day of surgery and not documented formally as a separate note on iEMR. Patients on the scope list were all assessed on the day of the procedure.

Conclusion:

Realistically it may be challenging to perform a full assessment ahead of time for tricky situations such as emergency cases, however it should never be omitted. Overall, documentation of the pre-anaesthetic assessment is not meeting target, and lack of documentation leads to risk of medico-legal allegations. Reinforcement of guidelines and implementation of interventions are required in order to further improve current clinical practice as patient safety may be jeopardized.

References:

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2) ANZCA. Statement on roles in anaesthesia and perioperative care. 2015. Accessed July 10.
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3) ANZCA. Guideline on pre-anaesthesia consultation and patient preparation. 2021. Accessed July 10.
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Poster keywords

anaesthetic , preoperative, surgical, documentation, audit

A scoping review into the value of prehabilitation for neoadjuvant chemotherapy patients

Tessa Renouf

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Abstract

Background

Past prehabilitation studies have predominantly focused on physical co-morbidities and the optimisation of physical activity, diet and psychological optimisation in surgical patients. Preliminary searches found the area of prehabilitation in neoadjuvant chemotherapy is under researched therefore requiring a synthesis of the body of evidence currently available. Hence, a scoping review was undertaken aiming to review the literature in prehabilitation interventions delivered during neoadjuvant chemotherapy, map how unimodal and multimodal prehabilitation benefits neoadjuvant chemotherapy patients and service providers and identify gaps in the evidence to support practice and indicate the need for further research.

Methods

The author conducted a systematic scoping review of primary research studies, published study protocols and relevant systematic reviews. Medline, Cinahl complete, Psychological and Behavioural Sciences Collection, Cochrane database and Embase were searched for publications between 2000 and August 2021 that reported on multimodal/unimodal prehabilitation interventions delivered during neoadjuvant chemotherapy in cancer patients who were >18 receiving neoadjuvant chemotherapy.

Results

The search yielded 1,032 articles, of which 29 articles met inclusion criteria. Overall 20% of studies reported multimodal prehabilitation interventions in comparison to 80% which looked at a variety of unimodal prehabilitation interventions which included exercise (89%), diet and psychological interventions. All the studies had a sample size below n-100 with a mean on n-41, 58% were feasibility studies, 16% of studies were randomised controlled trials and all were quantitative in design. Benefits to the patient population were documented as secondary outcomes but were seen in pathological responses to treatment, reduction in post operative complications and reduction of unplanned admissions during neoadjuvant treatment. Some benefit was noted in patients' quality of life and depression scores.

Conclusion

The scoping review highlighted an increased number of feasibility and pilot studies. There was a reliance on exercise in unimodal studies and a reduced number of research studies which used

multimodal interventions. Consequently, none of these studies reported equally between each aspect of the intervention suggesting a gap in the literature around larger tri modal intervention research studies which report equally on each prehabilitation mode in this patient population. A paucity in the literature was found around the psychological value of prehabilitation indicating further research in this area with a qualitative component, patient optimisation and nursing support. However, the results of the review highlight patients stand to benefit from prehabilitation during neoadjuvant chemotherapy with substantial financial benefits for service providers therefore justifying further research in the area.

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Poster keywords

Prehabilitation, Oncology, Chemotherapy, Neoadjuvant, Cancer

Constructing a low tech model for emergency front of neck airway management

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Abstract

Introduction: Performing an emergency front of neck airway (eFONA) is a rare but challenging event [1]. It is complicated by technical and non-technical factors such as extreme stress, and patient hypoxia. It is a technique that requires regular practice, alongside airway drills to manage a “can’t intubate can’t oxygenate scenario” (CICO) [1]. Encountering a CICO situation is a source of considerable anxiety for anaesthesia trainees. Regular drills are advantageous as procedural memory is less adversely affected by stress [2].

A limiting factor in training is the availability of a realistic model for practice. This limitation is amplified in a relative resource-limited setting such as a lower middle-income country (LMIC). Models used have either been expensive, cadaveric or required specialist equipment such as 3D printing [1], all of which were not available in our set-up.

We do not believe that essential anaesthesia skills teaching should be restricted due to cost. This project details the construction of a low cost, and low-tech model for eFONA teaching, using materials readily available in a typical anaesthetic room in an LMIC.

Methods: Construction materials: a base, gauze, ventilator tubing, roll of sticky tape, and kinesiology tape.

The items were layered together on the base, using gauze to represent subcutaneous tissue, ventilator tubing to represent the trachea with palpable rings, and kinesiology tape on top as skin. The thyroid and cricoid cartilages were created using fragments of the roll of tape, stuck in semi-circles on top of the tubing leaving a 15mm gap representing the cricothyroid membrane. After a test session with local consultants, an extra fragment of tape roll was added to the thyroid cartilage to make it more prominent.

Results: The model is a pragmatic and practical alternative, which can be used to facilitate eFONA teaching. Feedback from local consultants was taken into account to modify the model. After multiple uses, the “skin” can be replaced with tape, and the ventilator tubing swapped out for a new piece.

Conclusion: Using readily available material, a low cost and low-tech model for eFONA teaching can be relatively easily replicated.

References:

[1]. T. Price, E McCoy, Emergency front of neck access in airway management. BJA volume 19, p246-253 Aug 2019.

[2]. R Ballan , Y Gabay . Does Acute Stress Impact Declarative and Procedural Learning? Front. Psychology 11:342. March 2020

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Poster keywords

emergency front of neck, airway, model, LMIC

An audit into post-operative diabetes plan handover and documentation

Naveed Kordmahalleh, Omar Ahmed, Anna Pierson
Russell's Hall Hospital, Dudley, United Kingdom

Abstract

Introduction: Diabetic patients account for up to 15% of surgical work in the UK [1]. Management of diabetes in the perioperative phase is not always optimal, as identified by the NCEPOD 2018 report entitled "Highs and Lows" [2]. The latest CPOC guidelines make several key recommendations for standards of care [3]. A local audit identified deficiencies in the perioperative management of diabetes at our hospital [4]. As part of a wider response to this, the anaesthesia and endocrine teams are seeking to make vital improvements. This audit aims to assess compliance with the CPOC guidelines for documentation and handover of the management plan for diabetic patients.

Method: Over two months, all diabetic patients in our main theatre suite, excluding obstetrics and paediatric, were included. The paper notes were retrospectively examined to assess compliance with the relevant CPOC standards.

Results: In total 70 patients were included. The lower limit of acceptable capillary blood glucose (CBG), the requirement for a ketone check in recovery (6/70 indicated), as well as a plan for oral hypoglycaemic tablets were recorded for zero patients. The requirement for a CBG check in recovery was documented for 54% of patients. The plan for subcutaneous insulin and variable rate insulin infusions was documented for 3% and 23% of patients respectively.

Conclusion: The results indicate that documentation and handover of a diabetes management plan are lacking. Our strategy to combat this centres around staff education, encouraging anaesthesia and surgical team to take joint responsibility for diabetes control, and empowering recovery room practitioners to ask for a plan if omitted. This will be audited again after the intervention has been implemented.

References:

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2. National Confidential Enquiry into Patient Outcome and Death. Perioperative Diabetes: Highs and Lows. Dec 2018.

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4. O Ahmed, A Jennings, The perioperative management of diabetes in emergency vascular surgery. Poster session EBPOM 2021 Ireland/Chicago

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Poster keywords

diabetes, handover, postoperative

The management of intravenous insulin on surgical wards

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Abstract

Up to 15% of operations per year in the UK occur on patients with diabetes [1]. The 2018 NCEPOD report highlighted room for improvement in up to 35% of diabetic patients undergoing surgery and identified a host of common problems, which may potentially impact on outcome [2]. The use of intravenous insulin infusions is established as a means to achieve better glucose control, but it is often implemented incorrectly and brings with it significant adverse effects if not adequately managed. It is estimated that 6.5% of insulin infusions are not clinically indicated in hospital practice, thereby exposing patients to inconvenience and error [3].

This study seeks to examine the management of intravenous insulin on surgical wards in our hospital. The aims are to assess whether the insulin infusions are indicated, prescribed correctly, fluids are managed appropriately and to highlight any complications.

Methods: A retrospective cross-sectional analysis of all insulin infusions over one week on all surgical wards was done. Data was collected using a questionnaire jointly agreed upon by diabetes and anaesthesia teams. Data was input into Microsoft Excel and further analysis was done.

Results: In the study period 21 patients were identified. Of these, all were known diabetics and 86% were already on subcutaneous insulin. In 48% the indication was “nil by mouth”, and in 33% it was not documented in the notes. Basal insulin was continued in 62% of patients, perhaps accounting for the 19% of patients who developed rebound hyperglycaemia on cessation. In 72% of patients, the fluid selection was altered to reflect the current glucose or potassium level, and in 14% of patients, fluids were not administered but were prescribed. Monitoring proved problematic as 76% of patients had electrolytes checked daily, and 81% had blood glucose checked hourly. The diabetes outreach team was made aware of these patients in 38% of cases.

Conclusion: This study highlights the ongoing issues around intravenous insulin use. These may arise from a lack of uniformity between hospitals, a lack of education and a lack of involvement of specialist services. We followed this project up with a local multidisciplinary education program and will look to repeat this next year.

References

1. Centre for Perioperative Care Diabetes Working Group. Guideline for perioperative care of people with diabetes undergoing emergency or elective surgery. March 2021
2. National Confidential Enquiry into Patient Outcome and Death. Perioperative Diabetes: Highs and Lows. Dec 2018.
3. Joint British Diabetes Societies for Inpatient Care. The use of variable rate insulin infusions in medical patients. October 2014

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Poster keywords

insulin, diabetes, intravenous, ketones

SARS COV-2 can lead to Guillain Barre syndrome

MUHAMMAD ARSLAN, Yvelynne Kelly
Tallaght University Hospital, Dublin, Ireland

Abstract

Background:

SARS-CoV-2 infection has been linked to neurological consequences such as febrile seizures, headache, dizziness, and myalgia, as well as encephalopathy, encephalitis, stroke, and acute peripheral nerve disorders.[1,2]. According to a recent Wuhan study, 78 (36.4 %) of 214 COVID-19 patients experienced neurological symptoms ranging from anosmia and taste problems to cerebrovascular disease, strokes, and seizures.[3]

Case Report:

A 76 years old man was admitted to the intensive care unit (ICU) of a tertiary referral hospital in Dublin on 19/10/21 with SARS-COV-2 pneumonitis requiring non invasive ventilation (NIV) with a past medical history of non-Hodgkin lymphoma and benign prostatic hyperplasia (BPH). His CT pulmonary angiogram (CTPA) for pulmonary emboli was negative on 27/10. His hypoxic respiratory failure progressed to require intubation and mechanical ventilation on 31/10. On 14/11, he developed septic shock due to ventilator acquired pneumonia (VAP). Vasopressors were commenced and subsequently stopped on 19/11. A repeat CT pulmonary angiogram on 22/11 showed persistent moderate to severe SARS-COV-2 pneumonitis. Bronchoscopy on 23/11 was unremarkable in nature. A CT brain was done on 27/11 given that the patient was continuously having the Glasgow Coma scale of 3/15 despite weaning of sedation. A lumbar puncture was performed which showed a normal white cell count as well as normal protein and glucose levels. CSF viral PCR testing was also subsequently negative. An MRI brain was performed on 1/12, which showed diffuse extensive periventricular and FLAIR high signal foci. Acute viral encephalopathy suspected. Also showed edema in visible paraspinal muscles. The patient was treated with an empiric dose of IV aciclovir for viral encephalitis given these imaging results: even though his CSF testing had not revealed any evidence of viral infection. Sedation was fully weaned off on 4/12 but patient did not show any motor activity following this. An Electroencephalogram (EEG) showed no epileptiform activity. Nerve conduction studies (NCS) was performed on 9/12 which showed severe axonal injury. Electromyography (EMG) showed severe large fibre motor more than sensory axonal neuropathy with features of widespread axonal injury. There was no evidence of critical care myopathy was present. The patient received 5-day course of IV immunoglobulin (IVIG) to treat acute GBS. There was improvement in the GCS and motor power following treatment course. Unfortunately, the patient continued to deteriorate after this with further septic shock and worsening hypoxic respiratory failure. He was ultimately palliated with treatment futility on 15/12 after discussion with family.

Discussion:

GBS is an autoimmune disease that causes acute limb weakness, as well as sensory and cranial nerve impairments, and can cause considerable morbidity and mortality. Two-thirds of adult patients report respiratory or gastrointestinal infections in the six weeks prior to presentation, which are likely to initiate an immunological response that leads to neuropathy [4].

Conclusion:

Although neurological involvement in COVID-19 is prevalent, GBS is uncommon, and it should be suspected in patients who have quadriparesis or respiratory failure that is out of proportion to the severity of the COVID disease. Indeed, given the current situation, all GBS patients should be tested for COVID-19.

References

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Poster keywords

SARS COV 2, Guillain Barre Syndrome, Covid related

Refractory lactatemia – a cause that could be easily missed

MUHAMMAD ARSLAN, Claire Frith -Keyes, Patrick Conroy
Tallaght university Hospital, Dublin, Ireland

Abstract

Background

Lactataemia (lactate $>2\text{mmol/L}$) is a common finding in patients referred for intensive care support. Critically ill patients with a lactic acidosis (lactate $>5\text{ mmol/L}$, $\text{pH}<7.35$) usually have a high mortality, however prognosis is completely dependent on identifying the underlying condition and its prompt management. Lactic acidosis has been classified into two subgroups,[1] Type A, resulting from tissue hypoxia and Type B resulting from abnormal metabolic activity in the absence of tissue hypoxia.

Case report:

A 79-year-old woman presented to the Emergency Department (ED) with a four-day history of nausea and vomiting, as well as momentary unconsciousness. She reported no abdominal discomfort or distention. She had no medical conditions aside from osteoarthritis, and had undergone a left total knee replacement 2 weeks prior. She was not on any regular medication. She gave a history of eating duck liver pate prior to falling ill. Blood tests at presentation showed an elevated urea and creatinine consistent with an acute kidney injury, and a lactate of 3.6 mmol/L . She was admitted from the ED under the medical team with a working diagnosis of gastroenteritis. Despite ongoing fluid resuscitation she remained hypotensive, and oligoanuric, and was referred to critical care the following day for management of persistent hypotension and a non-resolving AKI. Blood gases at the time of critical care registrar review revealed a lactate of 5.3 mmol/L . Only upon groin inspection in preparation for obtaining central venous access and initiation of vasopressors, was a small non-reducible hernia identified. An urgent CT scan demonstrated a strangulated femoral hernia medial to the femoral vessels and below the inguinal canal with evidence of small bowel ischaemia. The patient underwent emergency laparoscopic small bowel resection and femoral hernia repair, and was admitted to critical care for ongoing post-operative resuscitation and required a brief period of renal replacement therapy. Her AKI resolved rapidly, and she was discharged from critical care within 2 days.

Conclusion

Refractory lactatemia in older patients with non-specific symptoms requires a systematic approach in order to identify the underlying condition. Understanding the differential diagnosis for Type A and Type B lactic acidosis may help identify a cause in cases where lactic acidosis fails to resolve despite adequate resuscitation. Although plasma lactate is a very sensitive marker for detection of bowel ischaemia, its low specificity means clinicians need to maintain a high index of suspicion for this condition in a deteriorating patient in the absence of a convincing alternative diagnosis. Femoral hernias are often

missed. {2}. The main cause of bowel strangulation and bowel resection is a narrow femoral canal and inflexible femoral ring, which has been linked to higher mortality and morbidity [3, 4]Emergency surgery for femoral hernia is associated with a 10 fold increased mortality, which is further increased by pre-operative delays.

References

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Poster keywords

Refractory lactatemia, Obstructed femoral hernia, missed cause

Comparison of Postoperative Analgesia with Intrathecal Bupivacaine alone and Bupivacaine with Buprenorphine in patients for Caesarian section

Wajiha Anis¹, MUHAMMAD ARSLAN²

¹Jinnah Hospital, Lahore, Pakistan. ²Tallaght University Hospital, Dublin, Ireland

Abstract

Introduction:

The World Health Organization and International Association for the Study of Pain have recognized pain relief as a human right.¹ Postoperative pain that is poorly managed can lead to complications and prolonged hospital stay. Associated complications include development of chronic pain that may lead to reduction in quality of life.² Pain that is properly managed and appropriately relieved leads to shortened hospital stays, reduced hospital costs, and increased patient satisfaction.³

The failure to provide good postoperative analgesia is multifactorial. Insufficient education, fear of complications associated with analgesic drugs, poor pain assessment and inadequate staffing are among the reported causes.⁴ It is observed that a good preoperative planning by adjustments of medications is vital to successful postoperative pain management.⁵

Objective:

To compare the frequency of need for rescue Analgesia after Casein Section by Intrathecal Bupivacaine Alone VS Intrathecal Bupivacaine along with Buprenorphine

Material & Method

Study Design: Comparative randomized control trial

Duration: 06 months

Data collection:

After meeting inclusion criteria 206 (103 in each group) patients were enrolled. Previous medical record of the patient if available was reviewed. All the women aged 20 to 40 years with C section having anesthesia administered intrathecally were assessed. Patients were randomly divided into two equal groups. Intrathecal bupivacaine was administered to patients of group A in a dose of 12 mg. Group B were receive combination of bupivacaine 10 mg and buprenorphine 0.1 mg. The rescue analgesia was administered in the form of Diclofenac Sodium 75 mg.

Results

The mean age of the patients was 23.85 ± 2.55 years, previous C-section was found in 127(61.65%) patients. In group A the mean time required for analgesia was 146.36 ± 28.22 minutes and in group B the mean time required for analgesia was 250.87 ± 34.59 minutes ($p\text{-value} = < 0.05$)

Conclusion

The patients receiving bupivacaine along with buprenorphine showed longer time for need of analgesia as compared to patients receiving bupivacaine alone group after Caesarian Section delivery.

Keywords

Caesarian Section, Buprenorphine, Bupivacaine

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Poster keywords

Intrathecal Bupivacaine, Bupivacaine plus Bupronorphine, C section, Post op Analgesia

The effect of heat therapy and high-intensity interval training on pre-arthroplasty cardiorespiratory fitness

Brendon Roxburgh, Holly Campbell, James Cotter, Ulla Reymann, David Gwynne-Jones, Michael Williams, Kate Thomas
University of Otago, Dunedin, New Zealand

Abstract

Osteoarthritis is a degenerative joint condition making traditional exercise painful and difficult to perform. Due to the lack of activity, osteoarthritis sufferers have lower peak oxygen consumption (peak $\dot{V}O_2$) and anaerobic threshold, compared to those without osteoarthritis. The purpose of this study was to compare the effect of three low-/no-impact interventions on cardiorespiratory fitness (i.e., peak $\dot{V}O_2$, anaerobic threshold) and the subjective impact of osteoarthritis in patients with severe lower-limb osteoarthritis scheduled for total hip or knee arthroplasty.

Ninety-three patients with severe knee or hip osteoarthritis awaiting total joint replacement were recruited. Participants were randomised to heat therapy (Heat; 20-30 min immersed in 40°C water followed by ~15 min light resistance exercise), upper-limb high-intensity interval training (HIIT; 6-8 x 60 s intervals on a cross-trainer or arm ergometer at 100% peak $\dot{V}O_2$, 60-90 s recovery) or home-based exercise (Home; 15-20 min light resistance exercise); all for 36 sessions (3 sessions per week for 12 weeks).

Across the interventions, peak $\dot{V}O_2$ increased by 16% following HIIT ($+3.0 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [1.9, 4.1], $p < 0.001$) but not Heat ($+0.5 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [-0.6, 1.6], $p = 0.366$) or Home ($-0.3 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [-1.4, 0.9], $p = 0.634$). The anaerobic threshold increased by 10% following Heat ($+1.2 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [0.4, 1.9], $p = 0.004$) and 12% following HIIT ($+1.5 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [0.7, 2.3], $p < 0.001$), but not Home ($-0.5 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ [-1.3, 0.3], $p = 0.248$). Osteoarthritis impact, as assessed by the WOMAC Osteoarthritis Index questionnaire (0 (no impact) - 96 (most impact)), was unchanged with Heat (-1 [-7, +5]), HIIT (+2 [-4, +8]) or Home (-2 [-7, +4]) ($p = 0.532$).

Upper-limb HIIT was an effective intervention for improving peak $\dot{V}O_2$ in patients who have difficulty performing lower-limb exercise. Furthermore, both Heat and HIIT improved the anaerobic threshold, but neither intervention improved patients' subjective impact of osteoarthritis.

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Poster keywords

arthroplasty, cardiorespiratory fitness, passive heat therapy, high intensity interval training, prehabilitation

Orthostatic intolerance after fast-track knee arthroplasty: Incidence and pathophysiological hemodynamics

Ana-Marija Hristovska¹, Henrik Kehlet², Nicolai Foss¹

¹Copenhagen University Hospital - Hvidovre, Copenhagen, Denmark. ²Copenhagen University Hospital - Rigshospitalet, Copenhagen, Denmark

Abstract

Background: Early postoperative mobilization is essential for rapid functional recovery after surgery and can be hindered by orthostatic intolerance (OI) due to failed orthostatic cardiovascular regulation¹. The underlying mechanisms are not fully understood and specific data after total knee arthroplasty (TKA) are lacking. Therefore, we evaluated the incidence of OI and the cardiovascular response to mobilization in fast-track TKA.

Methods: This prospective cohort study included 45 patients scheduled for primary TKA in spinal anesthesia with a multimodal opioid-sparing analgesic regime. OI and the cardiovascular response to sitting and standing were evaluated with a standardized mobilization procedure preoperatively, at 6h and 24h postoperatively. Hemodynamic variables were measured non-invasively (LiDCO™ Rapid). Preload-dependency was evaluated using passive leg raise (PLR) maneuver. Perioperative bleeding, fluid balance, surgery duration, postoperative hemoglobin, pain during mobilization and opioid use were recorded.

Results: Eighteen (44%) and 8 (22%) patients demonstrated OI at 6h and 24h after surgery respectively. Four (10%) and 2 (5%) patients experienced severe OI and terminated the mobilization procedure prematurely. Dizziness was the most common OI symptom during mobilization at 6h. All patients with severe OI experienced at least two concurrent OI symptoms. OI was associated with decreased orthostatic responses in systolic (SAP), diastolic (DAP), mean arterial pressures (MAP) and heart rate (HR) ($p \leq 0.02$), while severe OI patients demonstrated impaired DAP, MAP, HR and cardiac output (CO) responses ($p \leq 0.041$). Change in stroke volume (SV) and CO during PLR was not statistically different between orthostatic tolerant (OT) and OI patients ($p \leq 0.37$) nor between OT and severe OI patients ($p \leq 0.52$). Additionally, neither change in SV nor CO $> 10\%$ during PLR predicted onset of orthostatic symptoms in patients with OI (RR 1.34; 0.26-6.91) or severe OI. No differences in perioperative bleeding, fluid balance, surgery duration, postoperative hemoglobin, pain or opioid use ($p > 0.126$) were observed between OT and OI patients.

Conclusion: Early postoperative OI is common following fast-track TKA. Pathophysiologic mechanisms include impaired orthostatic cardiovascular responses. Progression to severe OI symptoms appears to be due to declining CO, secondary to HR reduction. Opioid use, pain, perioperative bleeding, or postoperative anemia appear not to be related to OI. Further studies to elucidate the failed cardiovascular regulation mechanism examining autonomic dysfunction by Valsalva maneuver and heart-rate variability are needed.

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Poster keywords

Orthostatic intolerance, Hemodynamics, Total knee arthorplasty , Pathophysiology, Early postoperative mobilisation

A collaborative model of care, the Internal Medicine Perioperative Team (IMPT)

Marc Wong, Kai Xiong Lim, Wee Ming Peh, Choong Tatt Ng
Singhealth, Singapore, Singapore

Abstract

Introduction

Initiated in October 2020 in Seng Kang General Hospital, Singapore, the Internal Medicine Perioperative Team (IMPT) consists of general medical physicians with a special interest in perioperative medicine. This group consisted of dedicated physicians willing to go the extra mile to facilitate perioperative optimization to avoid unnecessary delays of surgery. As a young team in a brand new hospital in Singapore, we defined the model of practice suitable to the culture and practices of the hospital. In this study, we piloted an outpatient model of care and measured the relative frequency of perioperative patients presenting to this clinic for optimization prior to surgery.

Methods:

We piloted a collaborative model of outpatient care with our anesthetist colleagues as per the diagram (A) shown below. Pre-operative evaluation clinic (PEC) would consult us for general medicine conditions best managed by the IMPT team prior to surgery. We would see these patients within a short timeframe of 1 week within initial consult and provide a written reply to the PEC team. Numbers are collated throughout a timeframe of 1-year duration and tabulated in table (A), graphically represented as image (A).

Results

A total of 140 patients were consulted during the first year of establishment of our clinic or an average of at 2.7 consults a week. Conditions such as hypertension, anemia and electrolyte imbalances were the top 3 reasons for referral and made up 80 percent of the total consults.

Conclusion

A collaborative model of care between the general medicine led IMPT clinic and the anesthetic team is a workable model and can potentially add value to the patient. We identified the top 3 conditions seen in this clinic and recognize the value of this clinic in optimizing patient care. Further studies will be needed to define the cost effectiveness of this clinic.

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Poster keywords

Internal, Medicine, Collaborative, Model, Singapore

Prevention of accidental awareness under general anaesthesia - a regional service evaluation

Alexander Jackson^{1,2}, Katie Preston², SPARC Awareness Investigators³

¹University of Southampton, Southampton, United Kingdom. ²University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom. ³Southcoast Perioperative Audit & Research Collaboration, Southampton, United Kingdom

Abstract

Introduction: Accidental awareness during general anaesthesia (AAGA) is a rare event with the potential to cause significant distress and long term adverse effects¹. It has been the subject of a previous national audit project (NAP5) and based on this several guidelines have been produced to minimise the incidence of AAGA¹. Key recommendations include using processed EEG (pEEG) when using neuromuscular blocking drugs (NMBD) with TIVA; while the recently published 2021 guidance added a specific recommendation regarding low end-tidal MAC/AA alarms during volatile anaesthesia.^{2,3,4} This study aims to understand how these newly updated guidelines are being applied across the Wessex deanery.

Methods: A regional, multi-centre service evaluation was undertaken by the South-coast Perioperative Audit and Research Collaboration (SPARC) - a trainee research network. Over a 5-day period in June 2021, each operating theatre was visited once daily. Practices instigated to minimise AAGA were recorded, including anaesthetic type, alarm settings and equipment usage. We also conducted a survey of anaesthetic practitioners to understand their practice and knowledge surrounding AAGA.

Results: Eight hospitals participated with a total of 382 theatre attendances analysed. A wide range of anaesthetic types were observed (Volatile n=219, TIVA n=117, Regional n=33, Sedation n=9, local n=4). Processed EEG was used in 85% of cases during TIVA with NMBD. During volatile anaesthesia, low MAC alarms were used in 51% of cases, however, the range at individual sites varied from 97% to 0%, suggesting marked heterogeneity in practice. Survey results suggest the majority (73%) of anaesthetic practitioners would always or usually use pEEG when performing TIVA with NMBD, however in contrast a majority (76%) rarely or never check or modify low end-tidal MAC/AA alarms, when using volatile.

Conclusion: The recommendation to use pEEG monitoring when paralysing patients with TIVA has been widely adopted into regional practice: from 23% of cases in NAP5 to over 80% in this snapshot. Meanwhile, low end-tidal/MAC alarms are less widely used and appear closely tied to default alarm settings, which are not uniformly applied. Our regional service evaluation has demonstrated heterogeneity in practice and variability in both the attitude and adoption of measures to limit AAGA. Many of these measures could be easily addressed, therefore wide dissemination and action on these results could reduce the risk of AAGA for patients.

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Poster keywords

awareness, service evaluation, regional, anaesthesia, patient safety

Improving preparedness for emergency front of neck access (eFONA)

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Tikur Anbessa Specialized Hospital, Addis Abeba University, Addis Abeba, Ethiopia

Abstract

Introduction.

Emergency front of neck access is a life-saving procedure for can't intubate, can't oxygenate (CICO) scenarios that all anesthesiologists should be prepared for. Although exceedingly rare, CICO accounts for one-fourth of anaesthesia related death [1]. Our project evaluates departmental and anaesthesia residents' preparedness for eFONA, in a tertiary hospital in a lower-middle-income country (LMIC). A trigger for this quality improvement project was a local inspection, highlighting the absence of an eFONA kit.

The aims are to evaluate the preparedness of residents for eFONA and to introduce and define the impact of a dedicated eFONA kit on preparedness.

Method

Following a local inspection, a need for an eFONA kit was identified. This was acquired through donation. The kit contained the minimum equipment required for a scalpel bougie technique, as well as the DAS guidelines for surgical cricothyroidotomy [2]. Residents participated in a series of teaching sessions on eFONA; during these, pre and post-session questionnaires were distributed assessing experience, preparedness and confidence scores in managing CICO and eFONA.

Results

All participants completed questionnaires (n=19), with experience ranging from first to final year of residency. Most participants had 1 teaching and 1 practical session on eFONA (68% and 73% respectively). Pre-session 11% of residents were able to state correctly where the kit is located (a range of 5 different locations highlighted), this improved to 84% post-session (2 locations highlighted). Pre-session 44% described themselves as "not confident" and 44% as "neutral" in their preparedness for CICO. This improved to 94% describing themselves as "confident" and 5% as "neutral" post-session. Pre-session 84% were "not confident" locating eFONA equipment, this improved to 94% being "confident" they could find equipment in an emergency.

Conclusion

In the short term, introducing an eFONA kit in a central location, alongside dedicated teaching sessions is effective in improving departmental preparedness and the confidence of residents in managing this emergency. Going forward the sustainability of the kit, and learning will be a challenge, and we propose similar sessions are done at a later stage to reinforce the education.

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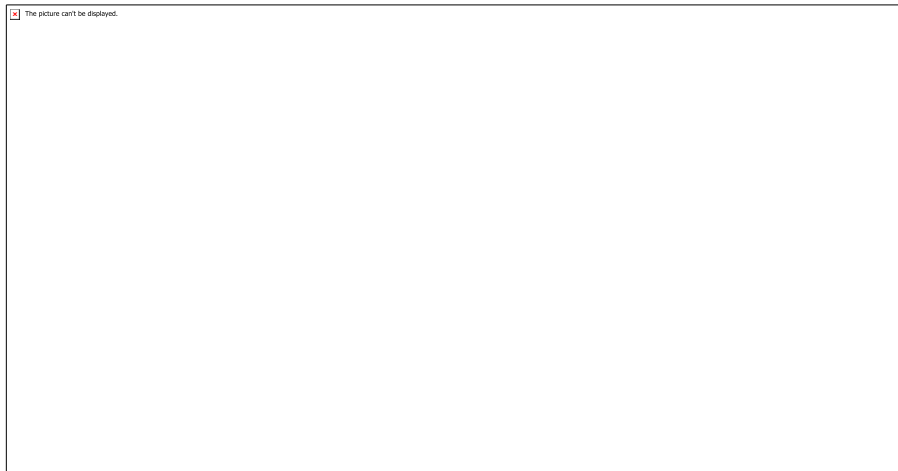



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Poster keywords

eFONA-Emergency Front of Neck Access

Case report: Successful management of 'Stiff Person Syndrome' patient for daycare procedure.

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Abstract

Stiff Person Syndrome (SPS) is a rare autoimmune neurological condition manifest as rigidity and spasms of axial limb and muscles. The common triggers for muscle spasms are sudden loud noises, pain stimuli and anxiety. SPS patients going for surgery have risk of flare-up from the triggering factors as well as risk of prolonged hypotonia from anaesthesia.

In Malaysia we encountered our SPS patient who is a 52 year old Japanese lady scheduled for day care upper gastrointestinal endoscopy and colonoscopy. We successfully managed her case with monitored anaesthesia care with target controlled infusion (TCI) Propofol of 1.5mcg/ml, bolus of intravenous Midazolam 2mg and intravenous Fentanyl 25mcg during the procedure. She went through both procedures well without complication and was discharged home the same day.

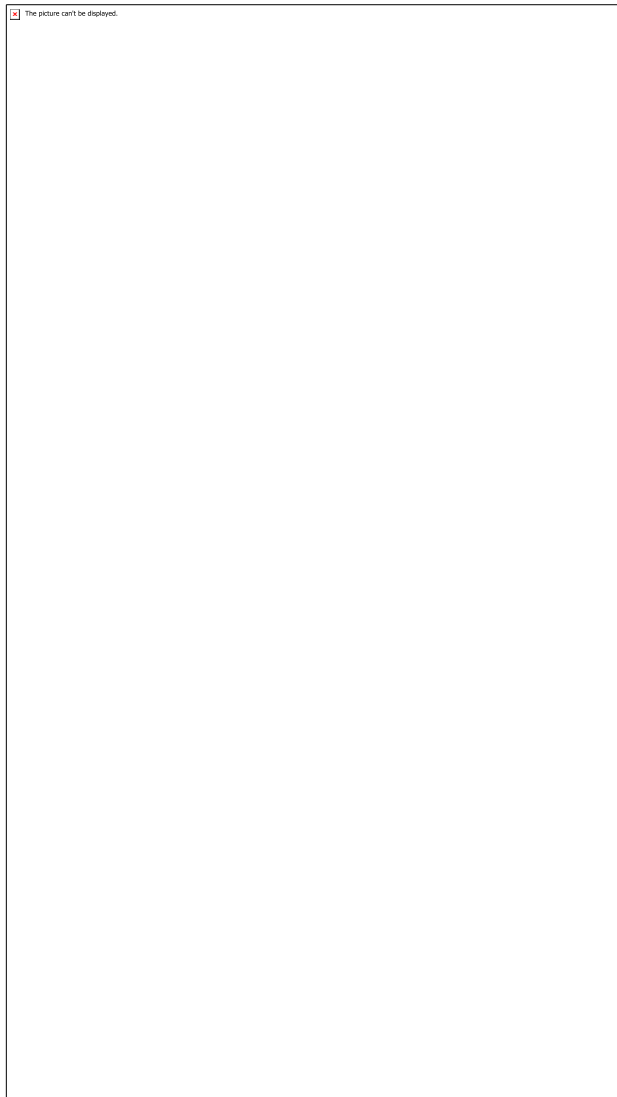
A literature search revealed several case report on anaesthetic management of SPS patients (table 1). Most of the successful cases were done under regional anaesthesia and total intravenous anaesthesia (TIVA). The use of muscle relaxant was initially thought to cause prolonged hypotonia but finding from case report was inconsistent. High concentration of volatile agent is likely to cause hypotonia in patients on Baclofen treatment and should be avoided. Careful consideration on mode of anaesthesia, adequate anxiolytic and analgesia is essential for good patient outcome. Non pharmacological management is equally important to keep the patient calm, quiet environment to avoid flare-up.

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Poster keywords

Stiff person syndrome, TIVA, Regional anaesthesia, Muscle relaxant, General anaesthesia

THE EFFECT OF GOAL DIRECTED FLUID THERAPY IN RENAL TRANSPLANT ON POST-OPERATIVE OUTCOME: A RETROSPECTIVE STUDY

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¹Hospital Kuala Lumpur, Kuala Lumpur, Malaysia. ²Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Abstract

Introduction: Optimal fluid therapy reduces the incidence of delayed graft function following renal transplant surgery. Maintaining a good cardiac output and tissue perfusion by ensuring adequate intravascular volume is the most important measure intraoperatively. The aim of this study was to compare the effects of intraoperative conventional fluid therapy (CFT) using central venous pressure (CVP) guidance and goal-directed fluid therapy (GDT) using stroke volume variation (SVV) guidance via pulse contour analysis using FlotracTM / EV1000 sensor on the incidence of delayed graft function (DGF) and other post operative outcomes (metabolic acidosis, cardiorespiratory complications, ventilator dependency, ICU & hospital stay)

Methods: A hundred and seventy nine patients who underwent renal transplant surgery at the single tertiary hospital centre between January 2014 and December 2019 were retrospectively analysed. . Based on the management of intraoperative fluids, patients were subcategorised into Conventional Fluid Therapy (CFT) group or Goal Directed Therapy (GDT) groups. Patient in CFT group were manage based on target central venous pressure of 8-12 mmHg and MAP of >80 mmHg while GDT group patient were manage by targeting SVV of 10% within preoperative baseline and MAP of >80mmHg as guided by FlotracTM / EV1000 sensor. We evaluated preoperative characteristics and intraoperative parameters to determine their association with postoperative outcomes

Results: The GDT group showed a significant reduction in the incidence of postoperative DGF ($p = 0.007$), metabolic acidosis ($p < 0.001$), cardiorespiratory complications ($p = 0.011$), ventilator dependency ($p = 0.013$), and length of ICU stay ($p < 0.001$) and hospital stay ($p < 0.001$). Lower intraoperative fluid volume was observed ($p < 0.001$) with a higher vasopressor requirement ($p = 0.043$) in the GDT group. A higher number of sustained graft functions after 28 days was also observed in the GDT group ($p = 0.002$). There were significant correlations between lower intraoperative fluid and crystalloid requirements and a reduction in postoperative ventilator dependency and hospital stay.

Conclusion: Intraoperative goal-directed fluid therapy with SVV-guidance reduced the incidence of DGF, metabolic acidosis, cardiorespiratory complications, ventilator dependency, and shortened ICU and hospital stays in renal transplant surgery.

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Poster keywords

Renal transplant, Goal directed fluid therapy, Delayed graft function, Hemodynamic monitoring, Post-operative complications

Enhancing The Pre-Operative Assessment Clinic Through A Sustainable And Collaborative Approach.

Louise Peet, Preston Gan, Sara Williamson, Christine Leith, Paul Bourke
NHS Grampian, Aberdeen, United Kingdom

Abstract

Introduction

The pre-operative assessment clinic(POAC) is an essential part of the surgical patient pathway. It is an opportunity for the multi-disciplinary team to assess and prepare the patient for surgery. POAC is also a strategic priority as it presents opportunities to reduce variation and avoidable cancellations, therefore improving efficiency within the surgical services.

Optimising efficiency is critical to Covid remobilisation as surgical demand currently outstrips theatre supply. Our POAC faces significant challenges which contribute to failure of the process and ultimately affecting patient outcomes.

We aimed to improve the service by collaborating with a Systems Transformation Manager who helped to develop a Strategy Map which identified our strategic objectives for the service:

1. Reduce avoidable medically unfit cancellations
2. Improve compliance on pre-op instructions
3. Raise surgeon's awareness of the role of POAC
4. Enhance training to increase POAC nurse led decision-making
5. Improve access to other services for patient assessment

Methods

Using a Balanced Scorecard Methodology, we identified key performance indicators(KPI) which reflect the above strategic objectives. To identify our baseline performance, we collected data retrospectively for the preceding 3 months. Data collection involved thorough review of theatre lists, clinic lists and a staff survey.

Results

Results were displayed on balanced scorecard(image attached), showing a number of areas for further improvement.

Key Performance Indicator	Target	Dec21	Jan22	Feb22
Avoidable cancellations	<0.2%	0.7%	1.4%	0.6%
Number of patients not referred to POAC	<2	3	7	3
% Non-compliance with POAC advice e.g.HDU requirement	<5%	-	-	10%
POAC nurses confidence to independently outcome patient	100%	-	-	40%
Referrals to Consultant Anaesthetist from POAC nurse	<25%	69%	68%	67%
Referrals to other medical services e.g.Cardiology	<10%	-	-	4%
Waiting time for assessment by other services(weeks)	<2weeks	4-16	4-16	4-16
Waiting time for POAC appointment(days)	<4days	3	3	3

Conclusion

Collaborating to produce the Balanced Scorecard has created a visual snapshot of our compliance with clearly defined targets and identifies areas of need. It allows clinicians to understand the service's priorities and how individual's work impacts on the strategic objectives. Now data collection has been established it will continue monthly and allow for sustained improvement.

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Poster keywords

pre-operative assessment clinic, multi-disciplinary team, balanced scorecard, improvement, cancellations

Assessing the immediate impact of emergency front of neck access teaching

Elshaday Amare, Yidersal Demsie, Omar Ahmed
Tikur Anbessa Hospital, Addis Ababa, Ethiopia

Abstract

Introduction

Cook et al [1] advocate 6 monthly teaching for emergency front of neck access (eFONA), due to the technical and non-technical challenges associated with such an emergency technique. As part of a wider departmental project on eFONA preparedness at a tertiary referral hospital in a lower-middle-income country (LMIC), practical simulation sessions were delivered focusing on the prerequisite knowledge and skills. This project aims to assess the impact of these teaching sessions, and highlight any areas for further improvement in the management of can't intubate, can't oxygenate (CICO) scenarios and eFONA.

Method

A pre and post-session questionnaire was distributed to all residents participating in the teaching. The questionnaire was used to assess knowledge of technique, complications and indications. Confidence in various parameters was assessed using a 5-point Likert scale.

Result

All participating residents completed a questionnaire (n=19), with 95% of them having had one or more practical sessions previously. Knowledge of indications and complications for eFONA each improved (32% vs 58%, and 63% vs 95% respectively). Globally confidence in the parameters listed in Table 1 improved after the session.

Before session	After session	
Able to name 2 complications	63%	95%
Able to name 2 indications	32%	58%
Trainee confidence in:		
Feeling prepared for CICO	12%	94%
Managing CICO situation	10%	75%
Performing eFONA	32%	95%
Deciding to progress to eFONA	6%	83%
Managing non-technical skills in CICO	27%	83%

Table 1

A dedicated exercise at the end of the sessions timed participants performing eFONA (measured from the declaration of inability to oxygenate, to successful tracheal intubation). The range was between 22 and 56 seconds (s) with a mean time of 28s.

Conclusion:

The teaching sessions improved confidence levels in performing eFONA, decision making, and managing non-technical skills in a CICO situation, as well as basic knowledge. The project highlighted the need for further regular refresher sessions as per recommendation [1]. Retention of these skills long term needs to be evaluated at a future date.

References

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Poster keywords

emergency front of neck access(eFONA) , can't intubate, can't oxygenate(CICO) scenarios , difficult airway , eFONA training , eFONA in lower-middle-income country

Introducing a locally adapted Quick Reference Handbook in a Tertiary Hospital

Amanuel Yishak, Nebiyat Abebe, Tesfaye Sebsbie, Habtamu Mengstie, Omar Ahmed, Mahelet Tadesse
Department of Anesthesiology, Critical Care and Pain Medicine, School of Medicine, College of Health Sciences, Addis Ababa University, Addis Ababa, Ethiopia

Abstract

Background:

The Quick Reference Handbook (QRH) [1] is a resource for managing anesthesia-related emergencies. It is an easy-to-use guide for common incidents, and rare, unfamiliar situations. The QRH provides a step-by-step approach, which can offload some of the decision-making stress, and make facing such emergencies less daunting [1]. Crises in anesthesia are fast-moving, may be novel, and involve cognitive overload in a limited time frame [2]. Having a QRH may improve preparedness and outcome.

Aims:

To assess the need for and introduce a locally relevant QRH in each operating theatre (OR) in a tertiary referral hospital, and incorporate its use into simulation teaching for new residents.

Methods:

The intake of novice anesthesia residents was used as an opportunity to establish the QRH. A needs assessment questionnaire was distributed, exploring knowledge of crisis guidelines in anesthesia and confidence in managing various common critical incidents. Following the results of this, a focus group of senior trainees adapted the QRH in line with local resources, protocols, and procedures. This edited addition was reviewed by the head of the department before being installed in OR.

Results:

Amongst the respondents (n=31), 48% felt unconfident, and 45% felt neither confident nor unconfident in recognizing crises in anesthesia. 67% were not aware of any guidelines relevant to anesthetic emergencies, with the remainder of residents believing ACLS or sepsis council guidelines were to be used. A majority (91%) of residents accessed guidelines on their phones, and unanimously 100% felt a hard copy in OR would be helpful, with 97% stating this would make them feel more prepared for critical incidents. Despite an induction, 94% did not know the location of specific emergency resources such as intralipid.

Conclusion:

Following the outcomes of the questionnaire, we felt it necessary to adopt a QRH relevant to our hospital. This has been approved within the department and installed in every theatre. A copy is used

for simulation sessions, to reinforce its use amongst residents. In 3 months, we will repeat the survey, assessing for improvement in confidence amongst residents, and the sustainability of the QRH.

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Poster keywords

Quick Reference Handbook(QRH) , anesthesia-related emergencies, novice anesthesia residents , Crises in anesthesia , critical incidents

A case of intraoperative failure of the St. Jude Trifecta GT cardiac valve

Catalin Iulian Efrimescu, David Healy, Pádraig Ó Scanail
Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Introduction

Since its introduction into clinical practice, transoesophageal echocardiography (TOE) has evolved into an essential assessment instrument for cardiac surgery. The presence of small paravalvular leaks is common in valve surgery however intraoperative failure due to structural valve deterioration (SVD) in bioprosthetic valves is an extremely rare occurrence.

In this report, we present a case of intraoperative SVD detected by TOE and outline the history and potential causes of SVD for this particular bioprosthetic valve make.

Case description

A 73-year-old gentleman with low flow, low gradient severe aortic stenosis was referred for aortic valve replacement following an episode of myocardial infarction five months prior.

After an initial uneventful intraoperative course and placement of a bioprosthetic valve, a TOE assessment prior to bypass separation revealed torrential regurgitation. This was likely due to right and left coronary cusps failure. A new valve of a different make was inserted, and the patient was successfully weaned after a prolonged bypass run.

The postoperative period was marked by prolonged critical care and hospital stay, complicated by renal and respiratory failure.

Discussion

Although the various iterations of St. Jude Trifecta valve have a long history of SVD in the first 1-3 years post-implantation, intraoperative failure is an uncommon event. Based on this, a much closer postoperative follow up has been recommended, while some centres abandoned its use. Since 2010 the UK Medicines and Healthcare products Regulatory Agency recorded five cases of Trifecta GT line SVD1. This report could be one of the very first cases of intraoperative SVD for the 2nd generation of the GT line (marketed since 2016).

Conclusion

SVD is an uncommon event in the intraoperative period, leading to increased morbidity. The use of TOE in valve replacement surgery is the current standard of care and the only mean of timely detection of perioperative SVD.

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Poster keywords

aortic valve, cardiothoracic, St. Jude, transoesophageal , TOE

Prehabilitation. An interdisciplinary patient-centric conceptual framework

Tessa Renouf¹, Andrew Bates², Sandy Jack³, June Davis⁴

¹The Royal Marsden Hospital NHS Foundation Trust, London, United Kingdom. ²University of Southampton / University Hospital Southampton, Southampton, United Kingdom. ³University of Southampton, Southampton, United Kingdom. ⁴Macmillan Cancer Support, London, United Kingdom

Abstract

Introduction:

Personalised prehabilitation programmes can prepare patients to withstand the metabolic and psychological stress associate with anti-cancer treatments. Delayed diagnoses, treatment delays, and rapid reorganisation of cancer services, in response to the pandemic, make prehabilitation a vital part of the cancer care continuum.

Objective: To review the recent literature around patient-centric prehabilitation in oncology patients; and propose a conceptual framework to inform development of interdisciplinary prehabilitation services leading to focused, individualised prehabilitation interventions.

Methods: A review of recent peer reviewed literature, national guidance and government strategy on prehabilitation in oncology patients.

Results: Patient- centric prehabilitation is key to improving patient's experiences of cancer throughout the cancer journey whilst improving population health and reducing financial costs.

The authors advocate a prehabilitation service framework comprised of thorough, interdisciplinary screening and assessment of patients to ensure the prehabilitation intervention is specifically tailored to their care whilst identifying their specific deficit and employing a personalised prescription of care. Further to this, incorporating Macmillan guidance (2019), a triage system is recommended including different levels of prehabilitation interventions: universal, targeted and specialist depending on the patient's needs (figure 1). Patients may require a combination of care from each category to provide person based individualised care.

Successful personalised prehabilitation interventions are comprised of an interplay between individual interdisciplinary roles, as illustrated in the conceptual framework (figure 2). The role of the nurse underpins this whole process in patient screening, assessment, implementation of the intervention and patient reassessment ensuring care is dynamic and tailored to patient need.

Conclusion:

The review discussed the importance of a patient- centric prehabilitation intervention implemented through a collaborative interdisciplinary conceptual framework in successful personalised prehabilitation interventions where the nurse's role is at its centre. Further to this, the review has

discussed the key role that nurses play in the process but warrants more research in the area to specifically develop prehabilitation which are specific to nursing care during different areas of the patient's cancer journey.

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Poster keywords

Prehabilitation , Oncology, Multidisciplinary team , Framework, Cancer

Preoperative frailty assessment using ultrasound examination of the rectus femoris muscle for predicting postoperative recovery following cardiac surgery

King Wai YAU, James GRIFFITH, Malcolm UNDERWOOD, Gavin JOYNT, Anna LEE
The Chinese University of Hong Kong, Hong Kong, Hong Kong

Abstract

INTRODUCTION: Frailty, a significant risk factor for adverse postoperative outcomes, is often inadequately identified by traditional preoperative risk stratification and current prognostic models.¹ Ultrasound examination of skeletal muscle morphology may potentially serve as an objective frailty assessment tool as reduction in lean muscle mass is a core feature of frailty.² This study investigated the ability of preoperative rectus femoris muscle (RFM) ultrasound examination to predict frailty and postoperative recovery outcomes, and compare the outcome predictive ability of RFM measurements and the Clinical Frailty Scale (CFS) in cardiac surgery patients.

METHODS: Prospective cohort study (ChiCTR2000031098) at a university hospital in Hong Kong (April 2020-June 2021). RFM ultrasound measurements on both legs including muscle thickness (MT), cross-sectional area (CSA) and echogenicity were performed by a trained physiotherapist before surgery. The area under receiver-operating characteristic curve (AUROC) was used to determine the discriminative ability of each ultrasound measurement variable to identify frailty (CFS>4), and to predict postoperative outcomes: major adverse cardiac and cerebrovascular events (MACCE) and days (alive and) at home within 30 days of surgery (DAH₃₀). The prediction performance of ultrasound measurements for postoperative recovery was compared with that of CFS.

RESULTS: Eleven (13%) of the 85 participants (23 females, 62 males, 64±8 years) were frail (CFS>4). There was good discrimination (AUROC [95% CI]) for frailty using mean RFM CSA (0.76 [0.66-0.85]) (Figure 1) and MT (0.75 [0.64-0.84]), though poor discrimination using mean echogenicity (0.61 [0.50-0.72]). Compared to CFS>4, mean CSA had similar predictive performance for DAH₃₀ with high specificity and positive likelihood ratio (Table 1). However, the predictive performance (AUROC [95% CI]) of mean MT, CSA and echogenicity, and CFS for the risk of MACCE was poor to fair (0.69 [0.58-0.79], 0.59 [0.48-0.70], 0.59 [0.48-0.70], and 0.69 [0.58-0.79] respectively), probably reflecting the small sample size with few frail patients and the infrequent occurrence of MACCE.

CONCLUSION: Preoperative ultrasound examination with measurement of RFM cross-sectional area may be useful in objectively identifying frail patients at high risk of poor outcome following cardiac surgery.

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Poster keywords

Muscle ultrasonography, Frailty, Cardiac surgery

Post-operative Cardiac Surgery Opioid Stewardship Program

Amanda Rea¹, Kathryn Deere², Zach Adams¹, Linda Barr¹, Rawn Salenger¹

¹University of Maryland St Joseph Medical Center, Towson, USA. ²University of Maryland Baltimore Washington Medical Center, Baltimore, USA

Abstract

Introduction:

14,000 people a year die in the US from prescription opioid overdoses.⁴ A large cohort study found that 10% of opioid naïve patients experience new persistent opioid use post-cardiac surgery, which correlates to the quantity of discharge opioids prescribed. Our standard practice for all cardiac surgery patients was to discharge with the same dose and quantity of opioids, regardless of inpatient opioid utilization. We hypothesized that creating a program to tailor discharge opioids to individual needs would help decrease the overall quantity of opioids prescribed.

Methods

A retrospective analysis was performed on prospective data collected for all adult cardiac cases performed from March to November 2021. Data compared to historical controls from 2019. A multidisciplinary cardiac surgery team developed an opioid stewardship protocol for discharge prescribing based on a patient's opioid utilization in the 48 hours prior to discharge utilizing recommendations previously published by the Michigan group.³ The protocol also standardized the continuation of scheduled acetaminophen around the clock for 5 days post-discharge. Refill requests for opioids were monitored. Comparisons were made using paired t-tests and were significant at the $p < 0.001$ level (Figure 1).

Results

356 consecutive adult cardiac surgery patients comprised the study group, compared to 403 control patients from 2019. Our data demonstrated a reduction in the total quantity of opioids prescribed on discharge (Table 1). There was no increase in the number of outpatient prescription refills. Comparing all adult cardiac surgery patients before and after the adoption of an individualized discharge opioid program (Table 1), patients were prescribed opioids 32.2% less frequently after surgery (95% CI 17.8%, 46.5%), or 20.9 fewer tablets per patient (95% CI 17.6, 24.2).

Conclusion

Discharge opioid stewardship programs can be a safe and effective alternative for outpatient pain management post cardiac surgery. This may help reduce the incidence of new persistent opioid use in the post-surgical patient.

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Poster keywords

opioids, cardiac surgery, pain, opioid stewardship, pain management

Understanding the reasons for delayed discharge from an Enhanced PeriOperative Care (EPOC) unit at a tertiary surgical centre

Vinodhan Vyapury, Jignesh Patel

Queen Elizabeth Hospital, Birmingham, United Kingdom

Abstract

Introduction

The Covid-19 pandemic has resulted in a huge high-risk surgical waiting list (1). The reasons for this are multifaceted, one of which being the reduced capacity of critical care. The Queen Elizabeth Hospital in Birmingham (QEHB), a large tertiary centre, set up an EPOC to help restore high-risk elective capacity. The EPOC service was launched in June 2020 and is currently equipped with 6 enhanced care level beds and a dedicated workforce. Almost all patients are booked for a planned 24 hour stay. Our objective was to understand the reasons for delayed discharge from EPOC with the aim of improving patient flow through our unit.

Methods

We identified patients who required any unplanned additional overnight stay(s) between June 2020 and February 2022 using the EPOC unit logbook. We then sought the reasons for delayed discharge (clinical or non-clinical), the surgical speciality and the ward to which they were discharged to, by using electronic patient records.

Results

A total of 1298 patients were cared for in the EPOC unit between June 2020 and February 2022. 134 (10.3%) of these required an additional unplanned overnight stay. 97 (72%) of the 134 patients had their discharge delayed for clinical reasons. Patients undergoing hepatobiliary, upper gastrointestinal and urological surgeries made up the majority of these patients. In most cases this was due to ongoing vasopressor requirements (60%). Other reasons include metabolic or electrolyte derangement, suboptimal pain control and delirium. 37 patients experienced delayed discharge from the EPOC unit owing to non-clinical reasons. These were entirely due to saturated ward capacity preventing patient transfer. In 84% of these cases, it involved 3 particular surgical wards.

Conclusion


It is important to understand the clinical reasons for delayed discharge from EPOC as certain surgical cohorts may be better suited to either critical care admission or a planned 48 hour EPOC stay. With future EPOC expansion on the horizon, it is also important to understand the non-clinical barriers to patient flow. This is to ensure further resources can be directed appropriately. For example, examining staffing levels on particular surgical wards. Improving patient flow through EPOC would result in a

reduced number of on-the-day cancellations, improve throughput of patients and ultimately improve patient care (1).

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Poster keywords

enhanced care, delayed discharge, patient flow, waiting list, perioperative

A retrospective audit of the incidence of pre-operative anaemia in patients undergoing major gynaecological surgery

Vanisha Patel, Elise Hindle

Birmingham Women's and Children's NHS Foundation Trust, Birmingham, United Kingdom

Abstract

Introduction

Preoperative anaemia affects 30-60% of UK patients. UK guidelines recommend all preoperative patients with anticipated blood loss over 500mls are screened and treated for anaemia. (1) Anaemia is associated with an increased 30-day post-operative mortality and is a recognised independent risk factor for post-operative morbidity and peri-operative allogeneic blood transfusion. (2) Patient blood management is a multidisciplinary evidence-based approach aimed to optimise the care of patients in order to avoid or minimise the need for allogeneic blood transfusion. Our audit reviewed anaemia screening for patients undergoing major gynaecological surgery against the British Society of Haematology and NICE guidance. (3, 4)

Method

A retrospective audit was conducted of all patients undergoing total abdominal hysterectomy or myomectomy surgery at Birmingham Women's Hospital, between January 2020 and December 2020. Data was collected from our local electronic database. Type of surgery, pre-operative Haemoglobin (Hb) and pre-operative ferritin results were recorded.

Results

Thirty-seven patients were identified. Anaemia (Hb < 120g/L) was present in four patients (11%), of these only one patient (4%) had a ferritin level requested. All patients had a full blood count done two weeks prior to surgery. Five patients (14%) had a Hb of between 120 – 130 g/L, none of these patients had a ferritin level requested.

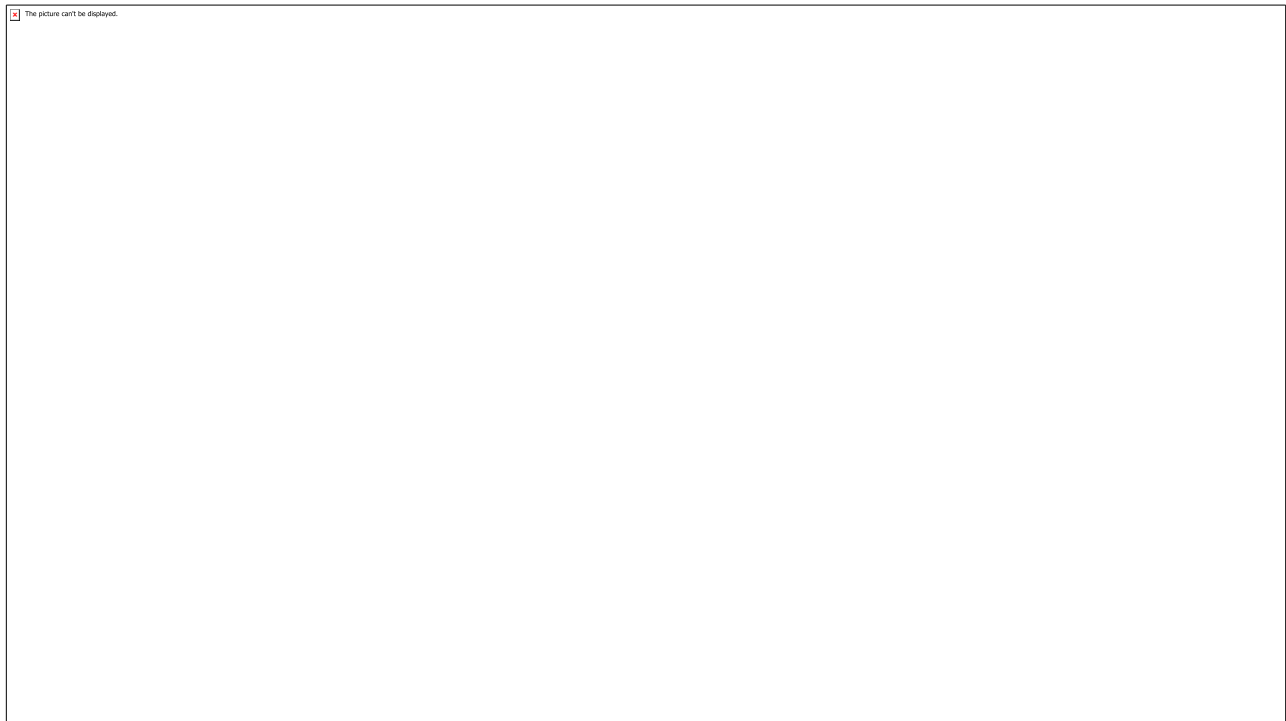
Conclusion

Our results suggest that the majority of our patients are screened for anaemia prior to surgery. However, a small proportion that are anaemic are not investigated and appropriate treatment is not commenced and therefore patients are at increased risk of post-operative anaemia and allogeneic blood transfusion. In light of this, we have now introduced a pre-operative anaemia guideline and flowchart (Figure 1) to provide practical recommendations for the management of anaemia prior to surgery.

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Poster keywords

Pre-operative anaemia, Gynaecological surgery

Enhanced PeriOperative Care (EPOC) unit to Critical Care unit (CCU) escalations at the Queen Elizabeth Hospital Birmingham (QEHB): An audit during the COVID-19 pandemic.

Alexander Dunn, Viraj Shah, Prakash Vadakul, Jignesh Patel
Queen Elizabeth Hospital Birmingham, Birmingham, United Kingdom

Abstract

Introduction:

During the ongoing COVID-19 pandemic, the QEHB CCU has seen a huge rise in emergency admissions resulting in limited access for high-risk elective surgical patients. An EPOC unit was established in June 2020 to help restore high-risk surgical capacity. To ensure EPOC admissions did not place additional pressure on an already stretched CCU, an EPOC to CCU escalation rate of <5% within 7 days of surgery was deemed operationally acceptable. This audit assesses the monthly escalation rate to CCU since the launch of the EPOC service.

Methods:

Data on number and speciality of non-cardiac EPOC admissions, CCU escalations and the timing of these escalations from June 2020 to February 2022 were acquired from electronic patient records and the EPOC unit logbook. Escalations were defined as direct from the EPOC unit, indirect (<7 days after surgery and following EPOC discharge to the ward) or late (>7 days after surgery).

Results:

In the first 8 months of the EPOC service, the escalation rate to CCU consistently exceeded our set standard at a monthly average of 9% (Fig.1). However, in the last 12 months, and despite an increase in EPOC unit capacity and surgical flow, the average escalation rate has been 4%. The specialties with the highest escalation rates to CCU were: UGI (11%), General/Colorectal (10%) and Renal Surgery (10%) (Table.1).

Conclusion:

In the last 12 months, the EPOC service has achieved the target <5% escalation rate. This is a significant improvement on the first 6 months, and has been achieved through refining patient selection, incorporating planned 48-hour pathways and accommodating unplanned overstays for patients still needing higher than ward level care but not requiring CCU level care. The EPOC team continues to work with specialties with higher escalation rates to select patients most suitable for enhanced care after surgery.

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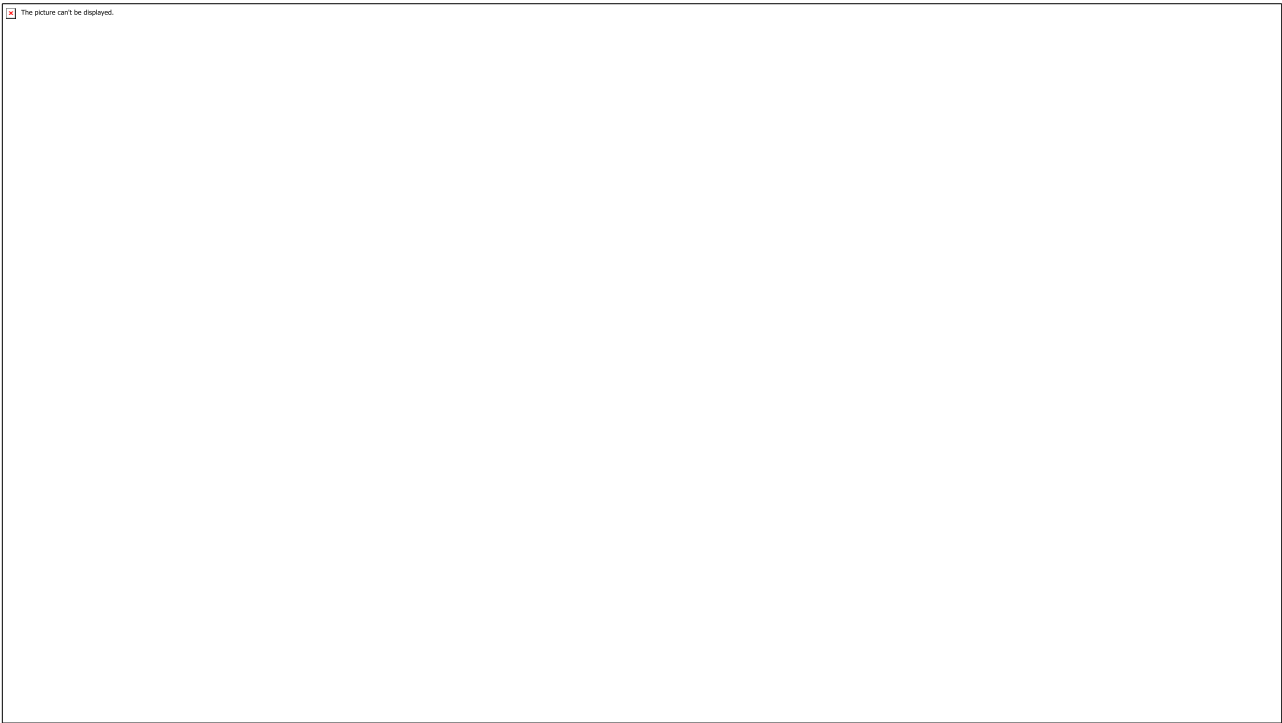


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Poster keywords

enhanced, perioperative, critical, escalation, care

Virtual anaesthetic scenarios

Rohan Goel

Mersey Trainee, Liverpool, United Kingdom

Abstract

Introduction

During recent COVID restrictions there has been a reduction in the amount of trainee simulation teaching and face to face interaction, previously common in the coffee room, which are vital in alleviating stresses of the unknown by discussion of difficult/interesting cases that people have recently come across. These interactions facilitate the treatment aspect but also the human factors element to a scenario and how to manage this side of case can often cause a lot of stress to junior trainees.

Interesting cases are used as a method of teaching and reflection, to think of different methods and ways that an individuals or institutional practice could be improved in the future. Some scenarios may be rare and lessons learnt can be applied to future situations both for juniors and seniors whom may be asked for advice.

Methods

A survey was sent out to the trainees in work asking various questions themed around knowing where kit is, teaching during COVID, whether they'd ever thought about how they would manage an aspect of a difficult case which was given to them and whether they thought a virtual scenario that can be ran though with a supervisor would be helpful.

Results

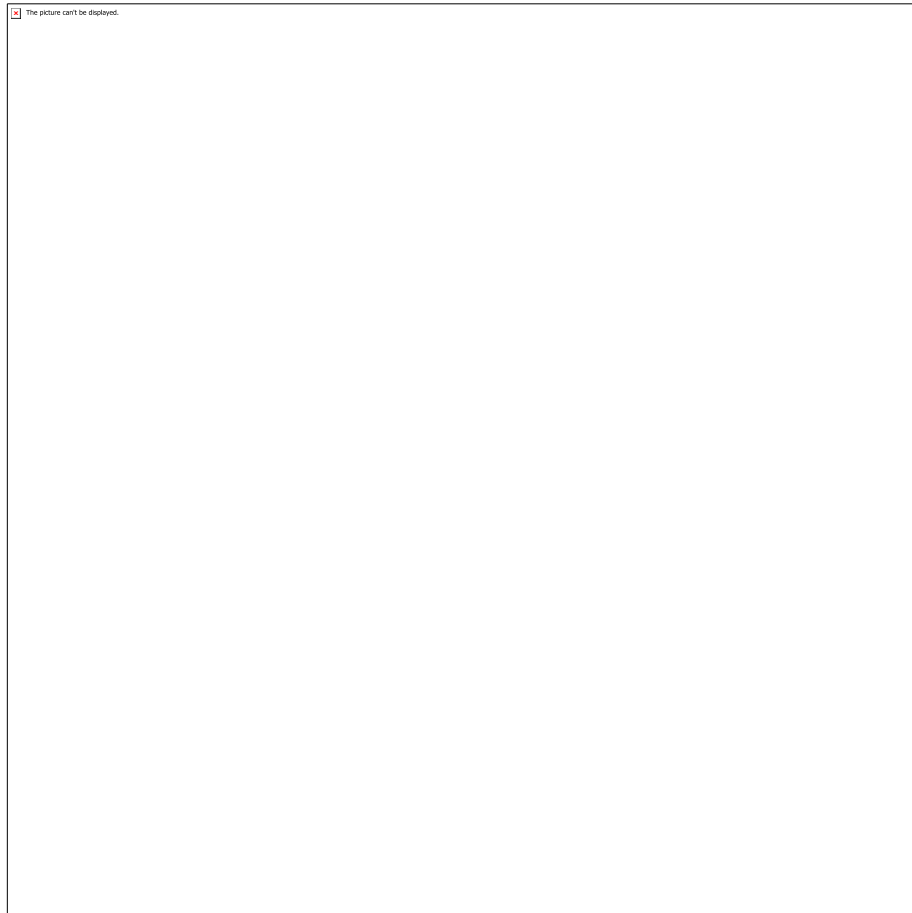
Many trainees had not thought about the example scenario and had not thought about how they would manage this. Everyone found it hard moving to a new hospital and not knowing where equipment was. Many thought that simulation teaching had decreased since the onset COVID and thought that having virtual anaesthetic scenarios which they could go through with a supervisor in theatre, the theatre team as a whole or another trainee would be useful.

Conclusion

An online virtual scenario file was created which can be accessed using a QR code. This QR code can be printed and placed in anaesthetic rooms/coffee rooms and if trainees/other theatre members of staff want to have a look they can scan the code which opens the document on their device. This way the document is always current having been updated with new scenarios. All members of the team have the opportunity to share their own experiences. This will lead to a growing bank of scenarios that people can use to stimulate thought and discussion around how they would manage the scenario. Open

questions are intended to initiate thought around aspects which may not be obvious from reading the vignette.

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Poster keywords

Teaching, COVID, Team working, Emergency, MDT

Assessment of acute and chronic pain following lower limb arthroplasty

Debasis Pradhan, Agah Isguzar, Tajammal Bhatti
Queen's Hospital, Burton, United Kingdom

Abstract

Introduction:

Pain and functional limitation are the most important factors to recommend total hip (THA), total knee (TKA) and unilateral knee (UKA) arthroplasties. Post procedure inadequate pain relief is an important factor for development of chronic pain. We assessed pain trajectory and its effect in patients undergoing lower limb arthroplasties.

Methods:

In a prospective non-interventional study pain was assessed at following time points – preoperative, on day 0,1 2, on discharge, by the end of 1st and 2nd week and six months later. Pain was assessed by using numerical rating scale (0-10) (NRS) and also in terms of the effect of pain on daily activities, sleep and need of analgesics. Patients with pain scores of more than 5 at the end of second week were being followed at the end six months. Post discharge follow ups were done telephonically by using simple questionnaire.

Results:

The cohort included 150 patients who underwent UKA, TKA and THA. Their mean (standard deviation, SD) age was 70.3 (9.4) years, 58% (87/150) were female. Spinal anaesthesia was received by 139 (92.6%) patients. Preoperative nerve blocks were administered in 52 (74.3%) and 69 (86.3%) patients in the knee and hip groups respectively. TKA patients received adductor canal and IPACK block +/- genicular nerve blocks. THA patients received PENG block +/- lateral femoral cutaneous nerve block. Percentage of patients who had pain >5 in NRS were, 97 and 94 before replacement, 66 and 58 at discharge, 31 and 14 at the end of second week, in knee and hip group respectively. Patient satisfaction with pain management in hospital was 85% and 95% in knee and hip replacement, respectively. At six months follow up, 1 (0.01%) in hip replacement and 8 (10%) in knee replacement group had pain > 5.

Conclusion:

Significantly higher number of patients receiving knee replacement had developed chronic pain as compared to hip replacement. Larger studies targeting perioperative interventions should be conducted to explore modifiable factors which affect incidences of chronic pain.

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Poster keywords

Arthroplasty, Acute Pain, Chronic pain, Nerve block, APS

Use of Rectus Sheath Catheters following Open Aortic Vascular Surgery

Isabelle Ferarrio¹, Katherine Saunders²

¹Somerset NHS Foundation Trust, Taunton, United Kingdom. ²Somerset NHS Foundation Trust, Taunton, United Kingdom

Abstract

Introduction: Rectus Sheath Catheters are increasingly being used for analgesia following open abdominal surgery but there is little data evaluating their effectiveness, particularly for their use in open vascular surgery. Thoracic epidural analgesia (TEA) is the current gold standard for analgesia following such operations (1). Our objective was to analyse the effectiveness of RSCs in providing analgesia for patient's undergoing open abdominal aortic vascular surgery when TEA failed or was not possible.

Methods: Retrospective data collection of patients undergoing open aortic vascular surgery between January 2020 and August 2021. Pain scores were calculated using a combination of clinical narrative in medical notes and use of PRN medications. Data collected also included patient demographics, length of stay and complications including hypotension, ileus and AKI.

Results: Data was collected from 57 patients who underwent open aortic vascular surgery between January 2020 and August 2021. Ages ranged from 35-82. 18 patients used RSCs as their primary mode of analgesia (11 failed TEA, 7 TEA not inserted). Pain scores were compared to patient's who used TEA as their primary mode of analgesia. Pain scores were similar if not improved ($p < 0.001$) in the RSC group. There were a similar number of HAPs and AKIs between the groups but a much higher incidence of hypotension in TEA group (13 vs. 0). Failure rates were lower in the RSC group (7% vs 22%). Overall length of stay (LOS) was higher in the RSC group, however length of stay was dramatically reduced when RSCs were used as primary mode of analgesia following TEA failure (12.3 vs 9.26 days).

Conclusion: The data produced shows similar pain scores when RSCs are used as primary mode of analgesia compared to TEA, when used following open aortic vascular surgery. As well as similar levels of complications, reduced episodes of hypotension and lower failure rates. RSCs provide a suitable alternative to TEA when it is contraindicated or upon failure of TEA. This study has allowed for the development of a protocol to include the use of RSCs in open aortic vascular surgery at our hospital and provides a good foundation for a future prospective study. More evidence and research is needed into the effectiveness of this analgesic technique.

References

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Poster keywords

analgesia, rectus sheath catheter, vascular, epidural, pain

Improving out-of-hours training for new anaesthetic trainees at North Manchester General Hospital: a quality improvement project

Nick Gould, Patrick Ross, Alistair Sawyerr

North Manchester General Hospital, Manchester, United Kingdom

Abstract

Introduction: Novice anaesthetics training focuses on the provision of a safe theatre anaesthetic, traditionally relying on real world experiences to prepare new recruits for the out-of-hours anaesthetic role beyond theatre. Following an initial assessment of competencies (IAC) at three months of training, many novice trainees will join the on-call rota with only distant and frequently unavailable on-site senior support¹. This can cause a great deal of stress, with trainees feeling unprepared for their new out-of-hours role. The SMART aim of this project is to demonstrate a 25% improvement in the self-reported confidence of first year anaesthetic trainees at North Manchester General Hospital with regards to their out-of-hours responsibilities outside of theatre over a six-month period.

Method: An initial survey formulated a baseline measure of self-reported confidence amongst trainees approaching IAC with regards to six roles of the out-of-hours general anaesthetist. Two PDSA cycles followed. Cycle 1 saw the addition of a third, experienced, trainee to the on-call rota to supervise new trainees and provide support in unfamiliar out of theatre scenarios. Cycle 2 put new trainees through simulated scenarios, including attending a cardiac arrest, intubation and stabilisation in A&E Resus and transfer of the intubated patient.

Results: The initial survey demonstrated low confidence amongst new trainees with regards to their on-call responsibilities outside of theatre (mean confidence rated as 1.5/5 across five roles outside of theatre compared to mean confidence 2.7/5 for independent theatre work). PDSA cycle 1 led to little improvement in confidence amongst new trainees (mean confidence rating 1.6/5 across five roles outside of theatre). Written feedback to PDSA cycle 1 highlighted a desire for supplementary simulation training, instigating PDSA cycle 2, which did lead to improved confidence ratings (mean confidence rated as 2/5 across five roles outside of theatre).

Conclusion: Trainee confidence was shown to improve with the introduction of specific simulation training targeting scenarios outside of theatre. This indicates that on a wider basis, novice anaesthetic training may benefit from a more systematic approach to responsibilities beyond the theatre complex, particularly with the use of simulation, rather than relying on real world experiences during the novice period.

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Poster keywords

Anaesthetics, Training, Simulation, Confidence, Out-of-hours

Frailty and Cognitive Impairment In Vascular Surgery Patients; A Single Centre Audit

James Fiori, Jani Moss, Prof Toby Richards
Fiona Stanley Hospital, Perth, Australia

Abstract

Introduction:

Patients undergoing vascular surgery often have multiple medical co-morbidities. Baseline physical frailty and cognitive impairment can impact surgical options and postoperative recovery. The aim of this study was to determine the prevalence and impact of physical frailty and cognitive impairment in vascular surgery patients.

Methods:

We conducted a single centre, prospective audit of consecutive patients aged ≥ 18 admitted to Fiona Stanley Hospital Vascular Surgery department, Perth, Western Australia, over two data collection periods (26/1/2021-14/3/2021 and 21/8/21-19/10/21). The primary outcomes were preoperative frailty and cognitive impairment. Frailty was assessed using the Clinical Frailty Scale (CFS), and cognitive impairment was assessed using the 4AT and clock face drawing. Secondary outcomes were preoperative capacity, postoperative delirium and length of hospital stay.

Results:

88 patients were included; 58 were male (66%) and the average age was 69 (± 12) years. 37.5% were frail (CFS ≥ 5). Over half (52.3%) were cognitively impaired (4AT ≥ 1). One third (33%) had impaired clock face drawing. Two patients lacked decision making capacity. Postoperative delirium occurred in seven patients (8%); five of whom had baseline cognitive impairment and three had baseline frailty. Mean length of stay was 11 (± 9.7) days for frail patients compared to 9 (± 11.8) days for non-frail patients.

Conclusion:

We found a high prevalence of preoperative frailty and cognitive impairment in our vascular patients. Further investigation is warranted to determine if identification of these patients can improve postoperative outcomes.

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Poster keywords

Frailty, Cognitive impairment, Vascular surgery, Delirium, Clinical Frailty Scale

Patient and clinician experiences of the Prehab4Cancer and Recovery Programme: A multi-modal prehabilitation and rehabilitation service for people undergoing cancer surgery.

Zoe Merchant^{1,2}, Amy Davies², Kirsty Rowlinson-Groves³, David P French², John Moore⁴, Rachael Powell²

¹GM Cancer Alliance hosted by the Christie NHS Foundation Trust, Manchester, United Kingdom.

²University of Manchester, Manchester, United Kingdom. ³GM Active hosted by Salford Community Leisure, Salford, United Kingdom. ⁴Manchester University NHS Foundation Trust, Manchester, United Kingdom

Abstract

Introduction:

Prehabilitation aims to increase individuals' physical fitness and strength, nutritional status and support psychological wellbeing before and during cancer treatment, to optimise recovery. The Greater Manchester Cancer Prehab4Cancer and Recovery Programme is delivered to people undergoing colorectal, lung and oesophago-gastric cancer surgery. It provides locally delivered, supported physical activity, before and after surgery, including gym membership and an individualised exercise prescription (1). This study aimed to understand the views and acceptability of people referred to, and clinicians referring to, this prehabilitation programme.

Methods:

Qualitative, semi-structured interviews were conducted with 18 individuals offered this programme (16 'engagers' participated in prehabilitation; 2 'non-engagers' did not). Purposive sampling was conducted to ensure inclusion of individuals from socially deprived areas. Clinicians involved in referring patients to prehabilitation completed an online survey (n=24). An inductive, thematic analysis was conducted, structured using the Framework approach (2).

Results:

The Prehab4Cancer and Recovery Programme was highly valued by engagers and clinicians. Optimising recovery was a motivating factor for many engagers, and many felt that participating enhanced their recovery. Engagers valued the programme being tailored to individual ability, and seem to feel comfortable with exercises. Having expert instructors appeared to help individuals to feel safe and supported. Improved fitness was considered an important benefit, but key psychological benefits were also discussed. Prehabilitation seemed to increase confidence in ability to cope with treatment. Some felt it provided a welcome positive focus, and having increased personal support throughout the cancer journey seemed highly valued. Engagers typically had few commitments impacting their ability to attend and access to a car or a gym close to home. Within clinician and non-engager responses there was suggestion that commitments and transport issues could be barriers to engagement.

Conclusion:

The Prehab 4 Cancer and Recovery Programme was generally well received, but potential barriers to engagement were identified. Even with a service specification of local delivery, transport issues may affect participation for some individuals. Including virtual approaches in delivering prehabilitation may support wider engagement.

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Poster keywords

Prehab, Prehabilitation, Acceptability, Rehabilitation, Rehab

Surgical High Observation Bay - Service Evaluation of a New Level 1 Unit for High-Risk Elective Colorectal Cancer Surgery at Harrogate District Hospital

Weiguang Li¹, Hao Ern Tan², Thomas Collyer²

¹York Teaching Hospitals NHSFT, York, United Kingdom. ²Harrogate And District NHSFT, Harrogate, United Kingdom

Abstract

Introduction

Prior to the COVID-19 pandemic, high-risk patients undergoing major colorectal cancer surgery were admitted to High Dependency Unit (HDU) post-operatively at Harrogate District Hospital. Such a pathway was significantly challenged by the Pandemic which unprecedentedly strained the critical care capacity and complicated the post-operative recovery with high risk of infection. In March 2021, a new level-1 unit, High Observation Bay (HOB) was developed, as an alternative pathway. It was equipped with continuous monitoring and staffed at a minimal nurse-to-patient ratio of 1:4. The nursing team was supervised by an experience HDU nurse and patients were reviewed by the critical care outreach team daily. This study was to assess the feasibility of HOB at a small District General Hospital, by evaluating healthcare outcomes against pre-pandemic data.

Methods

Data of HOB admissions from 01/03/2021 to 30/06/2021 for elective major colorectal cancer surgery, including length of stay (LOS), unplanned HDU admission, emergency readmission, major complications, and 30-day mortality, were collected prospectively. Data of HDU admissions from 01/03/2019 to 30/06/19 for the same patient group were collected retrospectively. Descriptive analyses and two-sided Fisher exact test were used to evaluate the datasets.

Results

In 2021, 11 patients, meeting the criteria, were admitted to HOB, and in 2019, 15 to HDU. Despite longer LOS in HOB/HDU in 2021 (2.8 versus 1.8), the overall LOS was comparable (9.91 versus 9.67). On-the-day cancellations were substantially reduced in 2021 (0 versus 7). Patient outcomes in 2021, including unplanned HDU admission (9% versus 0, $p=0.423$), return to theatre (0 versus 0, $p=1$), emergency readmission (0 versus 33%, $p=0.052$), major complications, and 30-day mortality (9% versus 0, $p=0.423$), were not found significantly different from those in 2019.

Conclusion

A new level-1 unit was successfully implemented to allow resumption of colorectal cancer surgery during the Pandemic. Despite challenging circumstances, the HOB pathway provided post-operative care

to high-risk patients undergoing major colorectal cancer surgery, with a quality of care comparable to the pre-Pandemic HDU pathway.

Reference

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Poster keywords

HOB, COVID, Colorectal cancer

National Survey on the utilisation of electronic pre-operative assessment (ePOA) system across Wales

Mina Saad, Craig Jones, Iwan Roberts, Tei Sheraton
Aneurin Bevan University Health Board, Newport, United Kingdom

Abstract

Introduction:

Every patient requiring surgery and/or anaesthesia/anaesthesia-led sedation should undergo a preoperative assessment (POA) prior to admission. (1) Digital technology may decrease the clinical time required and facilitate clinical governance and quality of care delivered. An ePOA system should provide the multi-disciplinary team with the level of risk for each patient to support appropriate consent, and the peri-operative plan of care. (1)

Methods:

The aim of this national survey was to ascertain how POA are run across Wales and identify usage of ePOA and the strengths and challenges experienced by Welsh Pre-operative Assessment Clinic (PAC) leads across Wales. This information will be useful in evaluating the feasibility of an All Wales ePOA. An online survey was sent to 8 PAC leads across Wales. Questions included:

1. For patients who attend the PAC. How is POA carried out and documented in your Health Board (HB)?
2. If not in use, why isn't an ePOA utilised in your HB?
3. What do you think are /would be, the benefits of ePOA to your HB?
4. If your HB has an ePOA in place, what were the initial set of problems identified?
5. Did you/Do you foresee any patient related issues from the introduction of an ePOA?
6. Do you think this new technology will hinder the doctor-patient relationship?
7. Are there any concerns with data governance that may delay or prevent the use of an ePOA?
8. What can be done to overcome limited NHS budget, to introduce ePOA?

Results:

We collected 5 responses, and we are currently following up with emails and phone calls, report results as preliminary. Although all the PAC leads confirmed the need to introduce ePOA and highlighted its benefits (Figure 1), 80 % of the HB in Wales still use face to face POA with written documents. They have also confirmed that using ePOA is unlikely to hinder the doctor-patient relationship. 80% of responses blamed the lack of funding and IT support for the delay in the introduction of ePOA.


Conclusion:

Current practices at POA can be time consuming and labour intensive. Our findings suggest that using digital innovation can reduce the administrative obstacles and enhance the peri-operative patient journey. There is a need to implement an ePOA system across HB in Wales.

Reference:

1. Preoperative Assessment and Optimisation for Adult Surgery including consideration of COVID-19 and its implications June 2021. Accessed 25/4/2022.
<https://www.cpoc.org.uk/sites/cpoc/files/documents/2021-06/Preoperative%20assessment%20and%20optimisation%20guidance.pdf>

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Poster keywords

ePOA, Electronic, Preoperative, assessment, National survey

Study of a simplified algorithm for prevention of postoperative nausea and vomiting in an oncological hospital: a quasi-experimental study

Juliana Bezerra Pereira^{1,2,3}, Angela Sousa^{1,2}, Claudia Simões^{1,2}, Zoka Milan³, Luciano Pereira³

¹State of São Paulo Cancer Institute, São Paulo, Brazil. ²Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil. ³King's College Hospital, London, United Kingdom

Abstract

Introduction:

There is some evidence that chemotherapy induced nausea and vomiting (CINV) may be related to postoperative nausea and vomiting (PONV). In this study, we tested if a simplified algorithm can reduce the overall incidence of PONV, using CINV as a risk factor.

Materials and Methods:

In this single center, nonrandomized quasi experimental trial we included patients with malignancy undergoing surgery longer than 2 hours. It was approved by the Ethics and Research Committee of University of São Paulo and registered at Clinical Trials. We established a simplified algorithm for PONV prophylaxis: patients who had history of CINV receiving triple antiemetics and patients who had no history of CINV receiving double treatment (Figure1). We assessed the PONV incidence in 24 hours. Association between qualitative variables was analyzed using Pearson's chi-square test or Fisher's exact test. The Mann-Whitney test was used to compare the distributions of non-parametric quantitative variables in relation to the two independent groups.

Results:

Over a one year period we enrolled 484 patients (Figure 2). The presence of nausea was 34.9 % and the occurrence of vomiting was 19.2%. In CINV group we had 122 patients. When the algorithm was correctly applied in the CINV group, nausea was reduced by 59% (RR = 0.41; 95%CI 0.20-0.83)(p 0.014) and vomiting by 70% (RR = 0.30; 95% CI 0.10-0.91)(p 0.033). The algorithm compliance was 74.6%, although only 45.08% of the patients received the third antiemetic when indicated. The implementation of the algorithm did not change the overall incidence of PONV based on previous studies. However, in patients who had history of CINV in addition to an Apfel risk score 3 or 4, incidence of vomiting was reduced by 50.9% (p 0,004) (RR 0.491; 95% CI - 0.300-0.804)(Table 1). The adherence rate to the algorithm was disappointing and reflects the established routine of administering a “universal” prophylaxis for PONV, regardless the risk factors.

Conclusion:

A simplified algorithm using CINV as a risk factor for PONV did not reduce the incidence of PONV in this study population, but did reduce it considerably in patients who had both a history of CINV and an Apfel score 3 or 4.

Reference: Da Silva HBG et al. Acta Anaesthesiol Scand, 59(9):1145–53, 2015.

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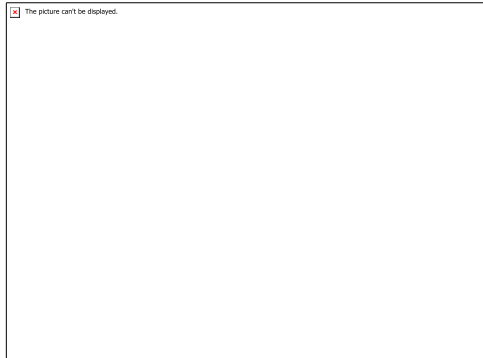
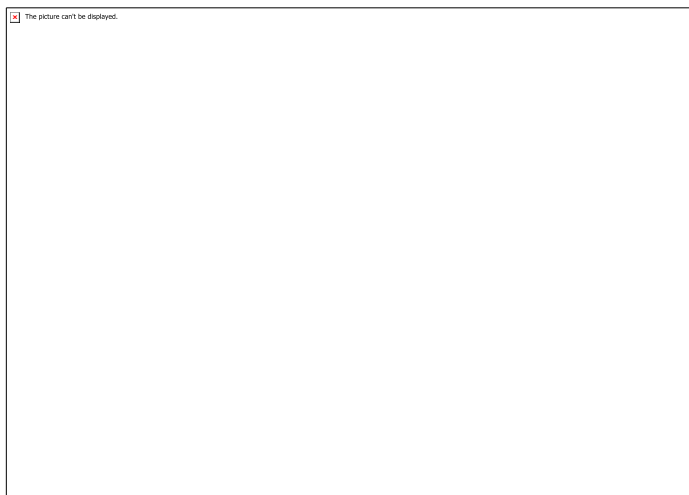


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Poster keywords

Postoperative nausea and vomiting, Chemotherapy induced nausea and vomiting, Perioperative, Oncological patients, cancer

Evaluation of risk factors for prediction of postoperative nausea and vomiting in hepatobiliary cancer surgery

Juliana Bezerra Pereira^{1,2,3}, Zoka Milan³, Andja Cirkovic⁴, Angela Sousa^{1,2}, Claudia Simões^{1,2}, Luciano Pereira³

¹State of São Paulo Cancer Institute, São Paulo, Brazil. ²Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil. ³King's College Hospital, London, United Kingdom. ⁴Institute of Medical Statistics and Medical Informatics, Belgrade, Serbia

Abstract

Introduction:

As postoperative nausea and vomiting (PONV) can cause numerous complications, early prediction and prophylaxis is mandatory. Hepatobiliary cancer surgery patients are particularly prone to PONV. This study aims to validate a simple predictor model for PONV in the first 24h following hepatobiliary cancer surgery.

Methods: This single center retrospective data analysis was approved as Quality Improvement Project at King's College Hospital, London. PONV was assessed 24 hours after surgery. Apfel score (female gender, non smoking status, postoperative opioid use, and history of PONV/sickness), race, gender, ASA status, anaesthetic technique, type of hepatobiliary surgery, were risk factors that we assessed.

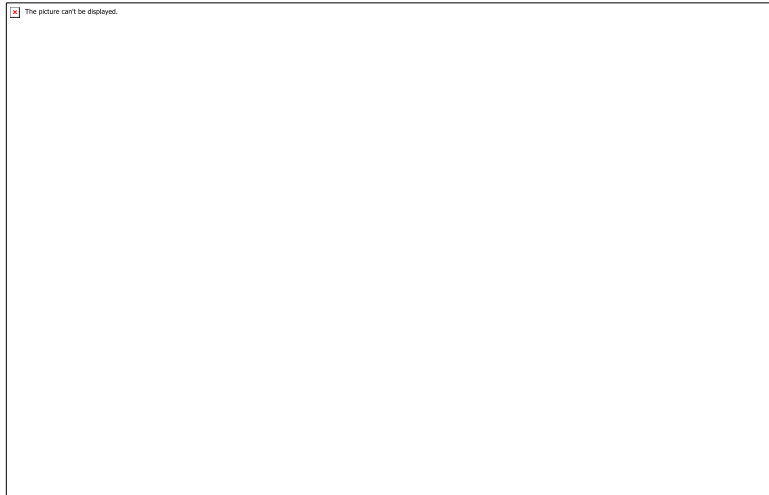
Logistic regression analysis was applied. Regression coefficient B, odds ratio (OR), 95% confidence interval of the odds ratio (95% CI OR), and p value were reported. We constructed a receiver operation characteristic (ROC) curve with possible risk factors for PONV, including the Apfel Score.

Results: Over a six months period, a total of 137 consecutive patients, predominantly non-smokers (91%), white British (77%), with the mean age of 61.80 ± 14.41 years and almost equal ratio of males and females (53% vs. 47%), were included in the study. PONV was presented in 29.9% cases; All patients had general anaesthesia, combined or not (39% general + epidural; 28% general + spinal; 25.5% only general; 4.4% general + spinal + regional catheter) and used opioids in the postoperative period; most patients had Apfel score two or three (94%). It was obtained that younger age (95% CI OR 0.04-0.99, p 0.003), female gender (95% CI OR 2.22-11.15, p < 0.001), and higher Apfel score (95% CI OR 1.76-8.19, p 0.001) increased the probability for PONV, while ASA score 3 decreased it (95% CI OR 0.15-0.89, p 0.026). None of the chosen anaesthetic techniques nor types of hepatobiliary surgeries were considered potential predictor for PONV. ROC curve for Apfel score as a predictor for PONV is represented in Figure 1 and the area under was 67.7% (p=0.001).

Conclusions: In this study population, female gender, younger age and higher Apfel score were associated with higher incidence of PONV while higher ASA score was associated with lower probability of PONV. We validated Apfel score in our hepatobiliary cancer patients, therefore, it can be used as predictor of PONV.

Reference: Gan TJ, Diemunsch P, et al. Anesthesia and Analgesia, Vol. 118, 85–113, 2020

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Poster keywords

Postoperative nausea and vomiting, cancer, perioperative, hepatobiliary cancer, Apfel

Postoperative nausea and vomiting in oncological patients with chemotherapy induced nausea and vomiting history: a subanalysis from a quasi-experimental trial

Juliana Bezerra Pereira^{1,2,3}, Angela Sousa^{1,2}, Zoka Milan³, Claudia Simões^{1,2}, Luciano Pereira³

¹State of São Paulo Cancer Institute, São Paulo, Brazil. ²Faculdade de Medicina, Universidade de São Paulo, São Paulo, Brazil. ³King's College Hospital, London, United Kingdom

Abstract

Introduction:

Chemotherapy is an essential part of the oncological treatment for most of the malignant tumors and chemotherapy induced nausea and vomiting (CINV) is experienced by 60% to 72% of the patients during the treatment. There are some evidences that CINV can be a predictor of PONV and also that patients who did not experienced CINV are more likely to do not have PONV. The primary outcome was the incidence of PONV in 6 hours (h) in patients with CINV history.

Methods:

In this single center, nonrandomized and quasi-experimental trial, we included cancer patients with CINV history undergoing elective surgery longer than 2 hours. We established an algorithm for PONV prophylaxis: patients who had history of CINV receiving triple antiemetics and patients who had no history of CINV receiving double treatment. We assessed the PONV incidence in 6 and 24 h. Association between qualitative variables was analyzed using Pearson's chi-square test or Fisher's exact test. The Mann-Whitney test was used to compare the distributions of non-parametric quantitative variables in relation to the two independent groups. Poisson regression was used to analyzed the other risk factors associated with PONV (SPSS v 25 & Stata/MP 14.0 for Windows).

Results

Over a one year period, 123 patients were enrolled. The nausea incidence in 6 and 24 h was 32.5% and 40.7% respectively. The vomiting presence was 16.3% in 6 h and 19.5% in 24 h. Only fifty five patients received the third antiemetic and most patients with CINV underwent mastology specialty surgeries (p 0.002). In patients who received the complete prophylaxis, the nausea and vomiting relative risk reduction in 6 h was 59% (RR 0,41 IC 0,20-0,84 p 0,015) and 69 % (RR 0,31 IC 0,10-0,92 p 0,036) respectively, with similar risk in 24h in patients who received two or three antiemetics (RR 0,41; IC95% 0,16-1,04) (Figure 1).

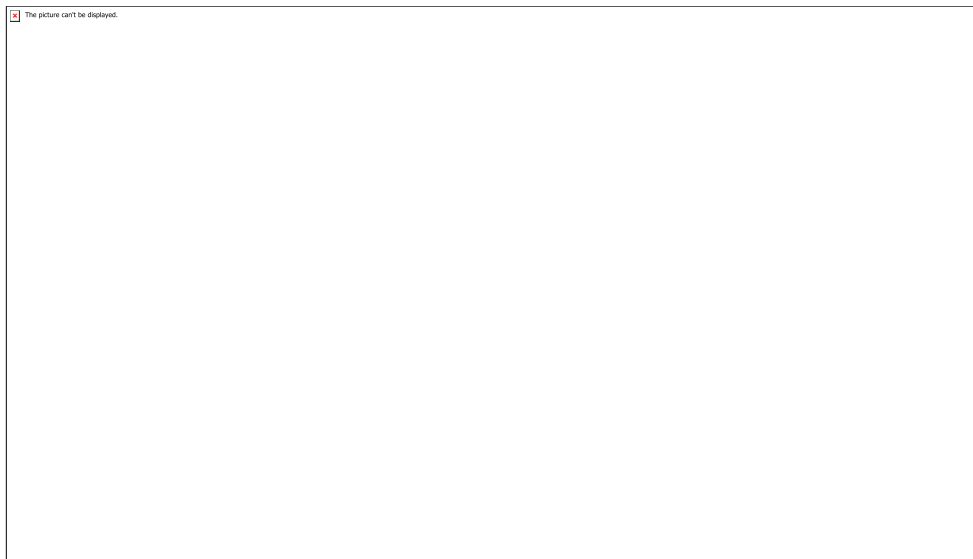
Conclusion

In CINV patients, when the third antiemetic was applied, the PONV incidence reduced considerably in 6 hours with no difference in 24h.

Reference

Gabby ME, et al. Aliment Pharmacol Ther. , 54(1):7–13, 2021.

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Poster keywords

PONV, chemotherapy induced nausea and vomiting, oncological patients, cancer, perioperative

To audit the present Cardiopulmonary Exercise Test guided Pre-operative Risk stratification of patients undergoing colorectal cancer surgery and possible altering our present risk stratification fitness indices to cater our Local population (Sheffield)

Venkateswaran Jambunathan, Karen Kerr
Sheffield Teaching Hospital, Sheffield, United Kingdom

Abstract

Introduction:

We currently use York Criteria in classifying patients into high (AT<11, MVO₂<15) and normal (AT>11, MVO₂>15) risk and it is recommended that patients who are risk stratified as high risk are booked a bed on HDU Post-operatively. We wanted to ascertain if the fitness indices used to risk stratify patients undergoing colorectal surgery in Sheffield Teaching Hospitals (STH) needs to be changed to reflect the outcomes experienced by Sheffield's colorectal patient population. We also wanted to investigate if women undergoing colorectal surgery at STH should be risk stratified using a different set of fitness indices.

Methodology:

It's a Observational study with Retrospective analysis of patients risk stratified and operated (colorectal surgery -open & laparoscopic) between 2014 to 2018. We looked at BMI, anerobic threshold (AT), maximum oxygen consumption (MVO₂), re-surgery/complications as surrogate for immediate morbidity and 2year mortality as a marker for intermediate mortality.

Results:

780 patients over 5years were referred for CPET and then went onto be operated, of which 478 were male and 302 Female (more male than female every year). Mean age for referral was 74years in male vs 75 years in female. Mean BMI was 27.5 for both sexes. The Mean AT, MVO₂ for across 5 years can be seen in Table 1. We applied **t-test / one tailed hypothesis/ p <0.05 significance** to see whether was any significant difference in AT and MVO₂ between male and female. We found there was **significant difference in AT (p-value is 0.000018) between male and female**, whereas there was **no difference in MVO₂(p-value is 0.084293)**.

Chi-square test was applied to look at significance of risk stratification in predicting **immediate morbidity** and there **wasn't any difference** between high and low risk groups among both sexes. ODDS ratio was used in predicting whether our CPET risk stratification correlates with 2-year mortality. **In males - with ODDS ratio of 2.1282 with 95% CI and p -value - 0.0003, the 2 -year mortality was high in high risk group compared to normal risk**, whereas in females - the ODDS ratio of 1.3299 with 95% CI and p value of 0.2732, there was no significant difference in mortality between normal and high risk.

Conclusion:

We found that the current criteria we use for risk stratification is appropriate in male and we need to modify the parameters for female, thereby suggesting further research in setting different parameters for male and female considering the difference in physiology and metabolic demands.²

Reference:

1. Cardiopulmonary exercise variables are associated with postoperative morbidity after major colonic surgery: a prospective blinded observational study; M A West 1, D Lythgoe, C P Barben, L Noble, G J Kemp, S Jack, M P W Grocott ; Br J Anaesth . 2014 Apr;112(4):665-71. doi: 10.1093/bja/aet408.
2. Thomas, G., West, M.A., Browning, M. et al. Why women are not small men: sex-related differences in perioperative cardiopulmonary exercise testing. Perioper Med 9, 18 (2020). <https://doi.org/10.1186/s13741-020-00148-2>

Table 1

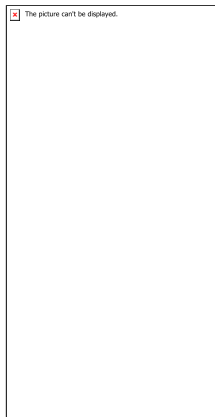
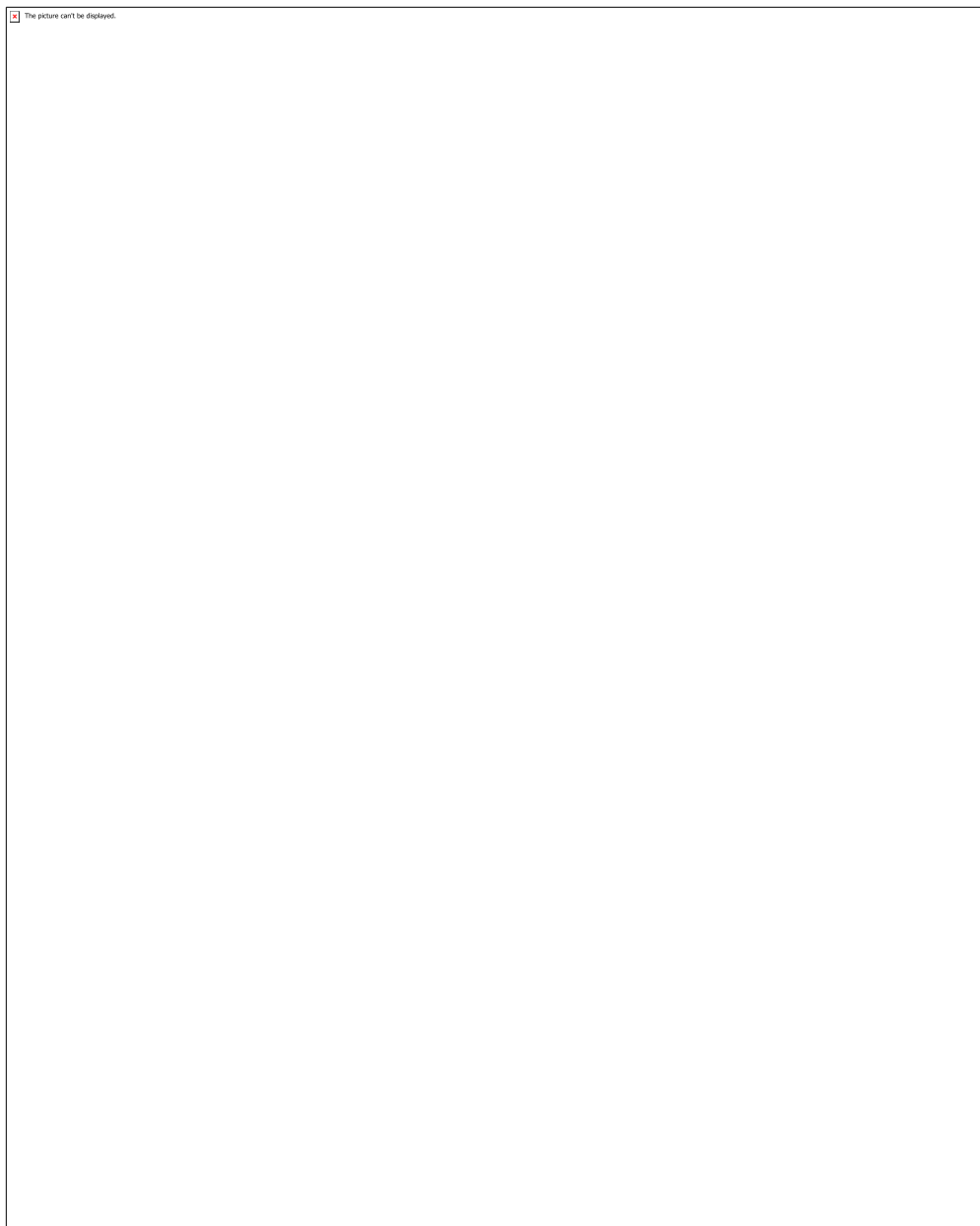


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Poster keywords

CPET, Anaerobic threshold, VO2 Max, Risk stratification, Mortality

Challenges experienced by a new surgical prehabilitation service at a tertiary surgical centre

Lorna Starsmore, Heung-Yan Wong, Nicholas Tetlow, Amy Dewar, Olivia Chapman, Jessica Lipman, James Pidding, Kassie Montanheiro, John Whittle
University College London Hospital, London, United Kingdom

Abstract

Introduction

Prehabilitation aims to enhance patients' functional capacity and physiological reserve prior to stressful events, such as major surgery. By allowing patients to 'wait well', prehabilitation has been proposed as one intervention able to transform the preoperative period into active preparation time[i]. Hoping to optimise surgical patients at our centre, a new multimodal prehabilitation service was established. Whilst preliminary results have been encouraging a number of challenges have been encountered.

Methods

The prehabilitation service was developed by a multidisciplinary team (MDT) who extensively mapped pathways and engaged stakeholders. Carefully planned, remote support for exercise, nutrition and coaching were established. An electronic referral pathway and documentation method were created and relevant data collected on a REDCap database. The service was opened to three surgical pathways; upper-GI oncology, uro-oncology and gynae-oncology. A weekly MDT was set up to triage referrals by Clinical Frailty Scale score to the most appropriate interventions.

Results

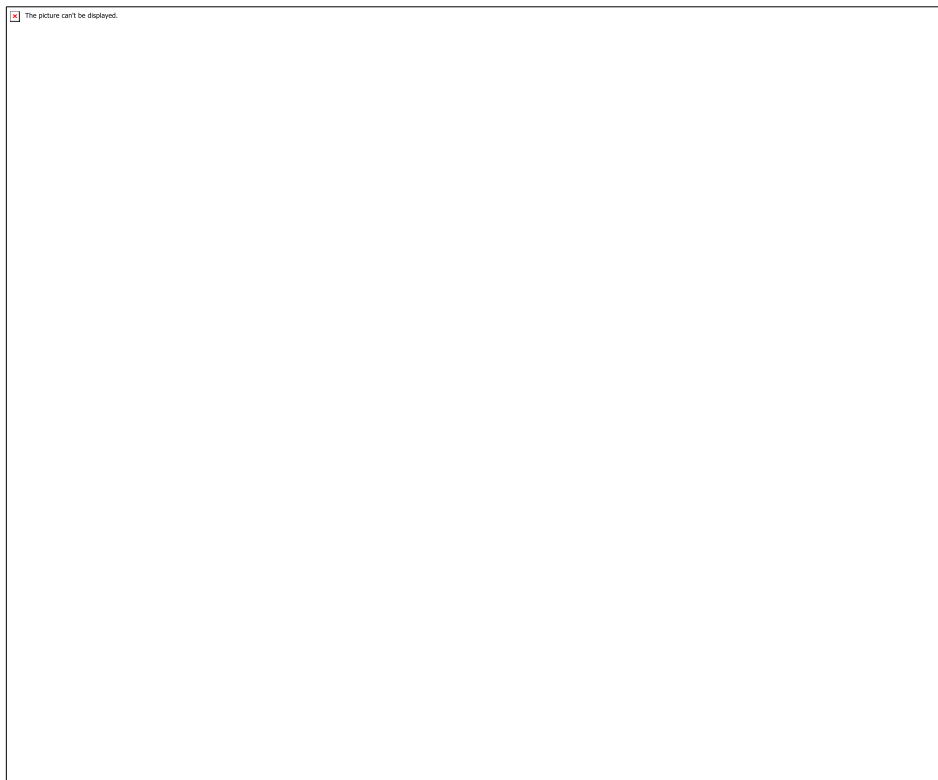
Seventy seven patients have been referred over the eight-months that the prehabilitation service has been operational. Ten patients have completed prehabilitation, resulting in average 30-second sit-to-stand test scores increasing from 14.4 to 18.8 (Figure 1). Qualitative feedback has also been positive with patients reporting greater participation in daily activities. Whilst preliminary outcomes for patients completing prehabilitation at our centre have been promising, a number of dilemmas have arisen. Accurately predicting which patients will proceed to surgery has been challenging, especially in those where the decision is made after neoadjuvant chemotherapy – the window utilised for prehabilitation. A total of nine patients accepted for prehabilitation (19%) later had the decision to proceed with surgery revoked. A number of severely frail patients (clinical frailty scale of ≥ 7) have been referred, requiring intensive physiotherapy - a challenge to deliver in remote, group settings. Patients who may not have been considered suitable surgical candidates have been referred with the expectation that functional capacity may improve sufficiently after prehabilitation to allow surgery to proceed. This has given rise to a number of clinical and ethical issues which had not been anticipated prior to establishing this service.

Conclusion

A new prehabilitation service has been successfully established at a tertiary surgical centre with promising initial results. The service continues to evolve with a number of areas subject to ongoing quality improvement, including how to manage unanticipated challenges.

[i] Royal College of Surgeons of England, Centre for Perioperative Care. Guidance for preoperative assessment and optimisation for adult surgery. 2021. Available from: <https://cpoc.org.uk/guidance-preoperative-assessment-and-optimisation-adult-surgery-published>

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Poster keywords

Prehabilitation, Shared Decision Making, Frailty, Preoperative optimisation, Quality improvement

PREOPERATIVE EVALUATION OF THE HIGH-RISK PATIENT PRESENTING FOR SURGERY

Mhairi Hunter¹, Myra McAdam²

¹University of Glasgow, Glasgow, United Kingdom. ²Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Introduction

Despite undergoing just 12.5% of surgical procedures, high-risk patients account for 80% of peri-operative deaths. Preoperative identification and optimisation of modifiable risk factors has been shown to reduce mortality in this population by maximising the individual's functional capacity and ability to adapt to operative stress.

This project aims to identify associations between functional capacity, preoperative inflammation, frailty and sarcopenia with surgical progression and outcome in the high-risk population. These variables have all been identified as independent predictors of peri-operative survival, though limited research considers them in combination. This project serves to fill this gap. Information obtained will be used to inform individual risk discussions at the high-risk anaesthetic clinic (HRAC), thus improving patient selection for surgery.

Methods

We conducted a retrospective observational study based in Glasgow Royal Infirmary. All patients reviewed at the HRAC were included, provided a formal HRAC report was obtained. Functional capacity was assessed using the Duke Activity Status Index (DASI) questionnaire and six-minute walk test. Inflammatory burden was measured using the CRP, Glasgow Prognostic Score (GPS) and Neutrophil: Lymphocyte ratio (NLR). Frailty status was assessed using the Frailty Phenotype and Rockwood scale. Hand grip strength measured by dynamometer was the surrogate parameter for sarcopenia. Progression to surgery, 6-month, 1-year, and extended survival was assessed. Prognostic accuracy was quantified using logistic regression, receiver-operating characteristic (ROC) curves and Cox proportional-hazard analysis.

Results

533 of 562 high-risk patients reviewed between Jan.2018 and Dec.2021 were included in this study. Of these patients, 242 (45%) proceeded to have surgery. Using the cut-off values obtained from ROC analysis, cox proportional-hazard models demonstrated an NLR>4.6 was associated with significantly

increased risk of 6-month(HR=3.22, p=0.035), 1-year (HR=4.87, p<0.001) and beyond (HR=2.05, p=0.021) mortality. DASI score was an effective predictor of progression to surgery (p<0.001), 1-year (HR=3.45, p=0.023) and extended (HR=2.18, p=0.022) survival. Kaplan Meier plots demonstrated that frail patients had significantly decreased 1-year survival (p=0.04), though discriminative power was lost when adjusted for covariates (p=0.3). Sarcopenia was not significantly associated with any outcomes in our population.

Conclusions

NLR is the most clinically useful preoperative assessment tool in predicting both short and long-term survival. DASI displayed high clinical efficacy in predicting progression to surgery, 1-year, and extended survival. Neither grip strength nor frailty were significantly predictive of surgical progression or survival in our population. These results are likely generalisable to the high-risk population, though caution should be taken if extrapolating beyond this.

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Poster keywords

FUNCTIONAL CAPACITY, INFLAMMATION, PREOPERATIVE EVALUATION, SARCOPENIA, FRAILTY

Incidence of Complications after Emergency Abdominal surgery - Get Exercising (ICEAGE): a multi-centre randomised controlled trial.

Ilanthe Boden^{1,2,3}, Kate Sullivan^{1,4}, Claire Hackett^{5,2}, Brooke Winzer⁶, Melissa McKinnon⁵, Iain Robertson^{3,7}, David Story², Linda Denehy^{2,8}

¹Launceston General Hospital, Launceston, Australia. ²The University of Melbourne, Melbourne, Australia. ³University of Tasmania, Launceston, Australia. ⁴Monash University, Melbourne, Australia.

⁵Princess Alexandra Hospital, Brisbane, Australia. ⁶Northeast Health Wangaratta, Wangaratta, Australia.

⁷Clifford Craig Foundation, Launceston, Australia. ⁸Peter McCallum Cancer Centre, Melbourne, Australia

Abstract

Introduction: Postoperative complications, delayed physical recovery, prolonged hospital stay, and in-hospital mortality are significant problems following emergency abdominal surgery. Early postoperative chest physiotherapy and mobilisation aims to prevent complications and aid recovery. Despite ubiquitous provision in most first-world hospitals, there are no randomised controlled trials testing the effect of physiotherapy on reducing postoperative complications and improving recovery following emergency abdominal surgery.

The hypothesis was that an enhanced physiotherapy care package of additional education, breathing exercises, and early rehabilitation would prevent respiratory complications and improve physical recovery after emergency abdominal surgery when compared to standard care alone.

Methods: ICEAGE was a prospective multicentre, parallel-group, double-blinded, active-placebo, randomised controlled trial powered for superiority¹. Standard-care physiotherapy (15-minutes daily ambulation and a single session of coached breathing exercises) was compared to enhanced physiotherapy care (30-minutes daily rehabilitation and twice daily coached breathing exercises) in 288 participants admitted for emergency abdominal surgery at three hospitals in Australia. Primary outcome was a respiratory complication within 14 postoperative days. Secondary outcomes included incidence of paralytic ileus, sub-acute rehabilitation referrals, hospital length of stay (LOS), quality of life (QoL) at hospital discharge and at three months, post-discharge hospital readmissions and complications, and all-cause mortality.

Results: From 2016 to 2018, 284 participants completed the trial. Compared to standard-care, enhanced postoperative physiotherapy halved respiratory complications; 28% v 13% (ARR 15% (95%CI 5 to 24%), NNT 7 (95%CI 4 to 17, p=0.006)), sub-acute rehabilitation referrals (20% v 8%, p=0.02), and discharge to formal rehabilitation services (12% v 5%, p=0.02). No difference was found in acute hospital LOS (13.4 days v 10.8 days, p=0.06), paralytic ileus rates, or mortality. Patients receiving enhanced postoperative physiotherapy reported better quality of life and physical function (WHODAS 30 (9) v 33 (10)) on hospital discharge and at 3-months post-surgery.

Conclusion: ICEAGE is the first-ever multicentre randomised controlled trial testing an intervention to improve recovery following emergency abdominal surgery. Twice daily chest physiotherapy and 30-mins

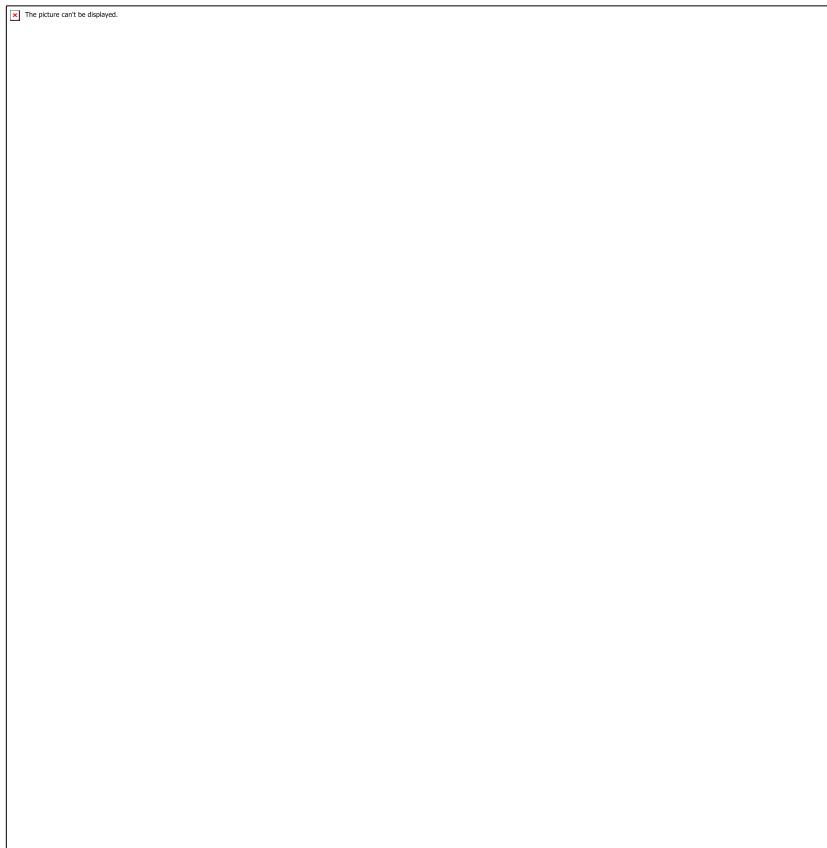
of daily exercise therapy delivered in the first seven postoperative days following emergency abdominal surgery prevents respiratory complications and improves physical function and quality of life up to three months after surgery. Further research is required to determine the dosage threshold required for benefit and the cost-benefit of service implementation.

Ethics approval and trial registration: ACTRN 12615000318583. 8 April 2015

References:

1. Boden et al World Journal of Emergency Surgery. 13(1):29. 2018

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Poster keywords

emergency laparotomy, respiratory complications, physiotherapy, physical recovery, breathing exercises

Enhanced Pre-assessment of the Older Adult (EPOA): Introduction of a geriatric-specific preoperative screening pathway.

Anthony O'Dwyer, Don Milliken, Wendy Gill, Nicolo Battisti
Royal Marsden Hospital, London, United Kingdom

Abstract

Introduction:

Aging patients form a spectrum, from robust to moribund. With an aging population, comprehensive screening is required to individualise their perioperative journey. Older patients present a challenge due to physiological decline, increased comorbidities, malnutrition, polypharmacy, cognitive disorders, social and functional impairments. These interrelated impairments elevate risk of poor perioperative outcomes. Comprehensive geriatric assessment (CGA) can mitigate these risks¹. We piloted a holistic pathway embedding CGA and personalised medicine within preassessment at our specialist cancer hospital: the EPOA (Fig 1). This multidisciplinary pathway involves screening across domains of the CGA, alongside key geriatric syndromes, frailty, cognitive disorders and polypharmacy.

Methods:

EPOA was adapted for in-person and telephone consultations. Polypharmacy was identified from history and frailty through the Rockwood clinical frailty scale (CFS). The Senior Adult Oncology Programme Screening Questionnaire (SAOP3) assessed functional, psychological, nutritional, and social impairments.³ Mini-cog® or Abbreviated-Mental-Test-Score screened for cognitive impairment.

Positive screening for frailty or cognitive impairment triggered further specified assessment. SAOP3 prompted targeted referrals to an appropriate professional. This staircased approach optimised use of specialist resources such as dietetics, psychological support, physiotherapy and/or occupational therapy.

Data were collected prospectively throughout the five-week EPOA pilot. Users were surveyed at the end of the period to assess acceptability and practicability.

Results:

108 patients over age 65 underwent pre-assessment during the pilot (Fig 2). 100% were screened for polypharmacy, 78.7% for frailty and 55% for cognitive impairment. Of these screened, 21% demonstrated polypharmacy, 18% triggered high risk for frailty and 8.5% for possible cognitive impairment.

63% of target patients completed SAOP3. Fifteen referrals were triggered for nutritional support, seventeen for social/discharge support, seven for psychological support and six for physio- and/or occupational therapy.

Acceptability and usability

100% of users reported that the pathway was user-friendly and worthwhile, with the one-page action-sheet used in 63%. Practicability was limited by a small increase in consultation time – estimated 5-10mins. However, users reported benefits for patient care including identification of otherwise unrecognized impairments.

Conclusion:

A holistic geriatric-specific screening pathway can be successfully implemented. Embedding domains of CGA and identification of geriatric syndromes guided an individualised perioperative journey and streamlined referral processes. The pathway was acceptable to professionals and beneficial to practice.

References:

[1]EamerG, et al. Comprehensive geriatric assessment for older people admitted to a surgical service. Cochrane Syst Revs. 2018(2).doi:10.1002/14651858.CD012485.pub2

[2]ExtermannM. Evaluation of the Senior Cancer Patient: Comprehensive Geriatric Assessment and Screening Tools for Elderly.2010.p3-21.

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Poster keywords

pre-assessment, geriatric, pathway, screening

Breastfeeding after anaesthesia and sedation: experience of local implementation

Julie Baruah-Young¹, Oliver Daly²

¹South East of Scotland School of Anaesthesia, Edinburgh, United Kingdom. ²Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

Abstract

Introduction:

The benefits of breastfeeding for both mother and baby are well established, yet breastfeeding rates in the UK are low¹. The World Health Organisation recommends breastfeeding until the age of 2 and beyond². The Association of Anaesthetists publication, "Guideline on anaesthesia and sedation in breastfeeding women 2020" makes clear that breastfeeding following anaesthesia/sedation is not only safe, but should be facilitated wherever possible³. It recommends that local policy is developed to support breastfeeding women undergoing anaesthesia/sedation which is our aim.

Methods:

An anonymous regional survey of anaesthetists of all grades was conducted to determine current knowledge and practice with regards to breastfeeding patients. The results informed our approach.

Results:

- 59% of respondents were aware of the Association guideline.
- 30% incorrectly thought breastfeeding should be delayed after anaesthesia or that milk must be discarded.
- The majority (72%) did not know if there was provision to facilitate breastfeeding in their hospital.

- Only 33% knew how to access breastfeeding support for patients.

Conclusion:

Easily accessible guidance and dissemination of current evidence is required in response to the survey results and Association recommendations.

Our aim is removal of the possible barriers to supporting breastfeeding after anaesthesia and have adopted a multifaceted approach:

- The regional electronic preoperative assessment has been modified to include 2 questions about breastfeeding and the wish to continue. A 'yes' to either question raises a flag for the anaesthetist.
- A local guideline -essentially a 'one stop shop'-and patient information leaflet are in development after discussion with multiple stakeholders including infant feeding advisors and managers.
- The infographic accompanying the guideline has been cascaded to user groups and displayed in anaesthetic rooms and surgical clinics
- A summary of the Association guideline is now on the clinical guideline app for each of our hospitals for ease of access
- Signposting to the national guidance and patient information leaflet⁴/local infant feeding guidelines has been added to the shared drive for preassessment staff. Links to these have been provided for generic patient leaflets in one centre.

References:

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Poster keywords

Breastfeeding , Anaesthesia, Sedation, Women, Lactation

Patient understanding of anaesthesia and its risks: informing a quality improvement process

Geevithan Kumaran, Rosemary Van Oss, Samantha Warnakulasuriya
University College London Hospitals NHS Foundation Trust, London, United Kingdom

Abstract

Introduction

Pre-operative information has been shown to reduce anxiety pre-surgery¹ and improve engagement with enhanced recovery². Following the COVID-19 pandemic, virtual pre-assessment clinics (PAC) are embedded in NHS practice and recommended as standard of care for low risk patients³. Patients now undergo virtual PAC for low-risk surgery (figure 1) instead of face to face. Subsequently, we have noticed that provision of information to patients in the perioperative period regarding anaesthesia has been inconsistent. Guidelines for Provision of Anaesthetic Services strongly recommend all patients undergoing elective procedures receive information concerning anaesthesia prior to admission⁴. This service evaluation was carried out to inform a quality improvement initiative.

Methods

Homogenous sampling was used to recruit patients undergoing routine, low-risk surgery at a tertiary London hospital. Verbal consent was gained prior to completion of a short questionnaire. Both qualitative and quantitative data were collected. Quantitative data was analysed using Microsoft Excel v16.16.27. Qualitative data underwent emergent coding and thematic analysis. Local audit and QI lead approval was gained.

Results

Thirty-two patients were interviewed, demographics are summarised in Table 1. Nine patients (28%) recalled receiving written information regarding their anaesthetic prior to the day of procedure. 21 patients (66%) felt adequately informed prior to the day of surgery. 10 patients (31%) expressed no understanding of the term regional anaesthesia (RA). 12 patients (38%) expressed no understanding of risks of general anaesthesia (GA). 20 patients (63%) expressed no understanding of risks of RA.

Conclusion

Whilst our results indicate a good understanding of the concepts of GA and sedation, fewer patients had a working understanding of RA. Worryingly, our data indicates that a majority of patients do not recall receiving written information on anaesthesia with a significant portion feeling inadequately informed. We show the need to review the pre-assessment pathway to ensure that appropriate information is provided to patients, using focus groups and interviews with high performing pathways to inform improvement ideas.

References

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2. Perioperative Quality Improvement Program (PQIP) Team. PQIP Report 3. 2021.
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Poster keywords

Perioperative Medicine, Pre-assessment, Virtual pre-assessment, COVID-19, Patient information

Improving Perioperative Diabetic Care using the IP3D (Improving the Perioperative Pathway of People with Diabetes) Model at St George's Hospital: A GIRFT (Getting it Right First Time) Initiative

Yin Yong Choo, Kyria Roberson, Ella Tumelty, Shruti Sreekumar, Yul Kahn-Pascual, Bara Taufik, Kalaivani Poongavanam, Mimi Chen, Kanchan Patil
St George's Hospital, London, United Kingdom

Abstract

Introduction

Despite evidence demonstrating an increased risk of perioperative adverse events in patients with diabetes mellitus (DM) (1), the 2018 NCEPOD report (2) found that over 35% of this patient population required improvement in their clinical care. The IP3D care pathway designed to improve the perioperative care of the diabetic elective surgical population showed increased patient satisfaction, and reduced length of hospital stay and postoperative complications (3,4). St George's Hospital is one of ten pilot trusts adopting the IP3D model under the GIRFT umbrella.

Methods

We collected baseline data retrospectively from February-July 2019 (n=199) for all patients with DM undergoing elective surgery. Interventions included the appointment of a dedicated perioperative diabetes specialist nurse (DSN) who educated staff and patients, a personalized diabetes passport for DM patients and the establishment of a primary care forum to improve surgical referrals. A diabetes perioperative dashboard was created to track progress. Post-implementation data was collected from April-September 2021 (n=37).

Results

Post-implementation, there was a 25% reduction (3.3 days vs 2.47 days) in the length of hospital stay, with a 17% increase (42% vs 59%) in patients prioritized to the first third of the operating list. There was a global reduction in DM related harm/complications (6% vs 3%) including hypoglycemic events (mean number of events 1.75 vs 1.0) and hyperglycemic events (mean number of events 2.12 vs 1.5), foot ulcers (0 incidences), poor wound healing (5% vs 3%) and diabetic ketoacidosis (0 incidences). There were also less admissions to HDU/ICU post op (14% vs 8%), and a reduced 30-day readmission rate (15% vs 11%). Patient feedback showed improved patient experience, and staff reported globally increased confidence in all areas.

Conclusion

This program has shown increased patient safety, better overall patient experience and improved perioperative outcomes in DM patients undergoing elective surgery. We aim to build on its success with continual staff education, access to multilingual diabetic passports, expansion into the urgent surgical services and ongoing audit of performance.

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Poster keywords

perioperative, IP3D, diabetes, GIRFT

Delivering Multimodal Prehabilitation to Reduce the Risk of Deconditioning in Patients Listed for Total Knee Replacement (TKR) Surgery during the COVID-19 Pandemic: A Pilot Study

Laura Garland¹, Rashida Pickford², Gareth Jones¹

¹Guys and St Thomas' Hospital, London, United Kingdom. ²Guys and St Thomas' Hospital, London, United Kingdom

Abstract

Purpose:

To design, implement, and evaluate a pilot multimodal prehabilitation programme digitally that will affect the following factors: decline in physical function (e.g. strength and balance deficits), dysfunctional cognitions (e.g. anxiety/depression), deleterious behavioral habits (e.g. smoking), optimise pain management aiming to reduce opioid dependency. The aim of the programme was to determine the acceptability of the digital multimodal prehabilitation programme with patients who are awaiting for their TKR at Guy's and St Thomas' NHS Foundation Trust. This pilot will be able to inform a further study designed to experimentally test the programme.

Methods:

A Quantitative cross-sectional pre-post pilot study was conducted. All patients prospectively listed on a single surgeon's TKR waiting list from 01 August 2020 were contacted. Consenting patients were brought in to complete self-reported measures and objective physical measures at baseline.

Patients underwent the minimum of 8-week multimodal prehabilitation digital programme which included; smoking cessation advice, opioid advice, nutritional advice, cardiovascular exercise, strength and balance training interventions.

Self-reported measures and objective physical measures were repeated at the end of the 8-week programme and again 3 months post-surgery. Post-operative information such as hospital length of stay and any adverse events were also recorded.

Results:

A total of 5 patients completed the 8-week multimodal digital programme and 3 month post-surgical review.

- Pairwise comparisons showed there was a significant median difference between knee function and stiffness from baseline to 3 months post-surgery ($p=0.013$), but there were no significant differences between baseline and 8 weeks prehab programme or 8 weeks prehab programme and 3-month post-surgery.
- Pairwise comparisons showed there was no significant difference in median sit to stand test, body mass index, balance, gait velocity, anxiety and depression from pre-prehab, post-prehab, and 3-month post-surgery.
- The one smoking participant gave up from baseline and continued smoking cessation at 3 months post-surgery.
- Patients accepted the digital multimodal prehabilitation programme

Conclusions

This multimodal prehabilitation programme was accepted by patients who were awaiting for their TKR, it shows that patient's did not get worse and it may have reduced the risk of participants languishing at home, while waiting for their TKR surgery, when they were isolating at home during COVID-19. This pilot study will be used to inform further programmes for patients waiting for TKR surgery.

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Poster keywords

Total Knee Replacement , TKR, Rehab, COVID-19, Digital

PREOPERATIVE FASTING GUIDANCE COMPLIANCE AFTER COVID

Garima Daga, Mohit Kumar Tyagi, Sathishkumar Selvaraj, Kashi Viswanatha
Northwick Park Hospital, London, United Kingdom

Abstract

Introduction

NICE guidelines, ASA, ESPEN and many other international guidelines accepted that prolonged fasting before surgery is not necessary. The Sprint National Anaesthesia Project (SNAP-1)¹ demonstrated that thirst in the perioperative period is one of the most common adverse sequelae of anaesthesia reported by patients.

The way preoperative assessments are being conducted has changed significantly after COVID as no face-to-face evaluations are being done anymore. This audit will try to find any deviation in the compliance after the COVID pandemic, as well as analyse the causes contributing to the same.

Methodology

It was a Prospective observation audit, initiated within two hospitals of our trust namely Northwick Park hospital and Central Middlesex Hospital. Two-part data collection via questionnaires done one from patients and one from all healthcare professionals involved in the patient care. Random Sample Size of 50 patients was decided for observation. All adult patients [>16 years of age] who were posted for elective surgery were included in the trial. We excluded paediatric patients and emergency surgery patients. MS Excel software was used for analysis.

Results

42% of patients did not receive printed information regarding fasting guidelines. 28% patients did not receive phone call the day before surgery. Only 16% patients had clear fluids 2 hours before the surgery, while 40% (20/50) patients were nil orally for 12 hours.

68% patients were starving for solid food for more than 12 hours and only 2% were adherent to guideline and had solid food 6 hours before the procedure. Major reason (78%) for non-compliance was unpredictable list followed by inadequate patient education and poor communication.

Conclusions

Although robust measures are in place too many information confuses already anxious patient. Other factors like reluctance from staff, fear of cancellation, communication gap might contribute to the same.

Some of the inputs to ensure compliance are to involve staff nurse during morning list briefing, agreement of the list order between team members and allowing sips of water till patient enters into the theatre, encouraging patient to bring snack box consisting of clear juice / toast etc.


References

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Poster keywords

preoperative fasting guidelines, COVID, Anesthesia, NICE guidelines, Snap-1

Assessing the efficiency of the pre-operative notes review process at Aneurin Bevan University Health Board

Emma Jacobs, Andrew Temperton, Gwenllian Howe, Iwan Roberts
Aneurin Bevan University Health Board, Newport, United Kingdom

Abstract

Introduction:

The pre-operative assessment pathway is a crucial part of preparing patients for surgery. An inefficient pre-assessment service contributes to delays in patients being listed for surgery, with the potential for patient harm and further distress. Patients who are not deemed fit to proceed to surgery at pre-assessment are referred to an anaesthetic consultant for further review. The patients requiring anaesthetist review are placed on an online 'Watchlist'. We reviewed our health boards' current system for reviewing patients deemed not 'fit for surgery' at pre-assessment. Our aim is to identify weaknesses in the system and look to optimise the process for referral and review in order to deliver prompt perioperative care for our patient population.

Methods:

The anaesthetic watchlist was reviewed over a two-week period. All surgical specialties were included, with the exception of orthopaedic patients having a separate pathway. The initial referrals were reviewed to ascertain if there was a clear referral question, and the completed notes reviews were categorised according to the issues presented.

Results:

From 01/02/22 to 16/02/22, a total of 177 patients were added to the watchlist for notes review. The majority of referrals did not have a clear referral question (69%, 123/177), with only 31% (54/177) having a clear question. Of the notes reviews, 64% were complex reviews (114/177), and 32% were simple reviews (57/177), with a minority incomplete (6/177). Simple review issues included ECG checks (20/64), followed by requests to check blood results (13/64) and scheduling queries (9/64), with some records containing multiple review reasons. The most common reasons for complex reviews were multiple co-morbidities (80/141), followed by functional capacity concerns (20/141). Complex notes reviews accounted for most of the patients deemed not fit for surgery (50/57), and those needing clinic appointments (36/39).

Conclusion:

Complex notes reviews often result in patients being deemed either not fit for surgery or requiring additional investigation. We suggest creating two separate watchlists, in order to allow anaesthetists with an interest in perioperative medicine to be allocated to complex reviews. Patients with simple

clinical queries can be answered by all anaesthetists within the department. We have also helped to implement a training program for our pre-assessment nursing cohort in order to improve the clarity of their clinical reasoning when referring patients to anaesthetists for further review.

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Poster keywords

preoperative assessment, optimisation , notes review, efficiency , preoperative clinic

Improving the Quality of Patient Handover Following Major Surgery

Matthew Jenkins, Anwuli Odili, Charles M Oliver
University College London Hospital, London, United Kingdom

Abstract

Introduction

Multiple healthcare authorities recommend that patient handover ensures efficiency and accuracy of information transfer via a standardised approach^{1,2,3}.

Tools to aid handover following major surgery in the post anaesthetic care unit (PACU) at University College London Hospitals (UCLH) include a checklist designed to augment verbal handover on arrival, as well as a semi-structured anaesthetic handover form, compiled via our EPR system (EPIC) in the operating theatre.

As part of a safe systems project designed to improve post-surgical communication, we have therefore undertaken a retrospective review of anaesthetic handover note completeness and accuracy at UCLH.

Methods

We conducted a retrospective audit of anaesthetic handover forms at UCLH from January 1st 2022 to March 31st 2022. The parts of the notes that were documented or not documented on EPIC were tabulated according to category. Descriptive statistics were used to identify which parts of the note were more frequently incomplete. Qualitative review was conducted to identify discrepancies in written plans for antibiotic and thromboembolic prophylaxis between anaesthetic handover notes and operating notes by the surgical team.

Results

We collected data on 254 notes. The completeness of respective domains is shown in Figure 1.

Additional observations:

- Intra-operative blood loss was frequently not documented.
- For 6.6% patients, an anaesthetic handover note was not completed.
- Anaesthetic and surgical documentation matched for antibiotic and thromboembolic prophylaxis instructions in 58.27% and 70.1% cases respectively.
- Handover notes following thyroid surgery and emergency cases were often absent.
- Endoscopic procedural notes frequently lacked detail.



Discussion

There is variable completeness and accuracy of anaesthetic handover notes for patients following major surgery at UCLH. This is likely multifactorial and introduces scope for mistakes in the handover process, with commensurate risk of poor outcomes such as missed or delayed interventions and medication errors.

The results of this audit will inform a quality improvement initiative emphasising stakeholder engagement for systemic improvement of anaesthetic notes accuracy and greater use of the verbal handover checklist.

References

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Poster keywords

Handover, Postoperative, Major surgery, Critical care

The Bauer Questionnaire as a tool for evaluating patient reported comfort and satisfaction after major and complex surgery: Exploration of the PQIP dataset

Samantha Warnakulasuriya^{1,2,3}, Ramani Moonesinghe^{1,2,3}, PQIP Delivery Team³

¹University College London Hospital, London, United Kingdom. ²Centre for Perioperative Medicine, Department for Targeted Intervention, UCL, London, United Kingdom. ³Health Services Research Centre, Royal College of Anaesthetists, London, United Kingdom

Abstract

Introduction

The Bauer questionnaire is a psychometrically developed patient reported outcome measure of discomfort and satisfaction (1). The original questionnaire consists of 10 discrete questions on comfort answered on a 3-point Likert scale (none, moderate, severe) and 5 questions on satisfaction answered on a 4-point scale (very satisfied, satisfied, dissatisfied, very dissatisfied). The StEP initiative consensus statement (2) recommended inclusion of a further option of 'mild' to describe discomfort, creating a 4-point scale for these 10 domains (Modified). Here we present an analysis of Bauer data within the Perioperative Quality Improvement Programme (PQIP).

Methods

This is a sub-group analysis of the PQIP dataset. PQIP is a consenting, prospective, multi-centre cohort study with ethical approval from the Health Research Authority. Data were extracted for patients who underwent surgery between 13/12/16 and 01/04/20 and analysed using RStudio. For the satisfaction all patients were analysed as a single cohort. For comfort, patients were divided into two cohorts – pre and post April 2019 (modification of scale).

Results

25223 records were extracted. 5 records were excluded due to errors in date documentation; a further 9609 patients did not complete the comfort questionnaires, leaving 15,614 available for analysis. Comfort scores are presented in table 1 along with overall satisfaction. Modification increased the internal consistency of the comfort questionnaire (Cronbach alpha 0.60 v 0.65). Satisfaction scores for the full cohort are presented in figure 1.

Conclusion

Despite very high rates of satisfaction, in this large study of major inpatient elective surgery there were very high levels of severe discomfort. Highest incidence of severe discomfort was reported regarding thirst, drowsiness and pain at site of surgery. This was higher than previously reported (3), likely reflecting the complexity of surgery. Post April 2019 patients displayed lower levels of severe discomfort and further analysis will explore the impact of modification of the questionnaire.

References

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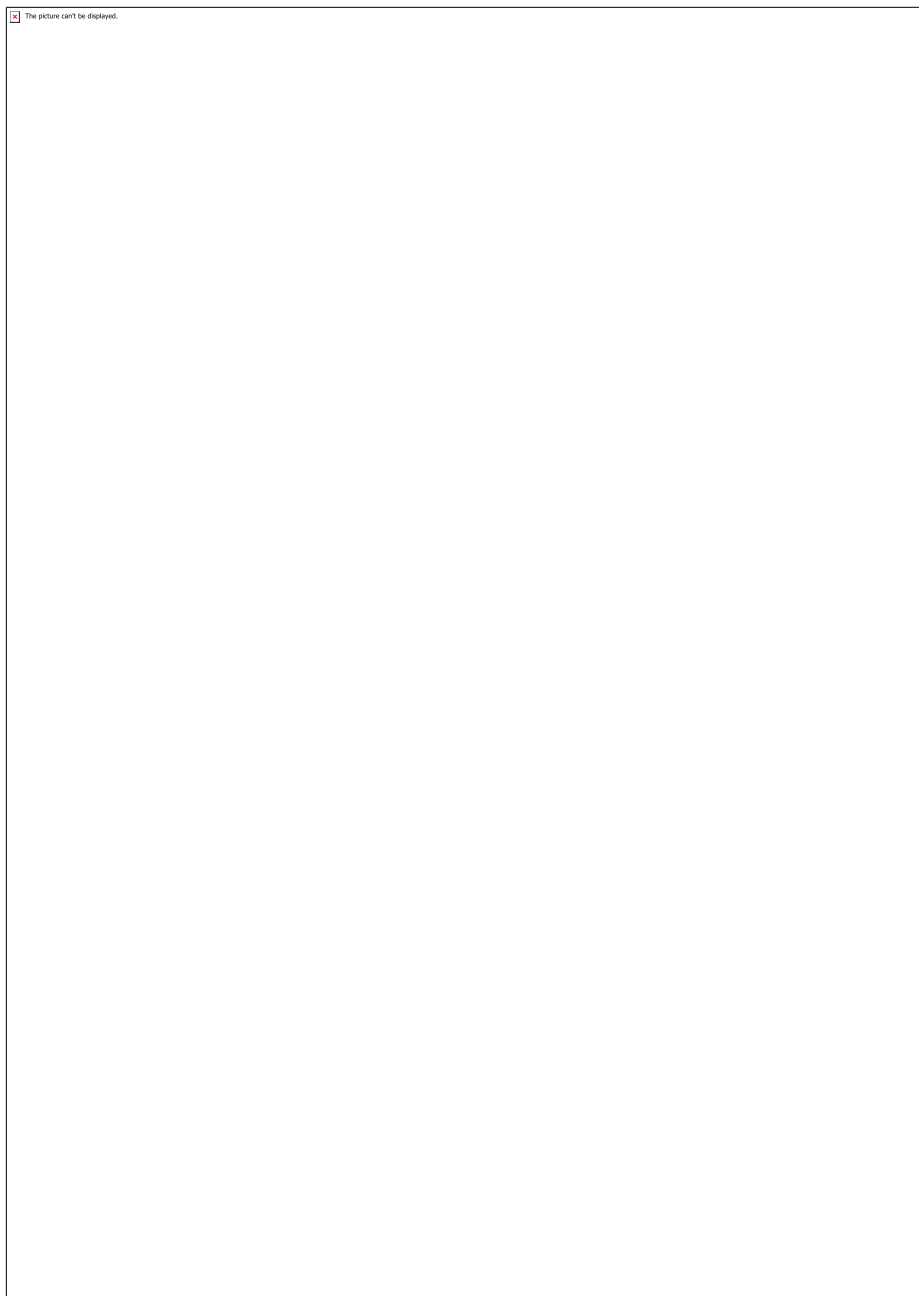



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Poster keywords

PQIP, PROMS, Bauer, Comfort, Pain

Improving efficacy and patient's safety in the Critical Care admission sheet

Mohamed Abdelsalam, Amin Alayyan

The Princess Alexandra Hospital NHS Trust, Harlow, United Kingdom

Abstract

Introduction:

The admission sheet in the medical practice is important evidence as it highlights the baseline patient's condition upon arrival in the hospital. In addition, it is an integral way of communication to ensure the efficient continuity of the treatment. The intensivists are looking after the sickest patients in the hospital, and because of the dynamic nature of this rule, it has become necessary to review and update our Intensive care unit (ITU) admission sheet. The aim of this Quality improvement Project is to assess the compliance with all the admission sheet sections and thus to reproduce a user-friendly ITU admission sheet layout which saves fill-in time and enhances the patient's safety.

Methods

The data were collected anonymously via retrospective observational study admission sheets of 49 patients from January to February 2022.

A staff feedback questionnaire was made to assess their satisfaction with the old layout.

Results:

A 49 admission sheets were included randomly, which comprise medical and post anaesthetics patients either elective or emergent admissions. The quality of the admission information was classified into Done Appropriately (DA), Not Done appropriately (NDA), Not Done (ND). The Data was compared against the trust's protocol. It shows that the overall compliance with the admission sheet is 69% and the section that was found with the lowest compliance is the body systemic review. On the other hand, the indication for admission and plan of management showed the highest compliance rates of 95% and 96% respectively. The most frequently missed item was the comment on the eye pupils. In addition, 6 out of 10 found the old layout takes significant time to fill-in and lacks emphasis on few items.

Conclusion

The admission sheet is an integral tool of assessment and communication between the staff. It represents an importance a piece of evidence from the medico-legal point of view as well.

Therefore, we made the following recommendations:

- Highlight the importance of the allergic status of the patient.
- Adopt a user-friendly layout checklist instead of blank form with the aid of body diagrams.
- Add section for any POCUS study prior admission

- To Leave a copy of ITU admission sheets in the Emergency department and Wards for the feasibility of access
- Finally, close the audit loop

Reference


ICU Admission, Discharge, and Triage Guidelines Nates et al. - Critical Care Medicine – 2016

<https://www.england.nhs.uk/ourwork/accessibleinfo/resources/notes/>

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Poster keywords

Patient's safety, Critical care, Admission sheet, Paperwork, Efficiency

The Association of the Perioperative Fluid Balance and Cardiopulmonary Complications in Emergency Gastrointestinal Surgery – A Re-assessment of a Randomized Trial

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¹Department of Surgery, Holbæk Hospital, Holbæk, Denmark. ²Department of Anaesthesia, Holbæk, Denmark. ³Department of Anaesthesia, Herlev Hospital, Herlev, Denmark. ⁴University of Copenhagen, Copenhagen, Denmark

Abstract

Background

The association between peri-operative administered fluid volumes and risk of complications following emergency surgery is poorly studied. We tested the association between the peri-operative fluid balance and post-operative complications following emergency surgery for gastrointestinal obstruction or perforation.

Methods

We performed a planned re-assessment of data from the Goal-directed Fluid Therapy in Urgent Gastrointestinal Surgery Trial (GAS-ART)¹ studying an intra-operative stroke volume optimisation and post-operative zero-balance fluid therapy versus a standard (restricted) fluid therapy. We divided the cohort into three groups at a peri-operative fluid balance (FB) of <0.0L, between 0.0-2.0L, and >2.0L in a Low-FB, Moderate-FB, and High-FB group. Primary outcome was cardiopulmonary complications. Secondary outcomes were renal-, infectious-, and wound related complications. We used a propensity adjusted logistic regression to analyse the association with cardiopulmonary complications. Further, the risk of complications was explored on a continuous scale of the fluid balance.

Results

We included 303 patients. In all, 44 patients belonged to the Low-FB group, 108 to the Moderate-FB group, and 151 to the High-FB group. The median [interquartile range] perioperative fluid balance was –0.9 L [–1.4, –0.6], 0.9 L [0.5, 1.3], and 3.8 L [2.7, 5.3]. The risk of cardiopulmonary complications was significantly higher in the High-FB group 3.4 (1.5-7.6), $p=0.002$ (odds ratio (95% confidence interval)). On a continuous scale of the fluid-balance, the risk of cardiopulmonary complications was minimal at –1L to 1L, see figure 1. The risk of a renal complication increased with increasing fluid volumes, and was minimal at +2 litres, see figure 2.

Conclusion

A perioperative fluid balance above 2.0L was associated with an increased risk of both cardiopulmonary- and renal complications following emergency surgery for gastrointestinal obstruction or perforation.

Our findings imply that a perioperative fluid balance avoiding overload may improve the postoperative course.

References

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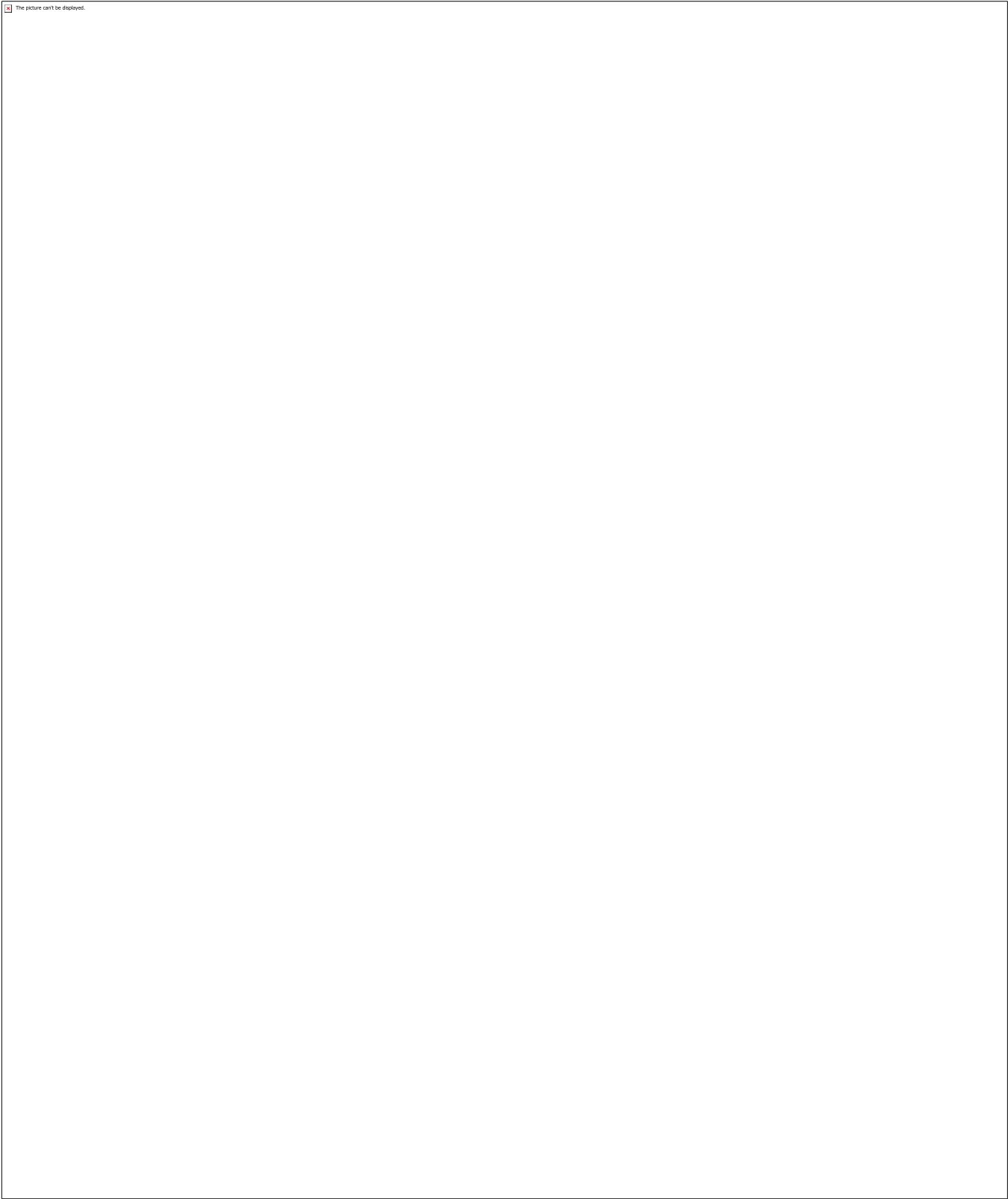
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Poster keywords

Fluid therapy, emergency surgery, complications, perioperative fluid therapy, outcome of surgery

The effect of pre-operative personalised Digital Health Coaching on patient activation

Nicola Powley¹, Alexander Nesbitt¹, Esther Carr¹, Rhiannon Hackett¹, Matthew Beatty², Robbie Huddleston², Gerard Danjoux¹

¹South Tees NHS Hospitals, Middlesbrough, United Kingdom. ²Sapien Health, Leeds, United Kingdom

Abstract

Background

Digital interventions are increasingly recommended to improve patient health peri-operatively[1]. South Tees prehabilitation service (PREPWELL) has developed a 3-tiered digital strategy, providing remote, personalised multimodal support. Tiered support ranges from 'Universal' online resources, through to 'Complex' personalised digital health coaching. 'Complex' tier patients can access a bespoke mobile phone application (delivered with Sapien health) pre-operatively, which provides 8 weeks of 1:1, progressive, real-time health coaching, and aims to improve their confidence in managing their own health needs.

Methods

Patients awaiting primary lower limb arthroplasty were approached and consented by PREPWELL. Individualised risk assessment was performed and those eligible were contacted by Sapien Health.

Patient Activation Measure (PAM) was the primary outcome measure, with evaluation completed at entry and exit. PAM measures a patients knowledge, confidence and skills to manage their own health. It is calculated using a validated 13-item questionnaire (score 0-100), categorising patients into levels 1 to 4. Levels 1 or 2 are 'non-activated', have lower engagement with health optimisation, worse health outcomes and greater health resource utilisation[2].

Results

We approached 189 patients: 57 (30%) accepted referral and 39 (68%) patients completed the programme (median [range] age 63 [33-83] years, 66% female). Results for 38 patients are analysed.

71% of patients had a higher PAM at exit, with a median increase of 9.7. 42% of patients increased their PAM by 1 level or more. PAM level change is displayed in Figure 1. 34% of patients were non-activated at entry, with 69% of this group becoming activated at exit. No patients remained in Level 1 at exit, with 84% of patients activated.


Discussion

Digital health coaching demonstrates a substantial benefit to a patients ability to manage their own health needs. The majority of patients were 'responders' to digital health coaching – they demonstrated an increase in PAM. Patients in the non-activated group (Level 1 or 2) showed a disproportionate benefit to the intervention, with 69% becoming activated (increasing their Level by 1 or more) compared to 42% in the whole cohort. The results are encouraging that digital health coaching can support patients pre-operatively.

References

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Poster keywords

Prehabilitation, Digital, Exercise, Preoperative, Lifestyle

Post-Surgical Complications: A 5-year, 842,720 Patient, Multi-Center, Pre- and Post SARS CoV-2 Analysis

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¹Envision Healthcare, Phoenix, USA. ²University of Arizona College of Medicine-Phoenix, Phoenix, USA.

³University College London, London, United Kingdom. ⁴Outcomes Research Consortium, Cleveland, USA.

⁵Envision Healthcare, Ann Arbor, USA. ⁶Envision Healthcare, Fort Lauderdale, USA. ⁷Envision Healthcare, Atlanta, USA. ⁸Envision Healthcare, Los Angeles, USA. ⁹Amazon Logistics, Seattle, USA. ¹⁰Iris Telehealth, Del Ray Beach, USA

Abstract

Annually, 234 million major operations are performed worldwide [1] of which 48 million occur in the United States. Of these, between 5% and 45% of patients will suffer post-surgical complications (PSC) [2,3,4,5] that increase physical and psychosocial suffering [6], hospital length of stay [7], increased level of care at discharge [7,8], cost [9,10] and decreased long term survival.[11,12] It is also known that variation in PSC rates exist between surgical service lines and between specific procedures within a service line.[13] The primary purpose of our 842,720 patient, 35-center, 5-year, retrospective database analysis was to validate the findings of several smaller studies suggesting high rates of PSCs following major inpatient surgery. All surgical inpatients between 01/10/2017 -10/11/2021 were included.

Results

842,720 patients

72,416 patients suffered PSCs (8.59%).

Service line PSC stratification:

Cardiac Surgery(26.52%)

Neurosurgery(24.13%)

Thoracic Surgery(20.22%)

Vascular Surgery(13.68%)

General Surgery(11.57%)

Orthopedic Surgery(10.02%)

Urology(8.56%)

Gynecology(2.38%)

Ophthalmology(0.44%).

Complications by Type per 1000 patients within 7 days:

Pulmonary(6.46)

AKI(5.95)

Sepsis(4.82)

ACS(1.07)

Stroke/new deficit (0.73)

Cardiac Arrest(0.61)

Influence of SARS-CoV-2 on PSCs:

- Pre-COVID-19 (10/1/2017 - 3/31/2020) overall complication rate: 8.32% [n= 548,867]
- Post-COVID-19 (4/1/2020- 6/1/2020) overall complication rate: 10.50% [n=18,745] (Period of emergency cases only)
- Post-COVID-19 (6/2/2020 - 11/10/2021) over all complication rate: 8.92% [n= 275,108]

PSCs by Sex

Males (10.37%)

Females (7.30%)

Proportion of PSCs by age group

0-10 0.67%

11-20 2.74%

21-30 4.05%

31-40 5.73%

41-50 8.50%

51-60 9.93%

61-70 9.64%

71-80 9.83%

81-90 13.36%

91-100 17.01%

Conclusion

Our study confirms that complications following major inpatient surgery occur in up to, and sometimes exceeds, **1:4 patients**. Post-operative pulmonary and renal complications, and post-surgical sepsis occur more frequently than cardiac or neurologic events, and increase with age and male sex (poster). Post-pandemic surgical complication rates remain higher than pre-pandemic.

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Poster keywords

Post-Surgical Complications, COVID, Surgery, Multi-center

Care of a patient with Osteogenesis Imperfecta (OI) with twin pregnancy: the importance of multidisciplinary team (MDT) care

Sneha Eapen, Leonard Loh, Un Sam Mok
Singapore General Hospital, Singapore, Singapore

Abstract

Introduction:

OI is a rare, autosomal dominant connective tissue disease. It is uncommon in pregnancy with limited evidence from literature on peri-operative management. Anaesthesia concerns for OI parturient include: Difficult airway due to limited neck movement, chest wall deformity, poor dentition; severe restrictive ventilatory disease from severe kyphoscoliosis; cardiac abnormalities; small stature and low body weight (affecting drug dosage for GA & RA), platelet dysfunction (haemorrhage risk), positioning, risk of hyperthermia and acidosis under GA. We report the perinatal care and challenges of an OI patient with twins, highlighting the importance of MDT and continuity of care.

Methods and Results (patient journey):

The patient provided written consent for this publication. A 27y.o. Indian female (18.9kg, 87cm) with spontaneous MCDA twin pregnancy and OI type 3 (complicated by recurrent fractures, severe kyphoscoliosis (wheelchair bound), severe restrictive lung disease (FEV1 0.4L (37% pred) and FVC 0.4L (35% pred)), left sided hearing loss and dentinogenesis imperfecta). Genetic testing showed no OI in the fetuses. Patient and husband were extensively counselled about pregnancy risks and complications to her and babies but declined termination.

Multiple MDT meetings involving O&G, anaesthesia, neonatology, respiratory and ICU to decide on gestation and mode of delivery, anaesthesia plan, social support and members for emergency activation.

Breathlessness (lung capacity+↑abdominal pressure) started at 15/40 and worsened with gestation, she declined hospital admission at 20/40 but agreed on home nocturnal non-invasive ventilation (NIV) and daytime oxygen therapy. At 24/40 she was admitted due to severe lethargy. With consideration of fetal maturities and maternal deterioration, elective CS at 26/40 with midline classical uterine incision was planned.

In view of severe kyphoscoliosis, orthopnoea and patient anxiety GA was planned. The airway was topicalised and patient sedated with low dose remifentanyl for an awake VL airway examination which confirmed intubation would not be difficult. She had modified RSI with gentle cricoid pressure, TIVA and rocuronium. The surgery was complicated with intraoperative uterine hypotonia with 1L blood loss requiring transfusion. Rectus sheath LA wound catheters and PCA fentanyl were used for postoperative analgesia.

She was jointly cared for in ICU by the Respiratory physicians, anaesthetists, O&G and Acute Pain Service.

Results:

The patient was extubated to NIV on POD1, sent to general ward on POD4, discharged home well on POD12. Both twins are in neonatal ICU with multiple complications of prematurity.

Conclusion:

MDT discussion and advanced planning was paramount in the safe and holistic antenatal care of this patient with rare multisystem disease and multiple pregnancy

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Poster keywords

Perioperative, Anaesthesia, Twin pregnancy, Osteogenesis Imperfecta, Multidisciplinary care

Theatre Efficiency at A Regional Orthopaedic Trauma Centre -Golden Patient Initiative

Asma Akram, Rania Ahmed, Lindi Snyman
Tallaght University Hospital, Dublin, Ireland

Abstract

Introduction: The efficient use of operating theatres is important to insure optimum cost-benefit for the hospital. Trauma theatre inefficiency with late start times and patient cancellations are common and a frustration for all those involved in the delivery of trauma care³ and well recognised source of financial waste within health services¹. The non-elective nature of trauma combined with an ageing and medically complex population are recognised problems precipitating inefficiency of the trauma list. Financial incentives, educational approaches, system-based techniques, communication, the 'golden patient' initiative and 'the productive operating theatre' scheme have all been shown to improve start time^{4,6,7}. A single-centre service evaluation reported potential savings of approximately £3000/day in its hospital if delays of only 16 min per operation could be avoided⁸.

Objective: To observe the theatre session start & finish times, reasons for the delayed start .

Methods: We performed a retrospective audit using data from the operating theatre database. Data accessed for September & November 2021. It included the daily theatre session start time, end times ,total number of theatre delays and reasons recorded for the delays.

Results: Total 203 delays were recorded. Fifty eight days had delayed start. On average daily operating sessions were delayed by 45 minutes. Total loss of operating time was 45 hours & 37 minutes. Out of 203 episodes of delayed start 73 were attributed to 'Next Scheduled Patient'. Followed by 'emergency case' and ward delays. There were no anaesthetic delays documented. No reason recorded for 22 procedural delays.

Conclusion: We concluded that trauma theatre inefficiency with late start times is very common at our hospital. Significant proportion of operating time is lost in list delays leading to underutilization of trauma operating capacity. Most common reason for delay starts are inconsistent to general observation and need further investigation.

A 'Golden Patient' plan has been initiated . The design team involves trauma anaesthetist, orthopaedic trauma fellow & consultant and theatre nurse manager & staff . Plan includes preselection & identification of patient, preoperative anaesthetic review and early arrival of patient to preoperative bay to facilitate early start .

References:

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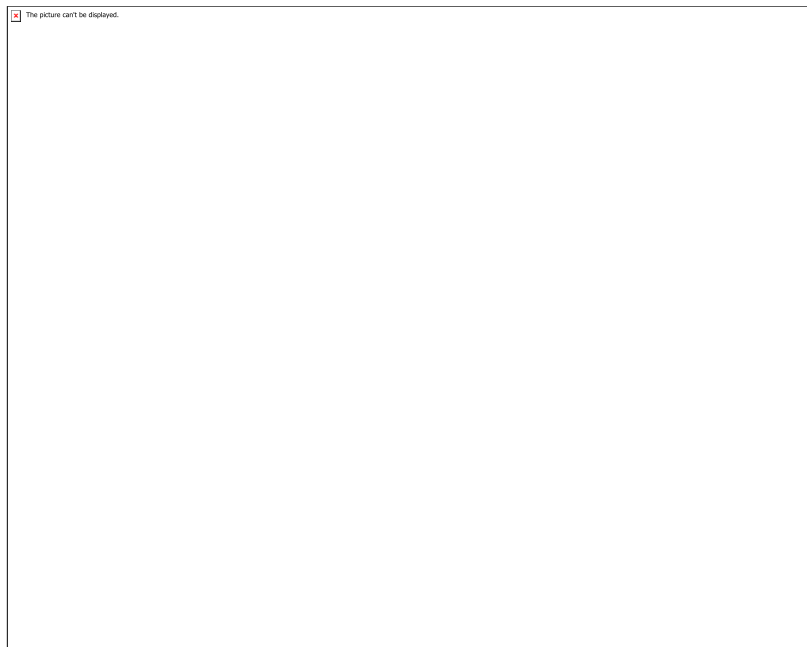
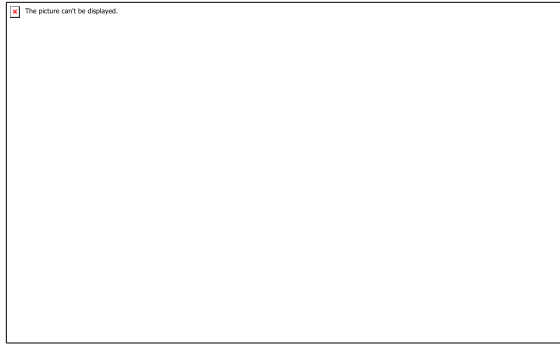


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Poster keywords

Trauma theatre , Golden patient, perioperative, QIP

Ginger: nature's cure for postoperative nausea and vomiting

Andrea Myers^{1,2}, Patrick J. Toppin², Hyacinth Harding-Goldson², Charles M. Oliver¹

¹University College London, London, United Kingdom. ²University of the West Indies, Kingston, Jamaica

Abstract

Introduction: Postoperative nausea and vomiting (PONV) is nausea, vomiting or retching in the first 24 hours after surgery. PONV is a persistent problem that continues to plague patients who undergo anaesthesia with the incidence as high as 30 % (1, 2). PONV may result in worsened patient outcomes, lengthened hospital stays and increased cost of health care. Ginger is cheap, widely available, and may be an attractive adjunct especially in developing countries, where budgetary constraint often results in shortages in basic medications. The administration of Ginger has been shown to have some success in reducing the incidence of nausea and vomiting in pregnant patients and those receiving chemotherapy (3, 4). Additionally, some small studies have suggested that it may be useful in preventing PONV (5). Other classes of drugs are comparatively more costly, as such, ginger may represent a low cost and effective method of reducing the incidence of PONV.

Methods: This was a double-blind, randomized controlled trial in which 110 participants were recruited. The participants were patients who were 18 years and older and scheduled for intra-abdominal gynaecological surgery under general anaesthesia at the University Hospital of the West Indies, Jamaica. The participants were randomly assigned to two groups. The intervention group was given 1 gram of ginger, while the placebo group received 1 gram of corn-starch prior to surgery. The participants received standardized anaesthesia and were assessed for nausea and vomiting in recovery and at 12, 24 and 28 hours post-surgery.

Results: The highest incidence of vomiting occurred at 12-hours post-surgery 23.6% with no statistical difference in outcomes $p = 0.82$. The highest incidence of nausea was at 12 hours post-surgery 41.8% of all participants, the placebo group had an incidence of 49.1% compared to 37.3% in the ginger group. Patient who received ginger 2 hours or more before induction of anaesthesia had a reduced incidence of nausea 51.4% versus 20.8% $p = 0.029$ (figure 1). There was no statistical difference in mean scores of nausea and vomiting in the overall study population (table 1).

Conclusion: Ginger may reduce the incidence of nausea at 12 hours post-surgery, if given 2 hours or more before anaesthesia. Ginger was not found to be useful in the overall PONV.

References:

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Poster keywords

Ginger, PONV, post-operative nausea , post-operative vomiting, Gynaecology

Creating a New System for Reporting Anaesthetic Incidents

Zoe Bennetton, Catherine Harris

Aneurin Bevan University Health Board, Cwmbran, United Kingdom

Abstract

Introduction

When a critical incident such as anaphylaxis occurs during an anaesthetic it can be reported and an alert added to the patient notes. These alerts are useful for future healthcare professionals and in relation to the management of difficult airways is a practice advocated by the Difficult Airway Society¹.

Our health board underwent a restructure in 2020 involving the merge of two anaesthetic departments and increased multi-site working. Prior to this the systems in place for reporting incidents and generating alerts required paper forms to be completed and handed to specific individuals before an alert was created.

Methods

As the department now operates across five sites we needed a pathway that could be accessed from everywhere. As everyone has access to a device linked to the internet and electronic forms are automatically sent to specified individuals we were keen to utilise this technology. In order to access the forms QR codes were proposed. We contacted the information governance team who approved this idea in principle. On conducting a baseline survey of anaesthetic staff, 88% selected that they would prefer an online to paper form and 94% knew how to use a QR code.

An electronic incident reporting form was created and a QR code linking to it generated. A printed copy of this QR code, with instruction about its use, was put up in each theatre and the system explained at a departmental audit meeting.

Results

Each month two to three incidents are normally reported. Since the introduction of this system in February seven have been reported, in-keeping with expected numbers.

A repeat staff survey was completed by three doctors involved in incidents that would require an anaesthetic alert, two had used the new electronic form. The survey illustrated 41% of respondents had seen the QR codes in theatre, however only 25% understood how to use the new system.

Conclusion

An electronic system of reporting anaesthetic incidents requiring an alert within the patient notes has been implemented with approval from information governance. The expected number of forms have been completed however more work needs to be done to educate anaesthetic staff about the new system and ensure that all incidents requiring the creation of alerts are reported.

References

- Difficult Airway Society, 'Intubation Guidelines – Follow up/airway alert' 2018
<https://das.uk.com/guidelines/airwayalert.html> (accessed 29/04/2022)

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Poster keywords

Anaesthetics, QR codes, Reporting incidents, Multi-site working, Online forms

Peri-operative Detection of Aortic Stenosis in Hip Fracture Patients: A Quality Improvement Project

Peter Gibson, [Cornelia Franken](#), Sebastian Clements, William Mackereth, Jessica Potts
Manchester University NHS Foundation Trust, Manchester, United Kingdom

Abstract

Introduction: Aortic stenosis is a common co-morbidity in elderly patients that often goes undetected, as patients are usually asymptomatic until the degree of stenosis becomes severe. The presence of aortic stenosis is associated with worse peri-operative outcomes in patients undergoing surgery for hip fractures and also has implications for their anaesthetic management(1). The project aim was to assess awareness of the peri-operative presence of aortic stenosis in patients undergoing surgery for hip fractures, and to determine the impact of this knowledge on anaesthetic management and whether a change in practice is warranted.

Methods: A retrospective review of electronic records of patients who underwent hip fracture surgery at North Manchester General Hospital from 1 August to 31 December 2021. A hundred and fifty-five patients were identified using the National Hip Fracture Database. Of these patients, 80 had an echocardiogram study done and were included in the quality improvement project. Electronic data specifically assessed included the Orthogeriatric-, Orthopaedic-, and Anaesthetic peri-operative notes, which were then compared with the echocardiogram report.

Results: On review of the echocardiogram reports, 16 patients had some degree of aortic stenosis; six graded as severe, six as moderate and four as mild. Of the six patients with severe stenosis, the Orthogeriatrician was aware of 5/6(83%), The Anaesthetist of 4/6(67%) and the Orthopaedic Surgeon of 3/6(50%). Awareness was based on knowledge of patient's past medical history, identification of a cardiac murmur possibly attributed to aortic stenosis, and/or review of the echocardiogram report if available. On review of the Anaesthetic management of these six patients, it was found that three had a general anaesthetic, two had a spinal anaesthetic, and one patient died in the operating theatre prior to anaesthesia. In both cases where the patient received a spinal anaesthetic, the anaesthetist was not aware of the presence of severe aortic stenosis.

Conclusion: Aortic stenosis is a common co-morbidity in patients with hip fractures, but often goes undiagnosed. As a fixed cardiac output state is a commonly agreed upon relative contra-indication to spinal anaesthesia, this unawareness could potentially negatively impact on peri-operative management and outcome; and should be addressed. From the insight gained from this quality assurance project, revision of our current practice is warranted, and protocol formulation is evidently needed to guide screening for aortic stenosis and subsequent management.

Reference: 1. Cronin, PK et al. OTA Int. 2020 Jun; 3(2): 54.

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Poster keywords

Aortic Stenosis, Hip Fracture, Orthogeriatrics, Anaesthesia, Peri-op Screening

Novel data flow methodology to evaluate system level prehabilitation (Prehab4Cancer).

Liam McCarthy¹, Philip Graham², Davd Cullum³, Zoe Merchant^{2,4}, Kirsty Rowlinson⁵, Brian Lau³, Catherine Neck³, Angella Bryan^{4,1}, Lisa Galligan-dawson², John Moore^{2,1,4}

¹Manchester University Hospitals, Manchester, United Kingdom. ²GM Cancer, Manchester, United Kingdom. ³NHS South, Central and West (SCW) Commissioning Unit, Bristol, United Kingdom. ⁴University of Manchester, Manchester, United Kingdom. ⁵GM Active, Manchester, United Kingdom

Abstract

Introduction: To support the introduction of cancer prehabilitation programmes it is vital that we understand their value.

Prehab4Cancer (P4C) [1] is a system level prehabilitation and recovery programme for cancer patients implemented in April 2019 and delivered across the Integrated Care System (ICS) of Greater Manchester (GM). P4C patient cohorts include oesophagogastric, colorectal and lung. The prehabilitation literature generally focuses on single hospital prehabilitation solutions, rather than multiple hospitals utilising a system level service. 10 NHS Trusts provide colorectal cancer resection for GM and to understand the impact of P4C, we needed to be able to evaluate the outcomes for patients in each of these hospitals.

Methods:

As part of an independent evaluation of the P4C performed by the NHS South, Central and West (SCW) Commissioning Unit [2], business intelligence teams from SCW and GM cancer worked together with the P4C team. A combination of datasets were utilised; Prehab4Cancer Refer-All exercise referral system, GM Local Flow Cancer Patient Tracking List (PTL), SUS [3] data, Primary care mortality, with linkage and pseudonymisation provided by Arden and Gem [4] DSCRO (Data service for commissioners regional offices). Data permissions have been developed in GM, that allow local flows of data to be enabled to supports analysis of healthcare across multiple hospitals within the GM system

Data flow was as shown in figure 1, with the procedure codes of cancer patients in Prehab4Cancer used to generate a control group in SUS of patients that hadn't undergone Prehab.

Results:

From April 2019 to March 2021, 1534 patients were identified from the Prehab4Cancer Refer-All as undergoing a P4C evaluation. Of these, 1329 patients were identified as having cancer surgical episodes in SUS, of which 1066 were agreed as appropriate procedure codes. From these surgical codes a

comparable group of non-prehab cancer surgical patients was generated from SUS hospital data. Reliable information was then generated (see table 1) to support evaluation.

All 10 hospitals undertaking colorectal cancer surgery in GM had patients identified using this methodology and individual hospital dashboards were produced to understand secondary healthcare usage at a local level.

Conclusion:

Using this methodology, SCW were able to undertake an independent evaluation of the implementation of the P4C programme across the GM Healthcare system. With the advent of ICSs in England and Wales, it will be essential to understand the impact of healthcare interventions such as prehabilitation across whole systems with multiple hospital sites. The described methodology with GM style digital infrastructure and permissions supports evaluation in this way.

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2. scwcsu.nhs.uk/case-studies/evaluating-the-success-of-the-prehab4cancer-programme

3. <https://digital.nhs.uk/services/secondary-uses-service-sus>

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Poster keywords

prehabilitation, evaluation, system level, data flow

Compliance to the NICE guidelines on pre-operative testing before elective surgery

Stephanie Kirby, Oshine Saxena, Nicola Bosley
Royal Hampshire County Hospital, Winchester, United Kingdom

Abstract

Introduction

The NICE guideline on pre-operative testing aims to advice on investigations prior to elective surgery. It recommends specific tests depending on the patients American Society of Anaesthesiologists (ASA) grade and severity of surgery (minor, intermediate or major). Our audit aims included determining the compliance to the guideline and if over testing resulted in a significant cost.

Method

Our initial data collection included 51 patients over a range of surgeries during December 2020 at Winchester Hospital. It included ASA 1 (11), ASA 2 (35) and ASA 3 (5) patients. The majority of surgery was in the intermediate category with 29 patients, 8 major and 14 minor.

We re-audited our data in July 2021 with a similar data sample of 49 patients. This included ASA 1 (13), ASA 2 (31), ASA 3 (5). The majority of operations remained in the intermediate category with 25 patients, 17 major and 7 minor.

Results

Our results showed overall compliance at 45%. The majority of non-compliance was due to over testing. The costing for each unnecessary investigation was calculated at an average of £19.45 per patient. Over a whole year of operating this was estimated at £200,000. This does not include valuable staff time lost and the increased patient attendance to hospital.

We improved compliance by educating members of the team in the pre-operative pathway. We produced information posters for the department as an easy guide reference, with a breakdown of the surgical categories. We discussed unnecessary testing with the surgical team with the aim to reduce costs. For example, we stopped Amylase for cholecystectomy, Full Blood Count for minor urological procedures and Urea & Electrolytes for minor general surgical procedures such as a haemorrhoidectomy.

Our re-audit data found unnecessary testing had reduced to an average of £4.02 per patient. Compliance had increased to 51%.

Conclusion

Overall, our changes have produced a substantial saving in costs.

Compliance had improved but still remains relatively low. This could be secondary to clinician discretion with testing, as certain patients may require additional investigations.

One future direction for pre-operative care may include the aid of software such as Synopsis IQ. This has been trialled in other UK hospitals and enables a large majority of the pre-operative screening to be done remotely, saving unnecessary face to face time for low-risk patients.

References

NICE Guideline NG45. Routine preoperative tests for elective surgery

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Poster keywords

pre-operative tests, cost saving, education

AN ENHANCED SYSTEMATIC HUMAN ERROR REDUCTION AND PREDICTION APPROACH TO FUNCTIONAL ENDOSCOPIC SINUS SURGERY - A PILOT STUDY

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Abstract

Introduction. The Systematic Human Error Reduction and Prediction Approach (SHERPA) has been applied to a common ENT procedure, Functional Endoscopic Sinus Surgery (FESS). Tasks/subtasks are identified using a Hierarchical Task Analysis (HTA), in addition to potential errors, consequences and strategies for recovery, error probability, criticality and remedial strategies. However, these tasks/subtasks are influenced by the sociotechnical system in which they are executed. This system includes people, their experiences and non-technical skills, tools/technologies used, operating theatre environment, as well as organisational (e.g., local training) and external factors (e.g., local/national guidelines). These work system factors from the Systems Engineering Initiative for Patient Safety (SEIPS) model provide a methodical way of uncovering the complexity of FESS as done versus as imagined. This pilot study aims to study the intricate system in which FESS is performed in order to enhance the current SHERPA to improve future practice and training.

Methods. Non-participant observations were conducted for fifteen FESS procedures, along with semi-structured interviews with two consultant surgeons, two trainee surgeons, one anaesthetist, and one nurse, all at one hospital. The observations involved noting differences to the previously constructed HTA and adding the relevant system factors influencing each task/subtask, with additional elicited information from the interviews. Deductive thematic analysis was performed.

Results. FESS performance differed from the previously constructed HTA, with variations in the order of subtasks performed as well as the way they were performed. FESS performance was influenced by a complex interaction of work system factors, ranging from the team members and their level of training/expertise, to the tools/technologies used (e.g., microdebrider) and their availability.

Conclusions. The current pilot study demonstrated that FESS tasks/subtasks are only part of the system and that identification of other pertinent influencing factors allows the enhancement of the current SHERPA. The emergent nature of performing FESS in the complex sociotechnical system within which it occurs, allows for a more systematic way of creating safety through improved checklists that incorporate high-risk tasks/subtasks and associated system requirements, as well as improved training that accounts for the system and the associated non-technical skills requirements to navigate it.

References. Corbett M, O'Connor P, Byrne D, Thornton M, Keogh I. Identifying and reducing risks in functional endoscopic sinus surgery through a hierarchical task analysis. *Laryngoscope Investig Otolaryngol.* 2018 Nov 28;4(1):5-12.

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Poster keywords

Otolaryngology, Human Factors, Surgery, ENT, Training

High risk and critically ill women in obstetrics receiving enhanced care: Determining role of anaesthetist

Sunita Gurung, Emily Blurton, Biswajit Das

Queen's Hospital, University Hospital Derby and Burton NHS Foundation Trust, Burton on Trent, United Kingdom

Abstract

Introduction

There has been an increase in the number of women who become unwell around the time of childbirth, due to factors including increasing maternal age, increasing rates and levels of obesity, and other comorbidities (1). Adequate monitoring of postoperative and unwell obstetric patients is a key component of safe patient care (2). The role of the anaesthetist in the delivery unit encompasses that of a peripartum physician (3) and is reinforced in 'Care of the critically ill woman in childbirth; enhanced maternal care', which provides guidelines for standards of monitoring for women receiving enhanced maternity care (1).

With this national recommendation as well as local trust guidelines, we looked into anaesthetic involvement in enhanced maternal care in the delivery suite during the peripartum period.

Methods

We looked into 30 patient notes who received enhanced maternal care between 2019 and 2021. The electronic documenting system as well as paper notes were reviewed. Paper notes included an enhanced observation chart, midwifery notes, and multidisciplinary review forms.

Result

The reasons for enhanced maternal care were: postpartum haemorrhage (50%), major obstetric haemorrhage (25%) and pregnancy-induced hypertension (PIH)(40%). Out of 30, half had delivered by emergency caesarean section and 36% were vaginally (6 instrumental included). Patients with PIH were seen by an anaesthetist prior to delivery. Depending upon the nature of delivery, anaesthetists were involved as expected. Anaesthetist review was documented more than 90% of the time, mainly in paper notes. Additionally, in 10 out of 30 women, anaesthetic documentation was also seen in electronic notes. Anaesthetic consultant input was documented to be received in person more than 60% of the time.

Discussion

There has been an increasing requirement for anaesthetic intervention for women around the time of delivery (3). Moreover, in the changing obstetric population, more than half are considered high risk for

complications during pregnancy (3). This study highlighted the need for timely and increased involvement of anaesthetists as supported by several emerging reports and recommendations.

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Poster keywords

Enhanced Obstetric Care, Enhanced Maternal Care, Care of unwell Mother, Anaesthetic Support, Obstetric Anaesthetic Care

Analysis of Anesthesia Related Severe Adverse Events in Congenital Catheterization Cases from a Single Institution

Kathryn Black, William Kim, Nancy Fauber, Michael Hainstock, Barbara Castro, Ruchika Sharma
University of Virginia, Charlottesville, USA

Abstract

Introduction:

Congenital cardiac catheterization project on outcomes (C3PO) is a registry designed by pediatric interventional cardiologists to study risk-adjusted outcomes across participating institutions.(1) We describe the high-severity sedation/airway adverse events (AEs) at the University of Virginia and compare the incidence to other C3PO centers.

Methods:

An AE extract was run for the 1,281 total congenital cardiac catheterization cases that occurred at UVA from 1/1/2016-4/31/2021 through the C3PO database. the 113 total AEs were filtered for those that may possibly be related to sedation/airway issues. The resulting 46 cases were reviewed in detail to determine if they were related to sedation or airway. Every event was evaluated for level of severity ranging from 1 to 5, and AEs level 1 or 2 were excluded.(1)

Results:

There were 11 airway/sedation related severe AEs out of 1,281 total cases (0.60%). 9.7% of all AEs were sedation/airway related severe AEs. 10 out of 11 severe AEs involved hypoxia at some point during the peri-anesthesia period. 7 of 11 were infants with single ventricle physiology. All were general anesthetics. Five were interventional cases, five were diagnostic, and one was an endomyocardial biopsy.

Discussion:


The risk of sedation/airway related severe AE for patients undergoing cardiac cath for congenital heart disease was very low, at 0.60% at our center, compared to 0.69% in the multicenter analysis.(3) 9.7% of all our center's AEs were serious sedation/airway related AEs (n=11) which also compares well to an incidence of 9.2% in the multicenter analysis.(2)

Anesthesiologists involvement in the congenital cardiac cath database has helped us understand our periprocedural morbidity and mortality, and compare it to participating peer institutions in C3PO. As previously described(3), force-fitting this interventionalist-designed database to look at anesthesia-specific AE has its limitations, the most important being under-reporting. Collaborating with the interventionists will help the registry better define, and accurately measure anesthesia-related factors, such as provider expertise, anesthesia technique, and advanced monitors which can impact outcomes.

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Poster keywords

Congenital Cardiac Catheterization , Adverse Events, Registry

Preoperative nutritional screening tools in adults for malnutrition: a systematic review

Helen Hoi Ting Cheung, Anna Lee, Gavin Joynt

The Chinese University of Hong Kong, Hong Kong, Hong Kong

Abstract

INTRODUCTION: Patients with malnutrition are at higher risk of adverse outcomes after exposure to a stressor like surgery. Numerous nutritional screening tools for identifying patients at risk of malnutrition are available but there is no international consensus on which is the best tool. The objective of this systematic review was to assess the accuracy of commonly used nutritional screening tools for identifying preoperative malnutrition in adults undergoing elective surgery.

METHODS: We searched MEDLINE, EMBASE, CINAHL, and Web of Science (any language, from date of inception to February 24th, 2022) for observational studies that reported the accuracy of a pre-specified nutritional screening tool against a reference standard (Subjective Global Assessment [SGA]). We included 7 index tests: Malnutrition Screening Tool (MST), Malnutrition Universal Screening Tool (MUST), Mini Nutritional Assessment (MNA), short-form Mini Nutritional Assessment (MNA-SF), Nutritional Risk Index (NRI), Nutrition Risk Screening Tool 2002 (NRS-2002) and Preoperative Nutrition Screening (PONS). Two reviewers independently assessed methodological quality using the Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) tool.¹ We independently extracted study characteristics and 2x2 accuracy data from cross-tabulated results of index tests and SGA, reported at patient-level data. From the 2x2 contingency table of each study, sensitivity and specificity were plotted (forest and summary receiver operating characteristic (sROC) plots). We constructed a random-effects bivariate binomial model to summarise sensitivity and specificity for each type of index nutritional screening tool² using MetaDTA and Stata 17.0 software.

RESULTS: Of 13 studies involving 4796 participants with 9052 index and SGA tests, 1 study was at low, 3 at moderate, and 9 at high risk of bias (mainly because of lack of blinded assessments of tests). The mean prevalence of preoperative malnutrition across all studies ranged from 18% (MNA-SF) to 40% (PONS). Compared to other index tests, MUST had the highest test accuracy performance characteristics (Table 1, Figure 1). Post-test probability of preoperative malnutrition given a positive MUST test result was 82.3%; post-test probability of a negative MUST test result was 94.5%. Surprisingly, no relevant accuracy data was available for the MST.

CONCLUSION: Preoperative malnutrition is common. MUST shows the highest test accuracy performance. Malnourished patients identified by MUST screening may benefit from further assessment and nutritional counseling to optimize pre-operative preparation.

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Poster keywords

Systematic review, Malnutrition, Prevalence, Nutritional assessment, General surgery

A Comparison of Recovery Times in Patients With Learning Disabilities Undergoing Pre-Operative Ketamine Sedation vs Patients Without Ketamine Sedation

Oliver Rae, Svetlana Kulikouskaya, Rhidian Jones
Princess of Wales Hospital, Bridgend, United Kingdom

Abstract

Introduction – Patients with learning disabilities may suffer from limited understanding and communication difficulties that can be challenging to manage in the perioperative period¹. This in turn can result in distress and difficulty performing a standard general anaesthetic for the patient to undergo a therapeutic procedure. Ketamine is a common agent used pre-operatively to safely sedate patients to facilitate a general anaesthetic without need for restraint which may cause psychological distress². An unwanted side effect of ketamine can be an unpleasant emergence which may in turn lead to prolonged recovery time, impacting upon the patient experience and with potential knock on effects to anaesthetic list efficiency. This study will look at the effects of pre-operative ketamine sedation on recovery time in patients with cognitive disabilities undergoing general anaesthetic for maxillofacial procedures.

Methods – A retrospective review of patients undergoing ketamine sedation for maxillofacial procedures between August 2017 and December 2021 in the Princess of Wales Hospital, Bridgend, UK was performed. Patients undergoing the same surgical procedure over the same timeframe were used as a comparison group. Data recorded via the TOMS Theatre System and anaesthetic charts were reviewed to establish theatre and recovery timings. Patients with pre-operative ketamine sedation under the age of 18 or undergoing non-maxillofacial surgery were excluded.

Results – 35 patients underwent pre-operative ketamine sedation for maxillofacial surgery in the studied period (mean age 31.7 years, 63% male). 35 patients without pre-operative ketamine sedation were used as comparison (mean age 36.4 years, 60% male). Mean operative time was 2.21 hours in the ketamine group compared to 1.86 hours in the non-ketamine group ($P=0.058$). Mean recovery time was 1.46 hours in the ketamine group compared to 1.35 hours in the non-ketamine group ($P=0.618$).

Conclusion – Ketamine is a versatile drug for use in pre-operative sedation to facilitate a general anaesthetic. This study shows no significant difference in recovery time between patients undergoing pre-operative ketamine sedation and those who did not. This suggests that use of ketamine for pre-operative sedation does not adversely affect recovery time post-surgery.

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Poster keywords

Ketamine, Pre-operative, Sedation, Adult, Learning disabilities

Establishing Screening for Preoperative Anxiety for Thoracic Patients

Anwuli Odili, Charles Oliver

University College London Hospitals, London, United Kingdom

Abstract

Introduction:

Preoperative anxiety occurs in up to 85% of surgical patients, affecting millions. It predisposes to increased anaesthetic requirements, higher opioid use, postoperative nausea and vomiting, prolonged recovery, increased length of stay and reduced patient satisfaction. Anxiety in surgical patients can be screened for with the Amsterdam Preoperative Anxiety and Information Scale (APAIS), a tool that asks six questions that identify the presence of anxiety and a patient's need for further information. This identifies patients that can receive additional education or psychological intervention.

The busy thoracic preassessment clinic at the University College London Hospital does not formally screen anxiety. This quality improvement (QI) project aims to establish efficient screening for preoperative anxiety in all thoracic patients with a screening target of 80% during each clinical session.

Methods:

This ten-week project includes four components:

1. Questionnaire: All thoracic patients in the preassessment clinic were invited to complete a short questionnaire containing the validated APAIS. Additional questions were included to determine incidence and potential causal variables.
2. Comparative analysis: Our data were contextualised by comparison against routinely collected data from the Perioperative Quality Improvement Programme (PQIP).
3. A service evaluation: A questionnaire for preassessment staff that evaluates current management, training, barriers, and suggestions to improve management of anxious patients.

4. QI: Integrating APAIS into the thoracic clinic, gaining feedback from nurses about any barriers to implementation and any insights from its use.

Results:

The first PDSA cycle using telephone calls to screen resulted in 21 of 35 patients (60%) being screened. The incidence of anxiety was 47.6 % from a direct question asking about anxiety since the decision for surgery. Whereas the validated APAIS score only showed an incidence of 28.5 %. The patients' need for information was 33.3%. This compares with PQIP data showed an incidence of anxiety and depression at 53.8 % in 2020 and 55.3 % in 2021. The commonest cause of anxiety was fear of complications related to surgery.

Factors related to low screening target were short time intervals between clinic and admission and patients not answering calls. All patients contacted consented, and they easily understood the questionnaire. Asking patients about anxiety allowed them to express their positive and negative views.

Conclusion: Anxiety screening is feasible and acceptable to patients. QI can achieve screening targets so that patients can be identified and directed to valuable interventions.

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Poster keywords

Screening, Preoperative Anxiety, Amsterdam Preoperative Anxiety and Information Scale, Service Evaluation, Quality Improvement

The perioperative challenges of performing the first robotic-assisted pelvic exenteration in Ireland; A Case Report

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³Department of Colorectal Surgery, Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Background:

Pelvic exenteration is a palliative or curative operation performed for invasive pelvic cancer. These cases are complex and heterogeneous in terms of anatomy, tumour characteristics and patient profile. Risks include bleeding, complications of the exenterative and reconstructive process and long operating time. Perioperative management requires multidisciplinary collaboration between surgery, anaesthesia, nursing and allied health staff (1).

The first case of robotic-assisted pelvic exenteration was reported in 2009 (2) with many more subsequently performed internationally. This report describes the first robotic-assisted anterior pelvic exenteration in Ireland, performed at the Mater Misericordiae University Hospital.

Case Presentation:

A 69-year-old female with biopsy-proven vaginal vault recurrence of colorectal carcinoma presented for robotic-assisted anterior pelvic exenteration and ileal conduit formation.

Having been reviewed in the preoperative assessment clinic a full shared decision making process was completed. Elements of Enhanced Recovery After Surgery (ERAS) were instituted in her care with a clear perioperative plan outlined between the urology, colorectal, anaesthesia and theatre nursing team. An uncomplicated 7.5 hour robotic-assisted anterior pelvic exenteration was performed.

The patient had an uncomplicated 48-hour stay in the HDU before being transferred to a surgical ward. She was discharged home eight days postoperatively without complication and at outpatient review remains well and has returned to functional baseline.

Discussion

There are considerable perioperative challenges associated with robotic-assisted pelvic exenteration. Clear planning and communication between anaesthetic and surgical teams is required as it is a high-risk operation (2). The aim of preoperative assessment is to determine surgical fitness and explore perioperative risks by shared decision making.

To facilitate open communication in this case, a multidisciplinary team briefing occurred. This allowed anaesthetic, surgical, and nursing teams to share and discuss procedural and logistical concerns, address any conflicting considerations, and discuss strategies to deal with possible difficulties. Appropriate invasive monitoring and vascular access allowed for maintenance of haemodynamic stability and regular monitoring of arterial blood gas.

Care was taken with patient positioning throughout the case, particularly with the use of lithotomy position, with well described risks of lower limb compartment syndrome (3). The elevated legs were brought down after completion of the exenterative portion and the patient was supine in Trendelenberg for the reconstruction.

Multimodal analgesic agents, including regional anaesthesia, should be considered perioperatively. This allows engagement with a patient focused ERAS programme.

This case describes the considerations taken for the first robotic-assisted anterior pelvic exenteration in Ireland.

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Poster keywords

Robotic Surgery, Pelvic Exenteration, Multidisciplinary

Compliance audit on perioperative analgesia in colorectal surgery-ERAS pathway

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Lincoln County Hospital, Lincoln, United Kingdom

Abstract

Introduction: The Enhanced Recovery After Surgery (ERAS) Society care pathways include evidence-based items designed to reduce perioperative stress, maintain postoperative physiological function and accelerate recovery after surgery. ERAS Society guidelines (2018) provide evidence based recommendations for the multimodal perioperative care pathway which includes perioperative analgesia.

Colorectal surgeries occur routinely at Lincoln County Hospital, both laparoscopically and open and more recently with robotic assistance.

Methods:

The audit was a retrospective review, of the records, of the most recent 30 patients, who underwent elective colorectal surgery, between October 2021 and March 2022. An assessment of compliance, to the 'strong' recommendations on perioperative analgesia in the recent ERAS guidelines was performed. The strong recommendations were-

- 1) Multimodal analgesia
- 2) Thoracic epidural in laparoscopic converted to open operations
- 3) Intrathecal opioids in laparoscopic surgery
- 4) Lidocaine infusion in the perioperative period
- 5) Abdominal blocks in laparoscopic surgery

We also looked at postoperative opioid consumption, the day the patient was first mobilised and the overall length of hospital stay in these patients.

Results:

The compliance to intraoperative and postoperative paracetamol administration as a part of multimodal analgesia was found to be 94.4% and 100% respectively. Thoracic epidural was attempted only in 1 out of 4 of the lap converted to open surgeries. Intrathecal opioid administration was used in almost 80%. The number of patients who received abdominal blocks in laparoscopic procedures was found to be just

3 out of the 30 patients. Perioperative lidocaine infusion was not attempted in any of these surgical patients. Post operative opioid consumption and length of stay was found to be slightly higher in those who did not receive intrathecal opioids.

Conclusion:

Early mobilization after abdominal surgery is widely regarded as an important component of perioperative care for enhanced recovery. Also increased length of hospital stay (LOS) is a significant burden to the already overstretched resources. Adequate perioperative analgesia is an important factor that determines both early mobilization and LOS. Furthermore recent Cochrane analysis emphasizes the need of regular audit and feedback, which would have a significant effect on healthcare professionals adherence to a given protocol. We intend to re-audit this element of the ERAS pathway, after dissemination of the findings, aiming for enhanced patient outcome.

References:

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Poster keywords

Colorectal surgery, ERAS, Analgesia, Opioids, Audit

Preoperative Investigation Guidelines at Croydon University Hospital

Bronwen Clements, Tom Georgi, Maria Cheresheva
Croydon University Hospital, London, United Kingdom

Abstract

Introduction

Recent nation-wide shortage of blood bottles prompted a review of routine pre-operative tests that were undertaken prior to elective surgery to determine if NICE guidelines¹ were followed. At Croydon University Hospital, patients reviewed in pre-operative clinic for elective surgery were routinely over investigated and the hospital lacked clear guidelines for which tests to undertake. A Quality Improvement project was undertaken to update and streamline the Trusts preoperative testing guidelines in line with NICE guidelines.

Method

To understand preoperative testing practices, a random sample of patients (n=32) who attended preoperative clinic over the course of a week were reviewed. The tests undertaken for each patient were assessed against current NICE guidelines, and the financial impact was calculated for the whole sample.

Results

Overall the majority (60%) of all tests undertaken (n=110), were not in line with NICE preoperative testing guidelines. The most over investigated group was found to be in minor procedures, where 94.7% of tests (n=19) were not in line with guidelines. For intermediate procedures 62.5% of tests (n=40), and 43.2% of tests (n=44) for major/complex procedures were not in line with guidelines. When considering the financial impact of the sample as a whole, £479.35 of the total £676.66 cost was spent on investigations outside of NICE best practice guidelines. This represents a potential cost saving of 71% if NICE preoperative guidelines had been followed.

Conclusion

As a result of the Quality Improvement project, the preoperative guidelines at the Trust were reviewed and updated in line with the NICE guideline. The proposed guidelines were reviewed with preop nurses

and anaesthetists. It was agreed that routine magnesium, LFTs, GGT and bone profile tests were stopped, in line with NICE guidelines. However, following consultation with Haematology, the NICE guidelines were altered to continue the screening of sickle cell disease in high risk patients, due to the high prevalence within the local population. To aid transition to the new guidelines, examples of surgical severity scoring and examples of stratifying ASA2 to ASA3+ were included. The updated testing guideline was disseminated among the preoperative team and presented at a clinical governance meeting with the preoperative team, surgical matron and Anaesthetic department prior to implementation. Further work is now planned with pathology department to streamline our thyroid function tests.

Reference(s)

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Poster keywords

Preoperative, Investigations, Guidelines, Quality improvement, Cost-saving

Clinician experience using a remote monitoring system to provide patient care in medical, surgical, and intensive care units

Harold Oglesby¹, Daniel Wade²

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²Patient Monitoring Clinical Research, Medtronic, Boulder, USA

Abstract

Introduction: In today's age of high-tech patient monitoring, it is essential to ensure that remote monitoring tools are efficient and effective for the bedside clinician.¹ The purpose of this survey was to characterize clinicians' use of a remote monitoring platform in medical, surgical, and intensive care units.

Methods: Between November 2021 and January 2022, 71 clinicians participated in a single-blinded survey, completed by an independent research firm. Participating clinicians were required to have used the remote monitoring technology (Vital Sync™ Virtual Patient Monitoring Platform, Medtronic, Boulder, CO) at least once per day within the 12 months preceding the survey.

Results: Participating clinicians included bedside nurses (28%), hospitalists (20%), nurse practitioners (17%), nurse managers (16%), pulmonologists (9%), and physician assistants (7%), representing a variety of medical facility types and areas of care (Table 1). Among the respondents, 70% reported that remote monitoring was most frequently used for critical and unstable patients. The remote monitoring features frequently used included: electronic medical record (EMR) integration (76%), alarm annunciation and forwarding (73%), trending graphs (62%), reports (54%), admissions discharge transfer (32%), and active directory (28%). When asked to consider the performance of the remote monitoring platform, a majority of the respondents agreed or strongly agreed that the platform helps avoid potential clinical adverse outcomes in patients (90%); provides the critical information needed to make decisions about patient care (83%); performs as expected and meets clinicians' needs (90%); alerts clinicians better or faster to patient deterioration than spot checking (92%); improves the quality of patient care at the bedside (88%); and allows the clinician to monitor multiple patients better and more efficiently than spot-checking (91%) (Figure 1). Overall, 80% of respondents indicated that the remote monitoring platform allows for enhanced clinical insight compared to spot checking vital signs, and 77% indicated that EMR charting improved with the remote monitoring platform. In a majority of experiences (76%), remote monitoring improved the way clinicians plan their day of patient care, with 59% of respondents reporting time savings.

Conclusions: This survey found that the vast majority of clinicians noted that remote monitoring efficiently aided them in gaining insight into patients' status. Most respondents indicated that remote monitoring led to earlier recognition of patient deterioration versus spot-checking, and many noted improvement in patient care quality at the bedside. Additional studies are needed to quantify the benefits of remote monitoring.

Reference: ¹Safavi KC et al. Anesth Analg. 2021;133(4):933-939.

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Poster keywords

remote monitoring, clinician workflow, spot check, patient monitoring, Vital Sync

Performance of Nellcor™ pulse oximetry across varying skin pigmentations: A retrospective analysis

Scott McGonigle¹, Jake Dove², Yu-Jung Ting², Rakesh Sethi², David Milkes³, Sam Ajizian³

¹Research and Development, Medtronic Patient Monitoring, Edinburgh, United Kingdom. ²Research and Development, Medtronic Patient Monitoring, Boulder, USA. ³Clinical Research, Medtronic Patient Monitoring, Boulder, USA

Abstract

Introduction: Pulse oximetry is a critical tool for clinicians to monitor patient blood oxygenation.¹ Multiple studies have reported that pulse oximetry accuracy varies based on race.¹⁻³ While studies have evaluated pulse oximetry performance by race, it is more precise to consider performance by skin pigmentation, since race does not correlate with objective measures of skin pigmentation, such as the Fitzpatrick skin type classification.⁴ Here, the performance of the Nellcor™ pulse oximeter is evaluated in individuals with varying skin pigmentation.

Methods: This was a retrospective analysis of Medtronic-internal healthy adult volunteer studies conducted between July 2003 and February 2017. In each study, a Nellcor™ pulse oximeter (MAXA, MAXFAST, FLEXMAX, or MAXN) measured arterial blood oxygenation, with comparison to co-oximeter measured SaO₂ using a protocol aligned with ISO 80601-2-61. Skin pigmentation was assessed using an internal scale with four levels: very light, olive, dark olive, and extremely dark. This pigmentation scale linearly correlates to the Fitzpatrick Scale.

Results: Across 18,120 samples collected from 88 healthy volunteers, Nellcor™ pulse oximetry sensors had a bias of 0.29% (95%CI 0.27-0.31), precision equal to 1.66% (95%CI 1.65-1.68), and root-mean square deviation (RMSD) of 1.69% for blood oxygen saturation between 70% and 100% (Table 1). Within skin pigmentation groups, the bias, precision, and RMSD for 69 healthy volunteers with very light or olive skin pigmentation (14,179 samples) were 0.26% (95%CI 0.24-0.29), 1.65% (95%CI 1.63-1.67), and 1.67% respectively, and for 19 healthy volunteers with dark olive or extremely dark skin pigmentation (3941 samples) were 0.38% (95%CI 0.33-0.44), 1.71% (95%CI 1.67-1.75), and 1.75%, respectively (Figure 1). Similar results were observed for individual Nellcor™ pulse oximetry sensors (e.g. only MAXA).

Conclusion: The manufacturer claims a RMSD of ± 2 for saturations between 70-100%, and in this analysis, both subgroups had an RMSD ≤ 2 . However, this retrospective analysis indicates that pulse oximetry accuracy varies between individuals with lighter or darker skin pigmentation, with increasing error in individuals with the darkest skin pigmentation. The extent of the error observed with Nellcor™ pulse oximetry sensors is consistent with recent analyses of pulse oximetry accuracy.³ Additional research is needed to objectively define skin pigmentation, establish its independence from race, and improve pulse oximetry accuracy across all skin pigmentations.

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Poster keywords

pulse oximetry, skin pigmentation, race, accuracy, Nellcor

Case Report: Anaesthetic management of a parturient with previous transverse myelitis.

Hadia Farooq, Georgia Ellis, Mona Behravesh
Barts Health NHS Trust, London, United Kingdom

Abstract

Introduction

We discuss the anaesthetic management of a primip with a history of transverse myelitis (TM) requiring caesarean section. Anaesthetic opinion is divided as to whether this is a contraindication to regional anaesthesia.¹

Case Report

A 27-year-old primip presented in labour at 40 weeks. She reported a diagnosis of TM seven years ago with acute lower limb paralysis and incontinence, with no associated pain / respiratory / bulbar compromise. Lumbar puncture was normal and excluded multiple sclerosis. She recovered fully after 3 weeks following steroid treatment, with no residual neurology.

In labour, patient preference was for a vaginal delivery with diamorphine / entonox. The anaesthetic team discussed options with the patient in case of any operative intervention; including the theoretical and low-risk of precipitating myelitis with spinal anaesthesia. Patient preference was for a general anaesthetic. She later required a caesarean section, and general anaesthesia proceeded uneventfully. Mother and baby were well and discharged 2 days later.

Discussion

TM is a rare spinal cord disorder (1-5/million/year), involving sensory, motor and autonomic dysfunction. A third of patients fully recover, a third suffer moderate permanent disability, and a third severe permanent disability/death. 15-36% of cases are idiopathic², the remainder have demyelinating / inflammatory / autoimmune causes. Idiopathic TM has recurrence rates of 57%².

The link between anaesthesia and TM remains debatable. Regional anaesthesia (RA) has been used safely in patients with idiopathic TM¹. Yet, whilst causation is not proven, cases of TM have occurred following both neuraxial and general anaesthesia (GA)³.

Alteration to GA technique in acute TM involves managing potential autonomic dysreflexia, steroid cover and substituting suxamethonium with rocuronium due to risk of hyperkalaemia.³

Conclusion

Parturients may present in the acute / recovered stages of TM. We recommend a full neurological

examination prior to any anaesthetic intervention. In planning the care of parturients with TM, a multidisciplinary antenatal approach is key, with neurology, anaesthetic and obstetric input. A considered individualised assessment of risks versus benefits of anaesthetic techniques and a fully informed discussion with the patient is key to producing the best care.

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Case report produced with full patient consent.

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Poster keywords

obstetric, anaesthesia, myelitis, anaesthetics, neurological

Supporting high risk elective surgery recovery – the success of an enhanced postoperative care unit.

Natashia Schneider, [Maria Cheresheva](#)

Croydon University Hospital NHS Trust, London, United Kingdom

Abstract

Introduction

The COVID-19 pandemic has placed unprecedented pressure on the NHS and considerable strain on planned service delivery. This was already under pressure before the pandemic and with increasing waiting lists for elective surgery it is crucial that we find new ways to support this. At Croydon University Hospital we developed a Surgical Enhanced Care Unit (SECU) which opened in Oct 2020 to support high risk elective surgery during the pandemic and support the 'recovery' plan. SECU is a four bedded unit accepting level 1.5 post-operative patients. It provides ring fenced surgical beds for high risk cases bridging the gap between ward level care and HDU/ITU

Methods

The SECU was developed to address several factors:

1. The COVID-19 pandemic and consequences to high risk elective patients
2. Part of the long-term solution to improve post-operative care for high risk patients beyond the pandemic, improving access to enhanced level care without pressure on already stretched HDU/ITU services

A multidisciplinary consensus was reached regarding the capabilities, staffing, training and escalation procedures. A training programme was implemented and funding secured at the board level. It is subject to ongoing review as part of the quality improvement project including:

1. Monitoring key performance indicators
2. Introduction of specific SECU documentation
3. Implementing further training as needed
4. Introducing a pain round

Results

Since Oct 2020 a total of 125 patients have been admitted to SECU. Our recent review of the period from October to December 21 showed that:

- 45 patients were thought to benefit from postoperative admission to either SECU or HDU
- 21 of these patients received SECU care

- 15 patients had HDU beds booked but only 2 required HDU admission
- 12 patients received regular in-patient ward care

Of the 21 patients admitted to SECU:

- The mean age was 59.9 years and most patients were ASA 3
- 1/3 admissions were post colorectal surgery, 1/3 post general surgery and the rest were a mixture of gynaecology/orthopaedic and breast patients
- Approximately 2/3 of SECU admissions were for a period of 24 hours with some requiring admission for 48 hours
- Complications included 1 patient with post op ileus, 2 patients with pain issues, 1 patient with hypotension and 1 patient with bleeding
- There were no unplanned admissions from SECU to HDU

Conclusions

SECU has been an invaluable addition to our post-surgical care. Our patients received enhanced care outside of traditional HDU/ITU settings. This has allowed us to continue high risk elective procedures which would potentially be postponed or cancelled due to lack of critical care beds. Appropriate patient selection, protocolised care and highly trained staff have made this a success without compromising patient care. SECU also offers a more cost-effective alternative to HDU.

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Poster keywords

high risk, elective surgery, recovery, enhanced care unit, postoperative

What works best to get a "yes"? A qualitative study on motivating prehabilitation participation

Jessica Calverley^{1,2}, Elaine Hargreaves¹, Kate Thomas²

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²Department of Surgical Sciences, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand

Abstract

Introduction: Prehabilitation requires individuals to change lifestyle behaviours for pre-operative health. Most prehabilitation programmes ask participants to increase physical activity to improve fitness. However, factors underpinning decision-making for physical activity-based prehabilitation participation need elucidating. Uptake in these valuable programmes may be enhanced if pathways to entry and programme design incorporated optimal decisional factors. Using the COM-B model¹, where capability, oppportunity, and motivation generate behaviour change, this qualitative study explored hip/knee arthroplasty patients' reasons for accepting or declining prehabilitation and what supported or hindered motivation.

Methods: Nine patients who completed ('Completers') physical activity-based prehabilitation (either home-based, facility-based, or both) and eight patients who declined ('Decliners') were interviewed. Participants discussed recruitment processes, reasons for joining or declining prehabilitation, and behaviour change-supportive aspects of content and delivery. Interview transcripts underwent thematic analysis² to identify key themes for COM-B comparison.

Results: *Motivations to participate.* Themes around Completers' motivations highlight desires to i) retain physical abilities, ii) be fit for surgery, and iii) control health whilst awaiting surgery and for post-operative recovery. Decliners' themes reflected they i) believed they were active enough, ii) previously had physiotherapy so felt prehabilitation provided nothing new, iii) experienced logistical barriers to facility-based attendance (e.g., living out of town, transport), and iv) feared exacerbating osteoarthritic pain.

Prehabilitation process/information. Completers believed GPs and orthopaedic surgeons were best to begin discussions about prehabilitation. Knowing the approximate surgery date and personal contact from exercise therapists would motivate prehabilitation uptake, as leaflet-based information regarding pre-surgical fitness was unrelatable.

Programme content and delivery. Completers explained the programme i) provided motivational social support, ii) was appropriate for the state of their condition, iii) tracked progress which encouraged adherence, and iv) inadvertently improved other health behaviours (e.g., nutrition). Conversely, Decliners expressed concerns about individualisation or condition-specific content.

Conclusions: Prehabilitation uptake could be enhanced by addressing aspects around patients' capabilities, opportunities, and motivations. Ensuring patients understand that programme exercises are condition-appropriate can help allay fears around pain and support feelings of capability, encouraging participation. Highlighting that prehabilitation offers opportunities for surgical preparedness by working towards goals in social, supported environments could enhance uptake, whilst home-based programmes overcome logistical barriers. Lastly, personal, specialist contact and helping patients value retaining or enhancing functionality for surgery and recovery can motivate participation and behaviour changes.

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Poster keywords

Prehab, Behaviour Change, Physical Activity, Psychology, Motivation

Care of Older People undergoing emergency surgery: meeting the standards of the National Emergency Laparotomy Audit (NELA)

Peter Robinson

Royal Bournemouth Hospital, Bournemouth, United Kingdom

Abstract

Introduction

There are well documented in-equalities for outcomes for surgical intervention^{1,2,3} associated with Age and Frailty including emergency laparotomy⁴. NELA data has shown over half of such patients are over 65 years old about one fifth are over 80. These patients having significantly higher mortality, longer hospital stays and it has also shown frailty to be an independent marker of poor outcomes. Through application of key standards these outcomes have improved however input from “consultant geriatrician-led MDT” remains stubbornly low nationally.

Aims

To improve local Trust performance in meeting the NELA standard: “Peri-operative assessment by a member of the Geriatrician-Led MDT for frail (CFS 5+) patients 65 or older” to >80% (Green: ≥80%, Amber: 50 – 79% Red: <50%) of estimated 100 patients per year.

Methods

1. Proactive case finding with general surgical teams
2. Engagement with Emergency Surgical Committee and NELA leads
3. Improved our own electronic referral system
4. Assist in development of electronic booking system with emergency laparotomy cases

Results

We showed a significant improved in meeting the NELA standard from the red zone (Mean: 33% range 5% to 35%) into the amber with a of mean 60% (quartile range 52% to 78%) but still remains below our target with significant quarterly variation seen.

All referrals and assessment remain post-intervention.

Limitations in measures:

- Large variations in Frailty assessment and referral process (prospective Vs retrospective)
- Process rather than a Quality measure
- No balancing measures - Is there Reduced service elsewhere?


Conclusions

Following a number of change ideas and despite challenging COVID related staffing issues we showed that a combination of key stakeholder engagement, proactive case-finding and improved electronic referral processes we have improved Geriatrician input in frail patients undergoing emergency laparotomy. We suspect due to the non-systematic assessment of frailty that we may be missing some patients and or seeing late in care pathway.

References

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Poster keywords

NELA, Frailty, Geriatrician, Improvement, Peri-operative care of older people

Prehabilitation before major surgery: Patient reported outcomes on a multimodal program

Oliver Rae, Andrew Violaris, Rhidian Jones
Princess of Wales Hospital, Bridgend, United Kingdom

Abstract

Introduction - Prehabilitation is the process of enhancing a patient's functional capacity and reserve prior to surgery with the aim of improving outcomes and allowing patients to regain their pre-operative function as soon as possible¹. In the past focus has been on physical characteristics and control of medical comorbidities. There is, however, a growing focus on the psychological aspect of major surgery and how poor psychological morbidity leads to more post operative pain, delayed wound healing and poorer outcomes. This has led to initiating a trimodal approach to prehabilitation incorporating physical, nutritional and psychological support².

We present the patient reported outcomes of our prehabilitation program prior to major surgery incorporating physical exercise, peer support and education. The prehabilitation program has been running since November 2021. 36 patients have been referred, 16 patients have completed the program and responded to feedback.

Method - Our program consisted of exercise sessions, one tai-chi session and sessions offering lectures and resources aimed to improve psychological welfare and nutritional status.

After the program a questionnaire was sent to the patients asking for feedback on a '1-10' scale ranging from 1 - disagree and 10 - agree. The questions included comments on readiness for surgery, anxiety and feeling fitter.

Results - 15 patients are included for analysis, one patient has remained in intensive care postoperatively and therefore is not suitable for follow up.

Mean age is 73.1 (range 58-87) All patients included underwent a colonic resection with 13/15 having a primary diagnosis of cancer, 3/15 patients had neoadjuvant chemo-radiotherapy.

On follow up 8/15 rated 10 for feeling prepared for surgery with a mean score of 9.63 (SD 0.62), 8/15 agreed they were less anxious about their surgery with mean score of 8.94 (SD 1.77), 7/15 felt physically fitter prior to surgery with mean score of 8.75 (SD 1.29) and 12/15 would definitely recommend the program to other patients with mean score of 9.75 (SD 0.58).

Conclusion - In summary prehabilitation is a developing part of the patient's journey and a new focus is developing on the psychological part of these programs. We have developed a trimodal approach to prehabilitation to ensure that patients physical, nutritional and psychological wellbeing are optimised.

Our program has excellent patient reported outcomes and is allowing patients to prepare for major surgery in the best physical and psychological way possible, we are also responding to feedback and adjusting the program to best suit patients needs going forward.

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Poster keywords

Prehabilitation, Colorectal surgery, Optimisation, Exercise, Patient wellbeing

A service evaluation of surgical mortality prediction using the SORT tool and routinely collected patient data.

Samuel Richards¹, Simon Howell^{1,2}, Alwyn Kotze¹

¹1. Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom. ²University of Leeds, Leeds, United Kingdom

Abstract

Introduction:

The Surgical Outcome Risk Tool (SORT) model estimates 30-day mortality risk after inpatient non-cardiac, non-neurosurgery.(1) An online tool is available (www.sortsurgery.com). SORT is externally validated but a translational gap exists: few if any NHS trusts systematically use risk prediction to inform postoperative care.(2,3) One reason may be the additional workload of manual estimates using a standalone tool. This service evaluation aimed to evaluate whether routinely-collected electronic and administrative variables can generate reliable risk estimates using SORT. The results will inform SORT application in LTHT.

Methods:

We included all adult elective non-cardiac, non-neurosurgical procedures (April 2020 – August 2021). Using NHS number as unique identifier, 30-day postoperative mortality and data items approximating all variables in SORT were linked between the Trust's Electronic Patient Record (PPM+), Patient Administration System and NHS Spine. Mortality risk was calculated using the SORT equation (Microsoft Excel).

A randomly-selected subset had manual comparisons between electronically-recorded surgical severity, recorded in PPM+ to guide pre-operative testing, and the online SORT calculator. Pre-assessment nurse assessed ASA scores were compared to ASA scores as assessed by anaesthetists in theatre. Model performance when using routinely-collected variables was assessed using RStudio (Version 1.4.1717, caret, pROC and OneR packages).

Application of the HRA decision tool confirmed this as a service evaluation.

Results:

N=12979, median age 58(range 16–101).

Mean SORT predicted 30-day mortality risk 0.24%.

Mean 30-day mortality 0.26%.

In the manually-compared subset (n=300):

Surgeon assessed surgical severity vs SORT calculator surgical severity: 102 (47%) equal, 19 (9%) surgeon higher, and 95 (44%) surgeon lower.

Pre-assessment ASA vs theatre ASA scores: 133 (62%) equal, 52 (24%) anaesthetist higher, 31 (14%) anaesthetist lower.

Nevertheless, model discrimination and calibration remained good when using surgeon assessed severity and pre-assessment ASA: AUROC 0.882 and Brier score 0.003.

Conclusion:

The two approaches differed notably in estimated surgical severity (53% different) and estimated ASA scores (38% different). However, overall model performance was maintained when calculating SORT using routinely-collected variables at LTH. Further work should explore the epidemiology of critical care allocation in low- and high-risk patients, in order to decide whether surgical pathway design based on automated risk prediction is feasible.

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Poster keywords

Surgical preoperative risk prediction

Using patient feedback to maintain a patient-centered, high-quality service. A qualitative review of the Cambridge University Hospitals Fit 4 Surgery programme.

Sarah Woods, Claire Luck

Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom

Abstract

Using patient feedback to maintain a patient-centred, high-quality service - A qualitative review of the Cambridge University Hospitals Fit 4 Surgery programme.

Woods S, Luck C

Introduction.

Patients undergoing major surgery experience a variety of physiological and psychological stressors (Moore et al 2021). These range from pre-operative anxiety to unplanned post-operative complications, and can negatively affect post-operative recovery (Wagnild 2021). In order to reduce these stressors, a prehabilitation programme was designed - Fit 4 Surgery (F4S). This aimed to educate and promote active preparation physiologically, and psychologically before surgery. But do patients find the session beneficial and are they better prepared?

Method

In order to review patient satisfaction a post session questionnaire was devised. This focused on content, access to information and delivery, and identified possible lifestyle adjustments. An additional questionnaire was also established for post-operative reflection. This allowed patients to retrospectively assess the relevance of the sessions and to facilitate service improvement. The post-operative questionnaire was sent to a cohort of 116 patients who had undergone surgery within the previous 6 months to ensure accurate recollection.

Results.

Post session questionnaire

From 305 completed surveys, 94% of patients scored $\geq 8/10$ when asked how satisfied they were with the service, and 93.4% scored $\geq 4/5$ when asked if they felt better prepared. A key goal for Fit 4 Surgery is to promote active participation with lifestyle changes before surgery. 77.4% of patients selected they would make "some lifestyle changes", and 14.9% sought to make "lots". Only 7.6% responded that they would make "no" changes to improve their functional capacity.

Post-operative questionnaire

From 116 retrospective surveys 29 (25%) replied;

	Do you feel F4S prepared you for your operation?	Did you make any lifestyle changes?	Did F4S adequately prepare you for what to expect after surgery?
Yes	73.3%	39.5%	55%
Somewhat	21.9%	26.3%	32.5%
No	4.9%	34.2%	12.5%

Conclusions

This service set out to engage and educate patients awaiting major surgery. This was achieved by highlighting the importance of active preparation and modification of lifestyle.

Preliminary data suggests patients are satisfied with the sessions, and feel the content is appropriate and relevant. 93.4% of patients stated they would make some/lots lifestyle changes and a total of 65.8% did. This data supports the use of prehabilitation to better prepare patients prior to major surgery. For those opting not to make changes limitations were “lack of time” before surgery and “a good level of pre-existing fitness”.

References

Moore, J., Merchant, Z., Rowlinson, K., McEwan, K., Evison, M., Faulkner, G., et al (2021) Implementing a system-wide cancer prehabilitation programme: the journey of greater Manchester’s ‘Prehab4cancer’ Eur J Surg Oncol. 47 Pp524–32

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Poster keywords

Prehabilitation, Lifestyle Changes, Fit 4 Surgery , Pre-operative, Optimisation

Characterising perioperative redox changes in patients undergoing major cancer surgery

Jia Liu Stevens^{1,2}, Helen McKenna³, Helder Filipe², Bernadette O Fernandez⁴, Andrew J Murray⁵, Martin Feelisch⁴, Daniel Martin^{1,3}

¹University College London, Division of Surgery and Interventional Science, Royal Free Hospital, 3rd Floor, Pond Street Royal Free Hospital, London, United Kingdom. ²Royal Free Perioperative Research Group, Department of Anaesthesia, Royal Free Hospital, 3rd Floor, Pond Street, London, United Kingdom. ³Peninsula Medical School, University of Plymouth, John Bull Building, Plymouth, United Kingdom. ⁴Clinical & Experimental Sciences and Integrative Physiology and Critical Illness Group, Faculty of Medicine, Southampton General Hospital and Institute for Life Sciences, University of Southampton, Southampton, United Kingdom. ⁵Department of Physiology, Development and Neuroscience, University of Cambridge, Cambridge, United Kingdom

Abstract

Background

Reduction/oxidation (redox) reactions generate reactive oxygen and nitrogen species, which in excess can cause a state of oxidative and nitrosative stress (ONS) (1). Increased oxidative stress has been observed postoperatively alongside raised inflammation. However, the nitrosative arm of the redox pathway has not been investigated. We hypothesised that major surgery would result in increased ONS, which in turn is associated with increased severity of postoperative morbidity.

Methods

This was a prospective observational study of patients, ≥ 18 years, undergoing major hepato-biliary-pancreatic surgery at the Royal Free Hospital (UK). Ethical approval was obtained, and blood was collected at baseline, end of surgery (EoS), and day 1 after surgery. Postoperative morbidity was recorded using the Clavien-Dindo classification and further categorised into minor, moderate and severe. Blood markers included: (1) lipid oxidation: thiobarbituric acid-reactive substances (TBARS); (2) total reducing capacity: total free thiols (TFTs); and ferric reducing ability of plasma (FRAP); (3) nitrosative stress/nitric oxide (NO) metabolism: cyclic guanosine monophosphate (cGMP); nitrite; nitrate; and total nitroso-species (RxNO). Interleukin-6 (IL-6) and tumour necrosis factor alpha (TNF- α) were measured to evaluate inflammation.

Results

Oxidative stress (TBARS) and nitrosative stress (RxNO) increased from baseline to EoS (+14%, $p=0.003$ and +138%, $p<0.001$ respectively). However, nitrite, nitrate and cGMP declined from baseline to day 1. Markers of total reducing capacity displayed different profiles, protein-adjusted TFTs increased by 12.2% from baseline to day 1 ($p=0.001$), whereas at the EoS, FRAP had increased by 9.3% from baseline ($p=0.03$), but then returned to baseline levels by day 1 ($p=0.003$) (Table 1).

Baseline nitrate was 60% higher in the minor morbidity group compared to severe ($p=0.003$). Intraoperative TBARS was 94% greater in the severe morbidity group compared to minor ($p=0.01$). The decline in intraoperative nitrate was more marked in the minor morbidity group compared to severe ($p<0.001$), but the decline in cGMP was conversely greater in the severe morbidity group ($p=0.006$) (Figure 2).

Discussion


We demonstrate measurable changes in markers of ONS after major surgery, which associate with postoperative outcomes. There was evidence of counter-regulation in the perioperative redox response, with indication for increased reductive potential. These findings highlight the importance of nitrosative stress, whereby the non-uniform changes in perioperative oxygen and NO metabolism can direct further mechanistic studies to identify new therapeutic targets.

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Poster keywords

Redox, Stress, Major surgery, Morbidity

Introduction of Frailty Screening to Emergency Surgical Admissions as part of a Perioperative Service.

Alison McCulloch, Paul Martin, Victoria Richmond, Andrew McCleary
Ninewells Hospital and Medical School, NHS Tayside, Dundee, United Kingdom

Abstract

Introduction: Increasing numbers of patients aged ≥ 65 years are undergoing surgical intervention. Frailty has been identified as a risk factor for increased length of stay, morbidity and mortality¹. Recently published guidelines from the Centre of Perioperative Care² have highlighted the importance of assessing for frailty in emergency surgical admissions and early involvement of perioperative frailty teams. Within Ninewells Hospital, Dundee, the Surgical Acute Frailty Team undertakes frailty screening and perioperative assessments alongside surgical and anaesthetic colleagues.

Methods: Over the last year, screening for pre-defined frailty criteria has been embedded into the Surgical Acute Frailty Team's daily in-reach into the Acute Surgical Receiving Unit. Data has been collected prospectively on all patients aged ≥ 65 years admitted to our Acute Surgical Receiving Unit. Data collected included age, sex, Clinical Frailty Scale (CFS) score, surgical specialty and 4AT on admission.

Results: Over the last 12 months (February 2021-February 2022), 1847 patients were screened on admission for frailty criteria. 57% of patients screened were male. Average CFS Score was 4. 80% of patients had a 4AT score of 0 on admission. Of the 1847 patients screened for frailty, 26% proceeded to comprehensive geriatric assessment.

Conclusions: The introduction of frailty screening on admission has enabled our perioperative service to proactively identify frail patients who are able to benefit from a comprehensive geriatric assessment. This data identifies the large number of older patients admitted as an emergency to our Acute Surgical Receiving Unit. By identifying frail patients earlier in their perioperative journey our team is able to work collaboratively with surgeons and anaesthetists to provide holistic care and help ensure patients aged ≥ 65 years have a documented CFS Score and delirium assessment using the 4AT on admission in line with Centre of Perioperative Care guidelines².

References:

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<https://cpoc.org.uk/sites/cpoc/files/documents/2021-09/CPOC-BGS-Frailty-Guideline-2021.pdf>

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Poster keywords

perioperative, frailty, delirium, emergency, CGA

Perioperative iron deficiency anaemia in patients with gynaecological malignancy: improving detection and management

Julie Baruah-Young, Niamh Toner, Jasmine Shen, Zoey Dempsey
Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

Abstract

Introduction

Perioperative iron deficiency anaemia should be managed with intravenous iron if surgery is planned within 6 weeks of the anaemia being diagnosed. The goal of correcting anaemia is to reduce postoperative complications¹. Our ERAS working group for patients with gynaecological malignancies aims to show that timely anaesthetic assessment improves patient outcomes.

The aim of this project is to determine whether the introduction of consultant led anaesthetic preassessment sessions to the routine preoperative assessment of patients with gynaecological malignancy improved the detection and management of iron deficiency anaemia.

Methods

Data was collected retrospectively in accordance with Caldicott principles for the periods June-December 2019 and 2020. A list of patients undergoing gynaecological surgery was generated from electronic theatre lists. Information extracted for each patient included:

- age
- BMI
- primary malignancy
- time from pre-assessment to anaesthetic assessment (if applicable)
- time from anaesthetic assessment to surgery
- pre and post-operative haemoglobin and iron studies of performed
- if intravenous iron replacement was indicated+/- administered
- preoperative chemotherapy (y/n)
- perioperative blood transfusion requirements
- operative blood loss
- length of stay
- post-operative complications according to Clavien-Dindo Classification
- readmission (y/n)
- death within 30 days of discharge

Patients were excluded if their pathology revealed non-malignant disease. A comparison was then made of the detection and management of iron deficiency anaemia between 2019 and 2020.

Results

Table 1 demonstrates that the introduction of consultant led anaesthetic preassessment for patients undergoing surgery for gynaecological malignancy improved the detection and management of iron deficiency anaemia.

Conclusion

Despite the limitations associated with the Covid 19 pandemic, the introduction of consultant led anaesthetic preassessment improved the detection and management of iron deficiency anaemia, notably in patients with ovarian malignancy. We acknowledge that the numbers preclude statistical analysis, but an association is present. This data is being used to establish a service for providing timely outpatient intravenous iron replacement prior to cancer surgery. Our intention is to repeat the data collection process following this to ensure trends continue to improve.

References

1. Munoz M et al. International consensus statement of the peri-operative management of anaemia and iron deficiency. *Anaesthesia*. 2017. 72. 233-247

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Poster keywords

Gynaecological, Malignancy, Iron-deficiency, Anaemia, Transfusion

Fluid Distribution in Acute High-Risk Abdominal (AHA) Surgery, the Early Perioperative Period

Mirjana Cihoric¹, Henrik Kehlet², Morten L Lauritsen¹, Jakob Hoejlund¹, Katrine Kanstrup¹, Nicolai B Foss¹
¹Hvidovre Hospital, Copenhagen, Denmark. ²Rigshospitalet, Copenhagen, Denmark

Abstract

INTRODUCTION: Adequate volume resuscitation is essential in the acute stage of critical illness(1), but optimal strategies to ensure tissue perfusion while avoiding fluid overload remain unclear(2). This study aimed to assess the perioperative fluid status and fluid changes in patients undergoing AHA(3) surgery. We focused on the potential pathophysiological differences between intestinal obstruction (IO), perforated viscus (PV) and anastomotic leak following elective surgery (AL).

METHODS: We performed a prospective, clinician-blinded observational study of 73 patients undergoing AHA surgery within a well-defined perioperative regime(3), including goal-directed volume therapy(4). Preload responsiveness, defined as stroke volume increase >10%(1,4), fluid overload (FO) measured by Bioimpedance spectroscopy(5) and cumulative fluid balance were recorded during the observational period (0-120 hours).

RESULTS: Sixteen (16) percent of the population had FO before surgery, the majority of these were patients with perforated viscus. Six (6) hours after surgery, the rate of patients with FO (36%) was significantly higher ($p<.001$). This was consistent for all three groups ($p<.01$, $p<.001$, $p=0.024$ respectively). By postoperative day five, 55% of all patients had FO, with no statistical difference between groups.

Preoperative preload responsiveness was present in 34% of the patients, with no statistical difference between groups. By postoperative day 5, where 75% of the patients with AL were preload responsive, significantly higher than that of the other two groups, 59% and 50% for IO and PV respectively ($p=0.040$).

There was a significantly higher incidence of FO among patients with postoperative major complications, compared to patients without, 66%vs45%, $p=0.042$.

CONCLUSION: Despite persistent fluid excess throughout the perioperative period, postoperative preload responsiveness increased steadily, indicating lack of correlation between fluid administration and preload dependence. Resuscitation strategies should aim at minimizing fluid overload into the postoperative period.

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Poster keywords

emergency laparotomy, intestinal obstruction, perforated viscus, fluid resuscitation, fluid overload

Central venous access devices and deep vein thrombosis in the ICU, a quality assurance project.

Hilary Leeson, Abhijit Laha
Royal Perth Hospital, Perth, Australia

Abstract

Introduction: We completed an audit in the ICU at Royal Perth Hospital, a tertiary teaching hospital and level 1 trauma centre in Western Australia. Our aim was to identify the rate of deep vein thrombosis (DVT) associated with central venous access devices (CVADs) and factors contributing to thrombosis.

Methods: Over 4 weeks, data was collected prospectively on all patients with freshly inserted CVADs in ICU. We collected data on; type/site of CVAD, indication for CVAD, anticoagulation status, admission diagnosis, clinical suspicion of DVT and if DVT was identified by ultrasound during ICU stay.

Results: 77 CVADs were placed in 70 patients. 78% were CVCs, 14% PICCs and 8% vascaths. Regarding indication; 69% were sited for vasopressor support, 20% for vascular access, 9% for haemodialysis and 2% had unclear indication. 31 patients (44%) were not anticoagulated at the time of CVAD insertion. 27 patients (39%) were admitted following trauma.

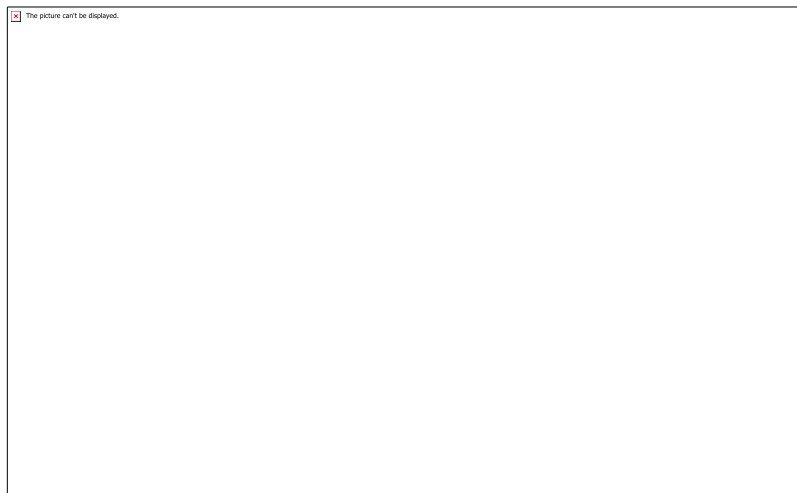
Clinical suspicion for DVT occurred in 4 patients (5.7%) all of whom were investigated with ultrasound doppler resulting in 3 patients (4.3%) having a DVT. All 3 patients were admitted with trauma, two of them had isolated head injuries and one had multi-trauma. None of them were commenced on any form of anticoagulation at the time of CVAD insertion and had additional risk factors such as immobility or history of DVTs. All 3 patients had CVADs in their upper extremities and developed DVTs in the adjacent veins. Two of them had 5 lumen 20 cm long 9.5 Fr CVC and the third one had triple lumen 55 cm 6 Fr PICC.

Conclusion: The patients diagnosed with DVT had multiple risk factors for DVT; immobility, trauma, presence of CVAD and lack of anticoagulation. The literature indicates an incidence of 0-28% of CVC-associated thrombus thus the rate of 4.3% within our small sample was acceptable.¹ In our population patients are regularly admitted following severe trauma and a contraindication to anticoagulation often exists. Clinicians must weigh the necessity of a CVAD versus risk of thrombosis and risk of bleeding. Further audit with larger sample size would be needed to find potential correlation with CVAD size or

type and thrombosis risk. This audit may trigger a follow-up quality improvement project to assess anticoagulation practices in the unit.

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Poster keywords

CVAD-associated thrombosis, ICU, Quality-assurance

Using the Consolidated Framework for Implementation Research (CFIR) to describe common factors to the successful implementation of perioperative medicine for older people undergoing surgery (POPS) services.

Margot Lodge^{1,2,3}, Jugdeep Dhesi^{4,5}, Darshini Ayton², Judith Partridge^{4,5}, David Shipway⁶, Philip Braude⁶, Catherine Meilak⁷, Velandai Srikanth^{1,2,8}, Chris Moran^{1,2,8,3}

¹National Centre for Healthy Ageing, Melbourne, Australia. ²Monash University, Melbourne, Australia.

³Alfred Health, Melbourne, Australia. ⁴Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom. ⁵King's College London, London, United Kingdom. ⁶North Bristol NHS Trust, Bristol, United Kingdom. ⁷East Kent Hospitals University NHS Foundation Trust, Canterbury, United Kingdom. ⁸Peninsula Health, Frankston, Australia

Abstract

Introduction

Comprehensive Geriatric Assessment and optimisation-based perioperative medicine services for older people (POPS) are clinically- and cost-effective.¹ As with other complex interventions an implementation gap exists with resultant inequity of access to, and quality of, perioperative care for older people.

An understanding of the barriers and enablers to implementation of POPS is required to address this gap. The Consolidated Framework for Implementation Research (CFIR) provides a theory-based approach to organise and understand factors likely to facilitate successful implementation. It includes 39 theoretical constructs, across five domains: 1) *intervention characteristics* (perceptions of POPS), 2) *outer setting* (factors outside the organisation), 3) *inner setting* (factors within the organisation), 4) *characteristics of individuals* (within the organisation), 5) *process* (planning and executing change). This study used the CFIR to identify factors common to two sites that translated POPS from its original setting and successfully implemented the service.

Methods

A qualitative study was undertaken at two UK National Health Service (NHS) sites that had adapted and successfully implemented POPS. Purposive sampling aimed to ensure differences in location, size, surgical specialties, and maturity of the two POPS services.

Semi-structured interviews were conducted with junior and senior clinicians, managers, and executives. The interviews were recorded, transcribed, and inductively coded. The codes were mapped to the published POPS Logic Model¹ and the CFIR.

Results

34 interviews were conducted (16 at Site A). Across both sites, participants identified facilitators to implementation across all five CFIR domains. Key constructs common to both sites included the perceived evidence strength and adaptability of POPS (domain 1); whether POPS would provide the resources to meet their patients' needs (domain 2); knowledge and belief in POPS (domain 4); and staff engagement enabling buy-in (domain 5). Within domain 3, one site emphasised the organisational capacity for change while the other highlighted the need for access to knowledge and information about POPS.

Conclusion

This study illustrates that constructs from all domains of the CFIR were important for the successful implementation of POPS at two different NHS Trusts. Cross-site differences within individual CFIR constructs reflect the impact of each Trust's unique context on the adaptation and implementation of POPS locally. Other sites considering implementation of POPS must consider such factors when adapting POPS to their local context.

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Poster keywords

Implementation science, Perioperative medicine for older people undergoing surgery, POPS, Comprehensive geriatric assessment and optimisation, Implementation framework, Qualitative research

Perioperative outcomes in patients undergoing gynaecological oncology surgery and potential implications for pre-assessment service provision.

Niamh Toner, Julie Baruah-Young, Jasmine Shen, Zoey Dempsey
Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

Abstract

Introduction

As surgery for gynaecological cancer has evolved over recent years there have been endeavours to standardise the perioperative care of gynaecological malignancies in keeping with the principles of ERAS care. As part of this effort in our region, consultant led anaesthetic pre-assessment sessions have been introduced in addition to existing nurse-led pre-assessment clinics. As part of a working group for ERAS within gynaecologic oncology care we looked at the proportion of patients with gynaecological malignancies undergoing anaesthetic led pre-assessment and the perioperative outcomes in this cohort.

Methods

We undertook retrospective data collection of patients undergoing major gynaecological surgery for malignancy from June 2019-December 2020. Data was collected by examination of electronic case notes and all data was collected and handled according to Caldicott principles. Data collected included; demographics, primary malignancy type, pre-assessment attendance, perioperative outcomes including length of stay, postoperative complications (using Clavien-Dindo classification), readmission, and 30 day mortality.

Results

152 patients included, 77 (51%) with primary endometrial malignancy and 75 (49%) primary ovarian malignancy. Table 1 shows the proportion of each primary pathology seen in anaesthetic led pre-assessment clinic.

Patients with primary ovarian malignancy appear to have a higher rate of readmission than those with endometrial disease (8.6% vs 1.97%) and a longer average length of stay (7.3d vs 3.3d). Patients with ovarian malignancy also had a greater proportion of higher grade post-operative complications, demonstrated by Figure 1.

Conclusion

Patients with primary ovarian pathology appear to have a longer length of stay, higher risk of readmission and greater rate and severity of post operative complications. Although our patient numbers do not allow adequate statistical analysis to assess correlation with anaesthetic pre-assessment it may be worth consideration of increasing the proportion of patients with primary ovarian pathology undergoing anaesthetic pre-assessment. We aim to repeat data collection to reassess current rate of anaesthetic pre-assessment and potential impact on perioperative outcomes.

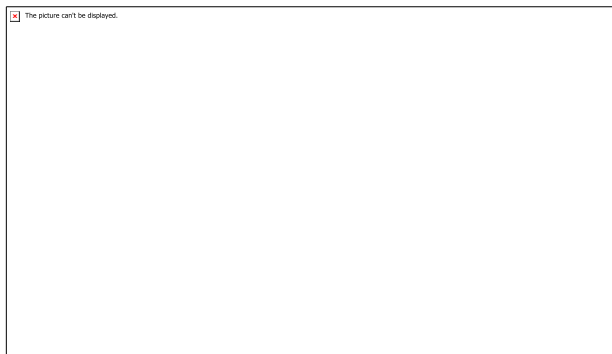
References

1) Nelson G, Bakkum-Gamez J, Kalogera E, et al. Guidelines for perioperative care in gynecologic/oncology: ERAS Society recommendations—2019 update. International Journal of Gynecologic Cancer 2019;29:651-668.

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Poster keywords

Perioperative, Outcomes, Pre-assessment, Gynaecology, Oncology

Evaluation of analgesic techniques including the use of higher dose intrathecal diamorphine in patients undergoing major urological surgery at Broomfield Hospital: A review of practice

Conor Barrett Nnochiri¹, Rory Dennis², Danielle Fawkes³, Tom Atkinson¹, Al Hughes¹

¹Broomfield Hospital, MSE NHS Foundation Trust, Chelmsford, United Kingdom. ²The Royal Free Hospital, Royal Free London NHS Foundation Trust, London, United Kingdom. ³The Royal London Hospital, Barts Health NHS Trust, London, United Kingdom

Abstract

Introduction

The laparoscopic approach to nephrectomy has reduced post-operative pain scores and analgesic requirements when compared to open procedures¹. Nevertheless, the search for the optimal analgesic strategy continues, with a focus on opioid sparing techniques such as neuraxial and regional blocks.

Provision of analgesia for these cases varies significantly at Broomfield. Anaesthetists that favour subarachnoid block (SAB) have been trending towards the use of higher dose intrathecal diamorphine (HDID). The American Society of Anaesthesiology recommends that 'the lowest efficacious dose of neuraxial opioids should be administered to minimise the risk of respiratory depression' however, evidence is equivocal regarding the risk of opioid induced ventilatory insufficiency (OIVI) when comparing lower and higher doses².

Therefore, we reviewed our local practice to quantify the techniques used and assess for undesirable effects of HDID.

Methods:

We performed a retrospective case note review for all adult patients who had major urological surgery between 4th September 2017 and 28th April 2021. Interrogation of our electronic theatre database identified 159 patients. We successfully obtained 109 case notes with the rest being unavailable. Four sets of notes had incomplete data and were excluded. The remaining 105 notes were reviewed and analgesic technique documented.

For patients who received a SAB, we also recorded: dose of diamorphine, additional analgesic use in recovery, occurrence of OIVI and post-operative complications (using the Clavien-Dindo grading system to assign severity).

Traditionally, 300mcg of intrathecal diamorphine has been widely used for such operations therefore, we classed HDID use as 400mcg or greater.

Results:

The majority of procedures were performed laparoscopically. Analgesic techniques used are summarized in Figure 1.

Twenty-six patients underwent SAB. 48% required additional analgesia in recovery, which was most commonly intravenous fentanyl. Clavien-Dindo Grade I complications occurred in 31% (constipation, nausea, ileus) and Grade II in 8% (small intra-abdominal collection, wound infection) with the remaining 61% having no complications. 88% received HDID with a median dose of 600mcg (range 3.7 to 11.29mcg/kg). There were no cases of OIVI.

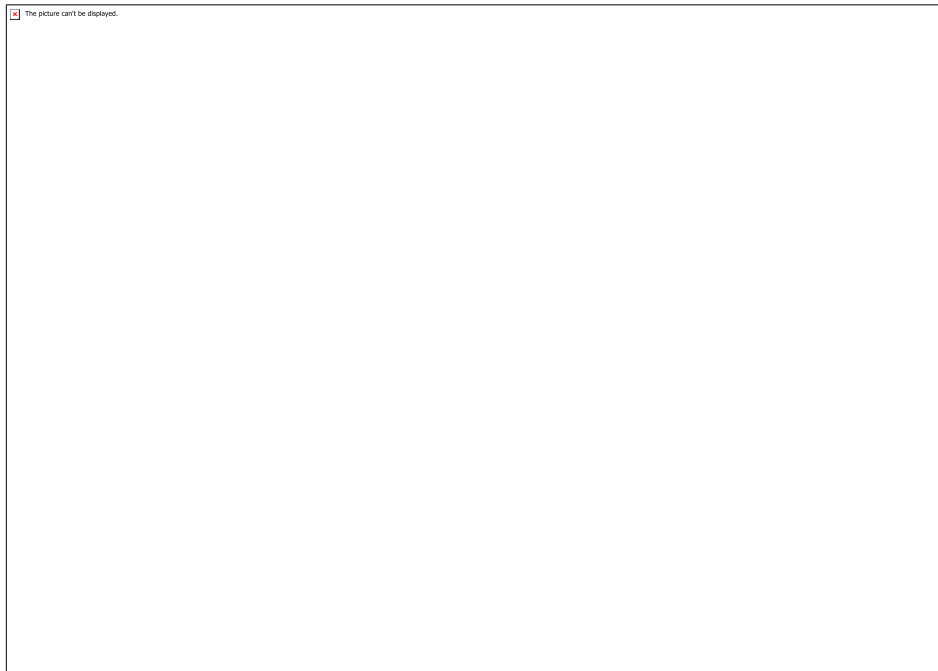
Conclusion:

There is marked variation between choice of analgesic technique locally, with regional techniques being favoured over neuraxial techniques. HDID use was not associated with OIVI, which is reassuring despite our small sample size.

References:

1. Chapman E, Pichel A. Anaesthesia for Nephrectomy. BJA Education. 2016; 16(3):98-101.
2. Practice Guidelines for the Prevention, Detection, and Management of Respiratory Depression Associated with Neuraxial Opioid Administration. Anaesthesiology. 2016; 124(3):535-552.

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Poster keywords

Nephrectomy, Diamorphine, Regional , Review, Analgesia

Intervention to aid patient education and information at Broomfield Hospital: Anaesthetic Assessment Unit (AAU) waiting room presentation.

Danielle Fawkes¹, Lucy Westcott², Niven Akotia², Al Hughes²

¹The Royal London Hospital, Barts Health NHS Trust, London, United Kingdom. ²Broomfield Hospital, MSE NHS Foundation Trust, Chelmsford, United Kingdom

Abstract

Introduction

Patient information and education is an integral part of perioperative care including shared decision making. There is evidence that preoperative education interventions can lead to improved patient experiences and positive postoperative outcomes amongst general surgical patients¹. Prehabilitation has also been associated with improved patient satisfaction and may have positive impacts on functional status, post-operative complications and length of stay².

Within the AAU waiting room we had a television screen and decided to utilise it to facilitate additional provision of patient information and education.

Methods:

Pre-assessment staff were surveyed for their opinions on what content should be included in the presentation. The most popular topics were selected and included; lifestyle advice (nutrition, smoking cessation, exercise and alcohol reduction), information about the AAU and what to expect, wellbeing support, the RCOA 'Fitter Better Sooner' video and current research projects. Permission was sought and granted from the RCOA Patient Information group to use their video. A runtime of 20 minutes was decided to be optimal.

To assess the impact of the presentation we performed a patient survey. Questionnaires were handed out at the end of each pre-assessment appointment for completion prior to leaving.

Results:

46 questionnaires were returned during a one-week period. 57% reported having watched the presentation. Reasons for not watching were predominantly due to issues with vision and seating arrangements. Figure 1 summarises the views of those that watched the presentation. 62% reported that the presentation had made them think about lifestyle changes they would wish to make prior to their surgery.

Free text comments included: 'Nice to know that anxiety is quite ok...', 'Very informative', 'I think this should be a compulsory watch', 'It was scary. I was ok until I watched it'.

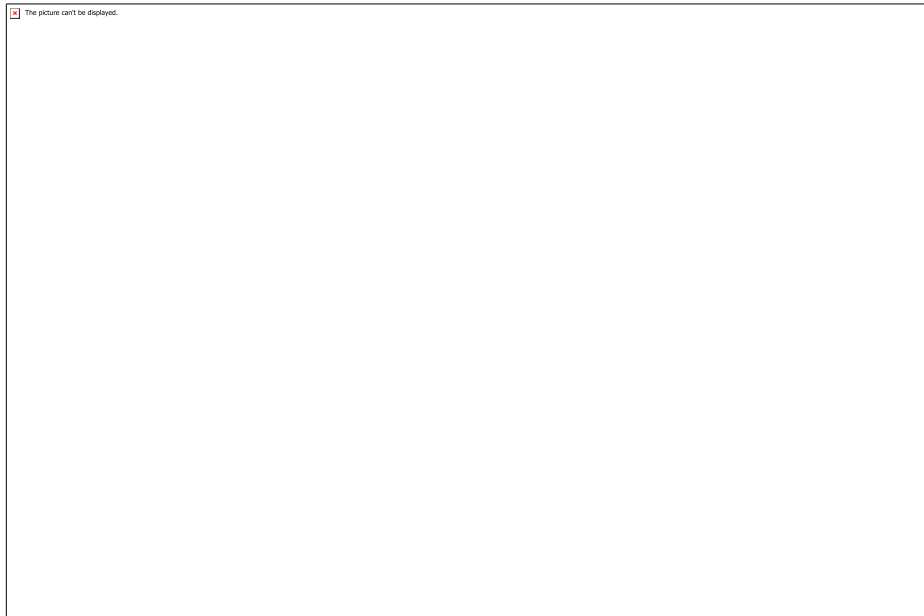
Conclusion:

Most barriers to watching were practical and could be easily overcome by altering chair arrangements. Those that viewed the presentation showed an overwhelmingly positive reception and we feel that it is a low maintenance effective intervention. Perhaps less anxiety and more benefit could be derived if this information was also disseminated earlier in the patient journey.

References

1. Guo, P. Preoperative education interventions to reduce anxiety and improve recovery among cardiac surgery patients: a review of randomised controlled trials. J Clin Nurs. 2015 Jan; 24(1-2):34-46. doi: 10.1111/jocn.12618. Epub 2014 Jun 3
2. Centre for perioperative care. Impact of perioperative care on healthcare resource use [Internet]. CPOC. 2020 Jun. Available from: CPOC.org.uk

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Poster keywords

Education, Patient information, Prehabilitation, Perioperative medicine

Orthostatic intolerance after acute mild hypovolemia: Incidence, pathophysiologic hemodynamics, and heart-rate variability analysis

Ana-Marija Hristovska¹, Bodil Uldall-Hansen¹, Jesper Mehlsen², Henrik Kehlet², Nicolai Foss¹

¹Department of Anesthesia and Intensive Care, Copenhagen University Hospital - Hvidovre, Copenhagen, Denmark. ²Department of Surgical Pathophysiology, Copenhagen University Hospital - Rigshospitalet, Copenhagen, Denmark

Abstract

Introduction: Early postoperative mobilization is vital for rapid postoperative functional recovery and is a cornerstone in Enhanced Recovery After Surgery programs (ERAS). However, it can be hindered by postoperative orthostatic intolerance (OI). Autonomic dysfunction (AD) with decreased heart rate variability (HRV) indices is a well-described postoperative phenomenon and might be implicated in the development of OI. Many factors may contribute to postoperative AD, such as age, comorbidities, medication, anesthesia, surgical stress response, blood loss, pain, and use of opioids. We aimed to isolate mild acute blood loss and investigate its effect on OI incidence and autonomic function in young and healthy blood donors, thus eliminating confounding perioperative and patient-related factors.

Methods: This prospective observational cohort study included 26 blood donors. Continuous ECG data were collected during night sleep, before and after blood donation using E-Patch®. Valsalva maneuver (VM) and orthostatic challenge (OC) were performed before and after blood donation, during which cardiovascular and tissue oxygenation variables were measured continuously, using LiDCO™ Rapid, CNAP® Monitor and MasimoRoot® Radical. Incidence of orthostatic intolerance (OI), hemodynamic responses during OC and VM, as well as HRV during night sleep and OC were compared, before and after blood donation.

Results: Six (23%, 95%CI 9-44%) donors experienced at least one OI symptom during OC after blood donation; of these 3 (12%, 95% CI 2-30%) terminated OC prematurely due to severe OI symptoms. Two (8%, 95%CI 1-25%) donors had vasovagal pre-syncope, while the latter (4%, 0,1-20%) donor presented with neurogenic AD already apparent during VM prior to OC, characterized by absent rise, recovery, and overshoot. Systolic, diastolic, mean arterial pressure, heart rate, cardiac output, and cerebral tissue oxygenation responses were significantly reduced in severe OI donors ($p \leq 0,009$) compared to orthostatic tolerant donors. After blood loss, HRV indices of total autonomic power during sleep and in supine position remained unchanged ($p \geq 0,114$). Furthermore, we found increased sympathetic ($p \leq 0,01$) and decreased parasympathetic ($p \leq 0,034$) outflow, both during OC and sleep after blood donation.

Conclusion: Acute blood loss of 450 mL leads to OI symptoms in 23% of mobilized blood donors, while 12% could not complete the mobilization procedure due to severe OI. Isolated acute mild blood loss does not appear to be associated with AD characterized by decreased HRV indices, as described previously in the postoperative setting. Our findings suggest a hypovolemic component of postoperative AD leading to severe OI, independent of postoperative inflammation, opioids, and pain.

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Poster keywords

Orthostatic intolerance, Hemodynamics, Autonomic dysfunction , Early postoperative mobilisation, Hypovolemia

Anaemia screening in pre-operative assessment clinic: analysis of anaemia test requests and their cost-effectiveness

Priya Shekar¹, Edward Pugh²

¹Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom. ²Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom

Abstract

Introduction: It is well established that untreated pre-operative anaemia is associated with adverse outcomes in elective surgical patients. Consequently all patients undergoing major surgery are screened and treated for anaemia pre-operatively¹. Ordering the correct tests in a timely manner is particularly important in cancer patients where anaemia is highly prevalent, often multifactorial and timeframes to surgery are short. However, ordering unnecessary tests is expensive. The aim of this project was to analyse the anaemia screening process and its cost-effectiveness in cancer patients attending pre-operative assessment clinic (PAC) at the Royal Victoria Infirmary, Newcastle-upon-Tyne.

Methods: The electronic records of 70 cancer patients (upper GI/colorectal) seen in PAC between November 2020-May 2021 were analysed. Data extracted included haemoglobin (Hb) concentration, ferritin and iron studies (transferrin/iron/transferrin saturation (tsats)), timing of requests, type of treatment and test costs.

At the time of analysis, screening commenced with a point-of-care (POC) Hb using Haemacue. If Hb <130 g/L, ferritin was requested with urgent bloods. If POC Hb was unavailable then ferritin was automatically requested. If results were abnormal, a decision was made following anaesthetist review regarding treatment or further iron studies requested. For this analysis, low ferritin was defined as <40ng/ml and tsats ≤20%.

Results: 68.5% of patients were anaemic. 60% (29/48) had a Hb and ferritin requested only. 18/29 had a ferritin <40 and received IV iron and 11/29 had a ferritin >40 but following consultant review no further tests were required.

19/48 of anaemic patients had iron studies subsequently added on; 3/19 had a ferritin <40 and tsats ≤20%, 16/19 had a ferritin between 40-1690. 17/19 patients had tsats ≤20% with 15/17 then receiving IV iron.

Test costs: ferritin £3.13, iron studies £15.46 (iron £3.72, transferrin £11.74). A direct test is cost-equivalent to an add-on request.

Conclusion: Anaemia screening is occurring largely as expected in PAC. Iron studies are mostly requested as add-ons for those with normal or high ferritins. As ferritin is the cheapest test, this should be requested routinely regardless of the POC Hb. Given the significant cost difference between ferritin and iron studies, requesting iron studies as an add-on is best practice. A revised anaemia pathway has

been implemented including redefined trigger threshold values and decision-making guidance regarding test requests.

References: 1. Muñoz M, Acheson AG, Auerbach M et al. International consensus statement on the peri-operative management of anaemia and iron deficiency. *Anaesthesia*. 72: 233-47, 2017.

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Poster keywords

anaemia screening , preoperative assessment , cancer surgery, blood tests

Orthostatic intolerance after administration of intravenous morphine: Incidence and pathophysiologic hemodynamics

Ana-Marija Hristovska¹, Bodil Uldall-Hansen¹, Henrik Kehlet², Jesper Mehlsen², Nicolai Foss¹

¹Department of Anesthesiology and Intensive Care, Copenhagen University Hospital - Hvidovre, Copenhagen, Denmark. ²Department of Surgical Patophysiology, Copenhagen University Hospital - Rigshospitalet, Copenhagen, Denmark

Abstract

Background: Postoperative orthostatic intolerance (OI) may delay early mobilization after surgery, leading to increased risk of postoperative complications and prolonged in-hospital length of stay. Opioids are commonly used in postoperative pain treatment, despite numerous side-effects. However, their role in OI has not been fully elucidated. The aim of this study was to isolate morphine's effects from other factors potentially contributing to OI perioperatively by administering intravenous morphine and conducting measurements preoperatively.

Methods: This prospective observational cohort study included 24 patients scheduled for total hip, knee or unicompartmental knee arthroplasty (THA/TKA/UKA). Preoperatively, OI and the cardiovascular response to sitting and standing were evaluated using a standardized mobilization procedure before and after administration of 0,1 mg/kg intravenous morphine. Systolic (SAP), diastolic (DAP), mean (MAP) arterial pressure, heart rate (HR), stroke volume (SV), cardiac output (CO) and systemic vascular resistance (SVR) were measured non-invasively using LiDCO™ Rapid. Cerebral (ScO₂), muscular (SmO₂) tissue oxygenation and peripheral perfusion index (PPI) were measured non-invasively by Masimo Root® Radical.

Results: Prior to morphine administration, no patients experienced OI symptoms during the mobilization procedure. After intravenous administration of 0.1 mg/kg morphine, a total of 9 (37,5%; 95%CI: 19-59%) patients experienced one or more OI symptoms; of these 4 (16,7%; 95%CI: 5–37%) patients experienced severe OI symptoms and could not complete the mobilization procedure (Figure 1). Two patients with severe OI required treatment. When compared to OT patients, responses in SAP, DAP, MAP and CO from supine to standing position were decreased in OI patients, and further decreased in severe OI patients, but did not reach statistical significance ($p>0,052$). When compared to OT patients, HR response was significantly impaired in both OI (18; 95%CI: 13-23 vs. 7; 95%CI: (-2)-16 beats min⁻¹, $p=0,018$) and severe OI patients (18; 95%CI: 13-23 vs. 3; 95%CI: (-39)-45 beats min⁻¹, $p=0,038$). There were no significant differences in SV, PPI, ScO₂ and SmO₂ between OT, OI and severe OI patients ($p>0,523$) (Figure 2).

Conclusion: OI is common after intravenous administration of morphine and is related to attenuated cardiovascular responses, primarily an inadequate HR response. Our results indicate that postoperative pain treatment with intravenous morphine may be a substantial contributing factor to postoperative OI. Further investigations to elucidate the underlying pathophysiological mechanisms examining autonomic dysfunction by using Valsalva maneuver and heart-rate variability are currently conducted.

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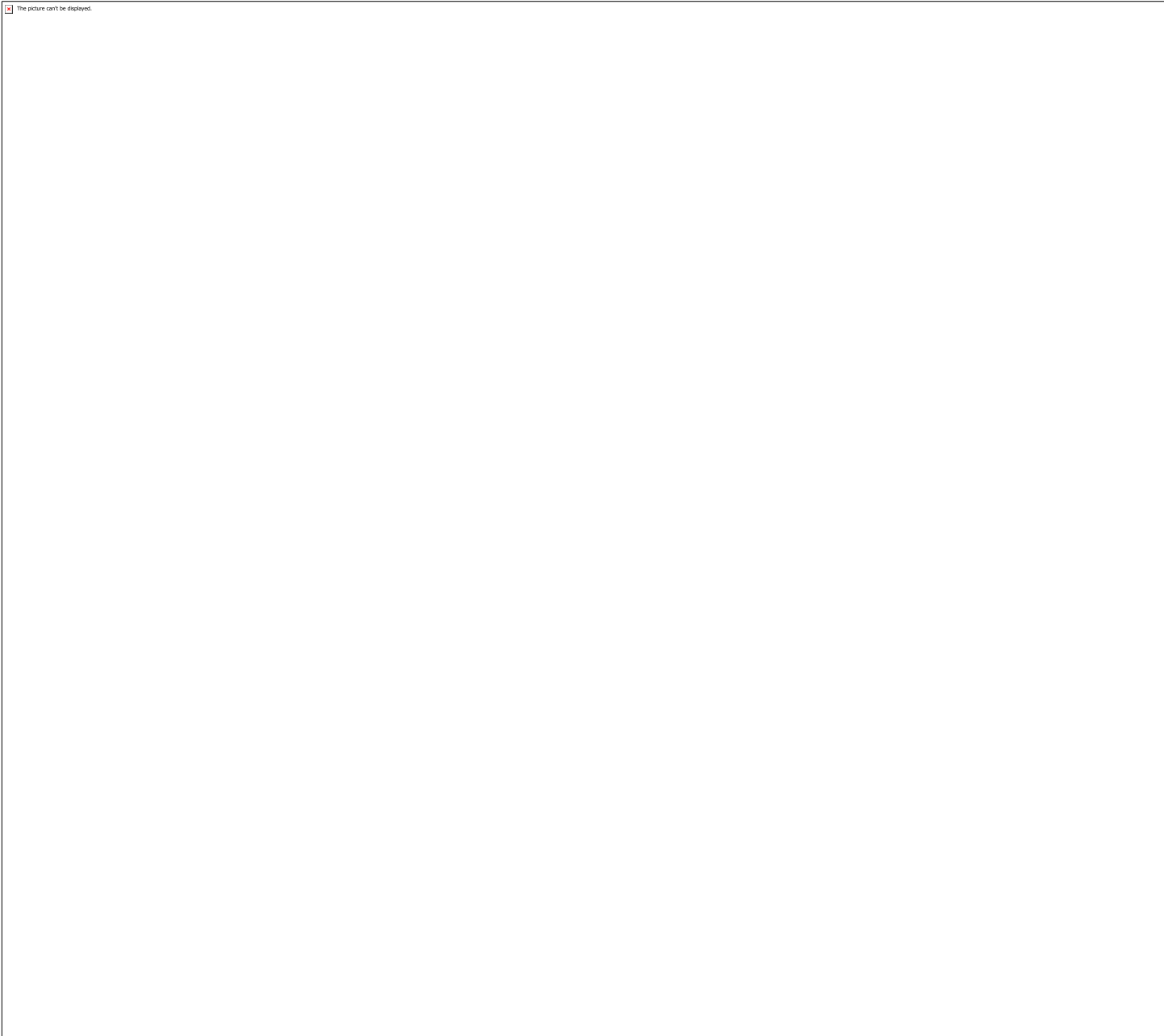



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Poster keywords

Orthostatic intolerance, Hemodynamics, Morphine , Early postoperative mobilisation, Opioids

Should we unify our total intravenous anaesthesia (TIVA) set-up?

Eddie Wong, Tom Atkinson, Arun Sahni

Department of Anaesthesia, Broomfield Hospital, Chelmsford, United Kingdom

Abstract

Introduction:

The Royal College of Anaesthetists and the Association of Anaesthetists both state that all anaesthetists should be competent in the delivery of TIVA¹. Not only is TIVA gaining popularity due to the environmental concerns of volatile agents, in some cases, it may also be the safest option as the use of inhalational agents may be impossible. However, multiple national surveys showed that TIVA training in the UK can be lacking or variable, leaving some trainees unconfident with TIVA¹. As a department that widely delivers TIVA, we surveyed our consultants regarding their practice and opinions on standardising set-up. We anticipate that this audit will inform training of local trainee anaesthetists.

Method:

An online survey was developed by the authors, including questions about the frequency and rationale of TIVA use, infusion models routinely used, TIVA pump set-ups, and the use of processed electroencephalogram (pEEG) and peripheral nerve stimulators. It also asked about errors encountered in TIVA use and opinions of standardising TIVA set-up. The survey was completely anonymous and was sent to all consultants in our anaesthetic department.

Results:

The survey yielded 30 responses.

Over 80% of respondents use TIVA at least weekly, with 50% stating TIVA is their standard practice. Almost everyone uses both propofol and remifentanyl, with the most used infusion models being the Marsh model for 2% propofol and the Minto model for remifentanyl but various other models are also in routine use.

35.7% connect remifentanyl to the blue infusion line and propofol to the clear one; 14.3% connect them the opposite way round. 66.7% place their propofol syringe on top and 22.2% place remifentanyl on top.

28.6% always use pEEG and 42.9% use it only when neuromuscular blockade is administered. Peripheral nerve stimulators are used routinely by 32.1% and used sometimes by 35.7%.

All respondents have witnessed TIVA associated errors and 96.3% feel that standardising TIVA set-up could improve patient safety.

Conclusion:

Our data shows that whilst certain aspects of TIVA delivery display resounding consistency within our department, there are many areas that demonstrate heterogeneity. An overwhelming majority of respondents feel that standardising TIVA set-up could improve patient safety. Moving forwards, we will use the data collected to structure any future local TIVA training.

References:

1. Nimmo, A.F., Absalom, A.R., Bagshaw, O, et al. Guidelines for the safe practice of total intravenous anaesthesia. *Anaesthesia*, 74: 211-224. 2019

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Poster keywords

TIVA, Standardisation, Continuous Infusion, Anaesthesia, Patient safety

A review of pre-operative IV iron services in a district general hospital

Emily Watts, Rachel Folley, Emma O'Donovan, Nicholas Courtenay-Evans
Surrey and Sussex Healthcare NHS Trust, Redhill, United Kingdom

Abstract

Introduction:

Pre-operative anaemia is associated with increased 30-day morbidity and mortality¹. Nearly 40% of patients undergoing major surgery are anaemic pre-operatively², and the majority of these have iron deficiency anaemia (IDA). Correcting IDA pre-operatively with IV iron has been shown to be beneficial³ but requires time to increment haemoglobin levels.

The primary aim was to determine how many patients undergoing major surgery had a diagnosis of IDA, the proportion receiving pre-operative IV iron and the timeframe between IV iron infusion and surgery. Secondary aims included differences in pre and post-operative haemoglobin levels, blood transfusion rates and length of stay between IDA and non-IDA patients.

Method:

Using our hospital database, we identified patients for retrospective analysis. Those who underwent major surgery with expected blood loss >500mls between 1st November 2021 and 4th January 2022 were included. Full blood count and iron studies were used to determine pre and post-operative anaemia status. We analysed whether patients had been referred for IV iron, the time between referral and administration of IV iron and post-operative blood transfusion status.

Results:

59 patients were suitable for inclusion. 22 patients were eligible for IV iron and 18 of those received it preoperatively (82%). Average time between referral and receiving IV iron was 10 days, and average time from IV iron to surgery was only 13 days. Patients with IDA had a lower haemoglobin drop post-operatively (8.85g/L vs 19.6g/L), however were more likely to receive blood transfusion (6 patients with IDA vs 1 without) and had a greater length of stay.

Conclusion:

A large proportion of these patients underwent cancer surgery. Therefore there is a short timeframe between diagnosis of IDA and surgery giving them little time to respond to IV iron. The time from administering IV iron and undergoing surgery needs maximising. We propose the creation of a dedicated IV iron service for cancer patients with the aim to receive IV iron within 24-48hrs of referral.

References:

1. Musallam KM et al. Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study. *Lancet*. 378:1396–407. 2011
2. Fowler AJ et al. Meta-analysis of the association between preoperative anaemia and mortality after surgery. *British Journal of Surgery*. 102:1314–24. 2015
3. Abdelsalam M. Elhenawy et al. Role of preoperative intravenous iron therapy to correct anemia before major surgery: a systematic review and meta-analysis. *Systematic reviews*. 10:36. 2021

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Poster keywords

Iron, Transfusion, Haemoglobin

Hypoxaemia on the first day following major non-orthopaedic surgery is associated with a higher risk of postoperative pneumonia, ICU re/admission, reintubation, and death.

Claire Hackett^{1,2}, Ianthe Boden^{2,3,4}, Natasha Reid⁵, Peter Kruger^{1,5}, Linda Denehy^{2,6}

¹Princess Alexandra Hospital, Brisbane, Australia. ²University of Melbourne, Melbourne, Australia.

³Launceston General Hospital, Launceston, Australia. ⁴University of Tasmania, Launceston, Australia.

⁵University of Queensland, Brisbane, Australia. ⁶Peter Mc Callum Cancer Centre, Melbourne, Australia

Abstract

Introduction: Hypoxaemia following major surgery is common¹ and may detect atelectasis in the immediate postoperative period². However, the relationship is uncertain between hypoxaemia on the first postoperative day and poor clinical outcomes after surgery. If found to be an independent predictor of severe morbidity or mortality, clinicians may consider targeting additional management to patients with hypoxaemia on the first postoperative day. The aim of this study was to measure the association between hypoxaemia on the first postoperative day with pneumonia, ICU re/admission, reintubation and death following surgery.

Method: Patient-level data was evaluated from CHESTY (Chest infection prevalence after surgery(ANZCTR 12616001020471)): a prospective observational cohort study conducted at 34 centres in Australia, New Zealand, Sweden, Malaysia and Canada, over a minimum of one week up to a maximum of 12-months between May 2017 to December 2019. Eligible adults having major abdominal, cardiac, thoracic, neurological, spinal or ear nose and throat surgery were screened daily from day of surgery until the seventh postoperative day. Data was managed using REDCap®. Hypoxaemia was defined with a single peripheral pulse oximeter reading of oxyhaemoglobin saturation less than 90% on room air or the ratio of arterial partial pressure of oxygen to fraction of inspired oxygen less than 300. The incidence of hypoxaemia was calculated as a proportion of the total population. The association between hypoxaemia and postoperative outcomes was analysed using logistic regression, adjusted for significant univariate predictors of each outcome.

Results: Characteristics of the 4431 participants were age mean(SD) 62(15)years, median(IQR) body mass index 27(24-32), 60% were male and 44% had never smoked. Surgical characteristics were emergency (20%), open (77%) and abdominal (57%) incisions. Hypoxaemia on the first postoperative day was identified in 1390(31%) of participants. Compared to participants without hypoxaemia, those with hypoxaemia had a greater risk of pneumonia on postoperative day two to seven OR (95% CI) 2.3(1.6-3.1), reintubation OR 1.6(1.1-2.4), ICU re/admission OR 2.0(1.5-2.8), and in-hospital mortality OR 2.3(1.4-3.7).

Conclusion: On the first postoperative day, the presence of hypoxaemia identified patients at greater risk of severe postoperative complications, increased ICU re/admissions and in hospital mortality. Identifying patients with postoperative day one hypoxaemia may assist clinicians to identify patients where further preventative intervention is required. Further study is warranted.

References: ¹Sun, Z, et al. Anesthesia and Analgesia, 121(3):709-15.2015 ²Ferrando, C et al. BMJ Open, 7(5):e01556.2017

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Poster keywords

Hypoxaemia, Major surgery, Early warning sign, Pneumonia, Postoperative complications

Interprofessional education for promoting good perioperative care

Clementine Stubbs¹, Katie Ramm², Paul Hughes-Webb³

¹University Hospitals Birmingham, Birmingham, United Kingdom. ²University Hospitals Coventry and Warwickshire, Coventry, United Kingdom. ³South Warwickshire NHS Foundation Trust, Warwick, United Kingdom

Abstract

Introduction:

The traditional model of multidisciplinary healthcare can give rise to silo-working and prevent knowledge sharing between groups.¹ Different goals and cultures emerge; the team no longer works cohesively and misinformation is perpetuated. Interprofessional Education is essential in breaking down educational silos, with translation of shared learning into cohesive service delivery being key to the future of healthcare.²

This project began in South Warwickshire NHS Foundation Trust (SWFT) with a patient awaiting fixation of her fractured neck of femur. Ward staff were unaware of the importance of ensuring that Parkinson's disease medications were given, but certain of the importance of preoperative starvation. Discussion of this educational blind-spot with the perioperative lead for SWFT revealed further unmet learning needs amongst staff. This inspired a project to improve interprofessional knowledge of perioperative care.

Methods:

The online training system, Rise, was employed to create highly interactive content with eye-catching infographics, videos and drag and drop tests of knowledge. The course comprises 6 modules: perioperative fasting, venous thromboembolism, steroids and adrenocortical insufficiency, Diabetes Mellitus, Parkinson's Disease and Obstructive Sleep Apnoea. Content is informed by national and local guidelines. A post-course quiz highlights key learning. The course was designed to be accessible and acceptable to a variety of learners. Basic content is mandatory in order to progress, whilst advanced topics can be bypassed. Links to reference material affords the learner further knowledge if desired.

Results:

Data was collected by SWFT's eLearning Developer. The course was first accessed on 6th August 2020 and since then 173 users have engaged with the content.

Discussion:


Students, nurses and doctors of varying grades have accessed the course. 93% of learners passed the post-course quiz, which may indicate successful knowledge acquisition. Comprehensive feedback is required to ensure that learning needs are met, which the authors plan to obtain through the incentive of receiving a course completion certificate.

The use of an online education platform allows content to be regularly updated in line with the latest evidence. Another major advantage of this educational resource is that it is accessible to all hospital staff, promoting Interprofessional Education and beginning to reduce the knowledge silos that persist in perioperative care.

References:

1. Alves, João, and Raquel Meneses. "Silos mentality in healthcare services." 11th Annual Conference of the EuroMed Academy of Business. 2018.
2. World Health Organization. Framework for action on interprofessional education and collaborative practice. No. WHO/HRH/HPN/10.3. World Health Organization, 2010.

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Poster keywords

interprofessional education, eLearning, multidisciplinary, online learning, perioperative care

Rockwood Clinical Frailty Scale (CFS) and postoperative outcomes: a large retrospective multicentre cohort analysis

Martha Belete^{1,2,3}, Charles M Oliver^{4,3}, Ramani Moonesinghe^{4,3}

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Abstract

Introduction

The association between frailty and poor postoperative outcomes is well documented. However, with several tools validated to evaluate frailty, some of which are very complex, debate remains over which is most practically useful in perioperative medicine¹. The Clinical Frailty Score (CFS) is a simple 9-point scale with scores ≥ 4 indicating frailty. Our aim was to explore the association of CFS and short-term postoperative outcome in a large cohort having elective major non-cardiac surgery.

Methods

Data were provided by the Perioperative Quality Improvement Programme (PQIP; www.pqip.org.uk) PQIP is an ongoing prospective multi-centre observational cohort study of adults (≥ 18 years) having elective major non-cardiac surgery. All patients recruited between 01/03/2018 and 28/02/2020 were eligible for inclusion. Multilevel multivariable logistic regression models were constructed, to control for confounders and test the association of CFS with Clavien-Dindo grade $\geq II$ complications and day 7 POMS-major. Analysis of individuals under 65 years was also performed to investigate the impact of frailty in the younger population.

Results

In total, 21,484 patients were eligible for inclusion, of which 11,008 had a preoperative frailty score; of these, 86 were excluded because they withdrew from the study within 7 days of surgery. Multilevel multivariable analysis showed that increased CFS was associated with increased risk of Clavien-Dindo grade $\geq II$ complications and POMS-major including scores below the threshold for frailty (CFS < 4). ASA was an independent predictor of outcomes alongside CFS. Subgroup analysis showed that frailty (CFS ≥ 4) is associated with worse post-operative outcomes even in individuals under 65 years of age (table 1).

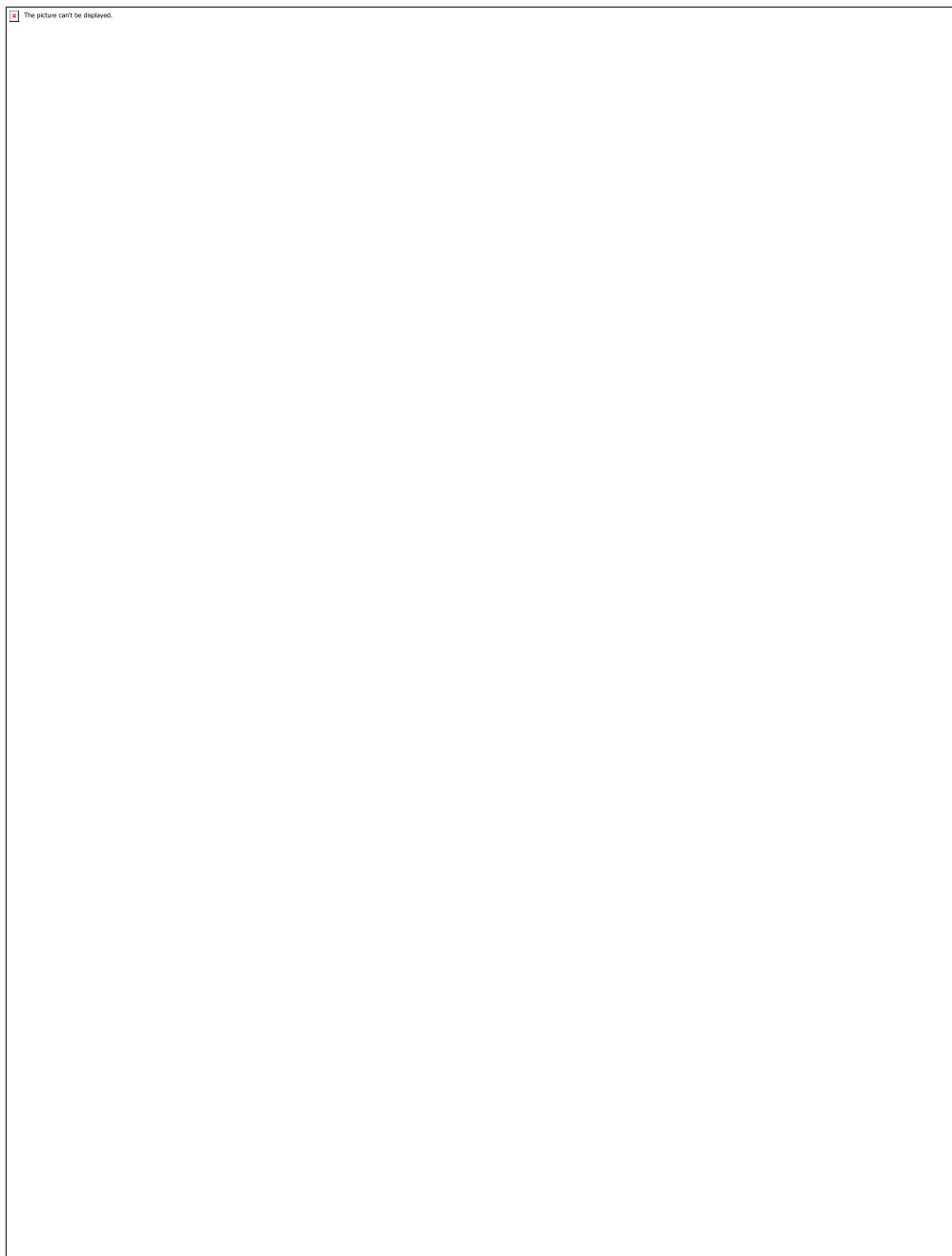
Conclusion

We believe this is the largest study using this 9-point CFS in the elective perioperative setting. We have confirmed that the CFS is a simple tool which is an independent predictor of adverse outcomes after surgery. Current UK guidance recommends that all patients over the age of 65 years and those younger at risk of frailty should be screened². Our results suggest that CFS assessment could be of value in all patients, regardless of age, who are scheduled for major elective surgery. Individuals with CFS ≥ 4 could benefit from targeted frailty interventions, and those over 65 years of age with CFS 2-3 may benefit from interventions to improve general fitness.

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Poster keywords

PQIP, Perioperative, Frailty, Morbidity, Complications

Non-pharmacological interventions to reduce or prevent post-operative delirium

Lucy Stephenson¹, Nicole Singh-Clark², George Guy³, Zueb Jiwaji¹, Michael Gillies¹

¹University of Edinburgh, Edinburgh, United Kingdom. ²NHS Lothian, Edinburgh, United Kingdom. ³ICU Steps, Edinburgh, United Kingdom

Abstract

Introduction

Post-operative delirium (POD) is common (1). Risk factors include increasing age (2), major surgery and ICU admission. POD increases negative patient-centred outcomes including mortality (3). It also causes distress for patients and relatives (4), and significantly increases costs (5).

Pharmacological interventions to prevent delirium have been extensively reviewed, but uncertainty remains regarding non-pharmacological methods. We undertook a systematic review and meta-analysis of non-pharmacological interventions to prevent or reduce POD and evaluate the evidence for their use.

Methods

The full search strategy is available via PROSPERO (CRD42022302435) and follows the PRISMA standards for conducting systematic reviews. Inclusion and exclusion criteria are outlined within the table.

The literature search was performed by two independent investigators (LS, NSC) with adjudication as needed (ZJ, MG). RevMan v5.4 (The Cochrane Collaboration, 2020) was used to perform the meta-analysis. The primary outcome was POD as defined by the study author using any measurement of POD development.

Results

The search identified 1130 texts with a total of 22 texts included in the review. Interventions were grouped into five main categories: cognitive training tools, patient education, acupuncture, psychological interventions and care bundles.

Sixteen papers were included in a meta-analysis. For the primary outcome, incidence of POD, data was available for 2401 patients and is shown in the forest plot. Of the 1200 patients who received an intervention 253 (21%) developed delirium. This compared to 385 of the 1201 patients (32%) in a control group. This reduction was statistically significant ($p < 0.00001$; I², 29%; REM: OR, 0.52; 95% CI, 0.41-0.66).

The only secondary outcome studied by meta-analysis was length of stay. 7 studies were included with data available for 1454 patients. No significant difference between the groups was observed ($p=0.92$; I^2 , 93%; REM: Mean Difference, 0.05; 95% CI -1.09-1.20).

A subgroup analysis was performed for both pre-operative interventions and care bundle style interventions. A statistically significant reduction in POD was demonstrated for both subgroups of non-pharmacological interventions.

The overall quality of the studies included in the review however was low.

Conclusions

The results suggest that non-pharmacological interventions are effective in reducing the incidence of POD. However, further research is necessary.

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Poster keywords

post-operative delirium, systematic review, non-pharmacological, delirium

Adaptations and outcomes of off-site major elective surgery during the COVID-19 pandemic.

Adam Coates, Rhys Lewis

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Abstract

Introduction:

The Covid-19 pandemic placed unprecedented strain on NHS resources, with even cancer surgery being delayed, initially indefinitely. The anaesthetic and surgical teams at UHS swiftly responded, risk assessed and modified existing pathways to allow major elective surgery to continue at a local independent hospital. Anaesthetic preoperative telephone assessment replaced face to face consultation. Pre-lockdown, selected patients had already undergone CPET; however during the pandemic, CPET was limited so all patients were screened by an anaesthetic consultant for suitability for off-site surgery. This was especially pertinent as many operations had to be open due to the concerns that laparoscopic surgery may be a significant aerosol generating procedure. Multidisciplinary NHS resources were redeployed to support the independent sector, including 24 hour junior doctor cover, pain team services, dietician and interventional radiology.

Method:

This was a retrospective cohort analysis from March 2020 to March 2021 of major urological, colorectal and hepatobiliary surgery delivered at an independent hospital in Southampton.

Results:

227 operations were performed. 31% (n=70) of these patients had an anaerobic threshold of <11mls/kg/min. Length of stay (LoS) was reduced, compared to national data bases - for example the British Association of Urological Surgeons national registry has a median LoS for cystectomy of 10 days, laparoscopic nephrectomy of 3 days and open nephrectomy of 6 days; our results show 5, 2 and 5 days respectively. Across all specialities 30 day mortality was zero.

Conclusion:

Rapid adaptations were made to perioperative pathways in response to the COVID-19 pandemic to facilitate off-site surgery. This achieved minimal interruptions to delivery of major urology, colorectal

and hepatobiliary surgery, whilst maintaining safety and quality as judged by length of stay and 30 day mortality.


References:

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Poster keywords

elective surgery, COVID, perioperative pathways

Facilitators to promote DrEaMing (Drinking, Eating and Mobilising at 24 hours post-surgery): Clinician and patient perspectives

Eleanor Warwick^{1,2,3}, Georgina Singleton^{2,3}, Pauline Elliott⁴, Robert Dudgeon⁴, Louise Trewern⁴, Jason Williams-James⁴, Ramani Moonesinghe^{1,2,3}

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Abstract

Introduction:

DrEaMing is associated with a reduced length of perioperative stay and postoperative complications [1],[2]. This is not only, key for patients' recovery [3] but crucial in aiding with efficiency when addressing the surgical backlog. DrEaMing is now approved as a CQUIN (Commissioning for quality and innovation scheme) by NHS England. To ensure DrEaMing becomes embedded in practice, it is important to understand facilitators to implementation and share ideas surrounding best practice, locally and nationally.

Methods:

Clinician opinions were sought through semi-structured interviews across eight Perioperative Quality Improvement Programme sites between May and July 2021. Patient input was sought by means of a focus group with the Royal College of Anaesthetists lay committee. The interviews and focus group were transcribed and analysed qualitatively for themes.

Results:

Clinician interviews and the focus group identified key themes that facilitated DrEaMing. (Table 1). These can be categorised into staff related, organisational and patient related factors.

Table 1: Clinician and patient perceived facilitators to DrEaMing

There was overlap between patient and clinician perceived facilitators to DrEaMing with effective, early communication playing a central role. Patients felt most empowered to DrEaM when they were cared for by an MDT with shared priorities and effective communication between each other and the patient.

Conclusions:

DrEaMing initiatives can be facilitated by patients and clinicians working collaboratively within the MDT and wider organisation (Figure 1). This is a dynamic process, driven by clinicians, patients, the

organisation or most effectively, all three together. To enable patient engagement clinicians must communicate with patients early, clearly and consistently throughout their perioperative journey, this is crucial to harness the powerful role that patients can play in facilitating DrEaMing. Organisations that display a culture of teamwork, have local champions and who educate and empower patients to be involved in their perioperative care are best positioned to deliver DrEaMing initiatives. DrEaMing should become standard care; implementation in a patient centred way with clinician, organisational and patient buy in is likely to be the most successful way to achieve this.

Figure 1: Drivers of Implementation: Staff, patient and organisational factors all integrally linked

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Poster keywords

MDT, Communication, Patient centred, DrEaMing, Shared practice

Optimisation of pre-operative iron deficiency anaemia in colorectal cancer patients: are we missing an opportunity?

Amy Brown, Manfred Staber

Inverclyde Royal Infirmary, Greenock, United Kingdom

Abstract

Introduction

Iron deficiency anaemia is present in 11-57% of colorectal cancer cases and is linked to higher rates of peri-operative blood transfusion, morbidity and mortality¹. NICE recommends all patients with microcytic anaemia should have a ferritin level to investigate for iron deficiency². It is potentially treatable with oral iron which can raise haemoglobin (Hb) by >10g/L in 2 weeks³.

Our first objective was to identify the local incidence of microcytic anaemia in patients undergoing elective surgery for colorectal cancer. We then conducted an audit to evaluate our current practice for managing pre-operative iron deficiency in this group.

Methods

We retrospectively identified 33 patients who underwent colorectal cancer surgery between May 2021 and March 2022. We identified patients with microcytic anaemia using NICE criteria: Hb <130g/L for men, Hb <120g/L for women, MCV <95fL. Using patient notes we recorded: date of surgery, earliest Hb in the pre-operative period, Hb prior to surgery, ferritin level and iron prescriptions in an Excel[®] spreadsheet for analysis.

We defined the 'pre-operative period' as the date of first referral with suspected cancer to the date of surgery. Two patients were established on iron when referred and were excluded.

Results

12 (38.71%) of colorectal cancer surgery patients had microcytic anaemia pre-operatively. Of these 12, 66.67% (n=8) had a ferritin level checked. Seven patients had confirmed iron deficiency (ferritin < 30 mcg/L). Of the iron deficient patients, seven (100%) commenced iron prior to surgery.

The results suggest that treatment appears satisfactory, however, we fail to screen for iron deficiency when indicated in one third of cases.

Conclusion


We conclude that cases of iron deficiency in patients undergoing elective resection for colorectal cancer may be overlooked due to an inadequate screening process. We may be missing an opportunity to optimise Hb prior to surgery.

In response, a local anaemia guideline and clinic is to be introduced as part of the pre-operative management of colorectal cancer patients. We will re-audit the results of our interventions in 2023.

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Poster keywords

anaemia , iron , colorectal, cancer, surgery

Predicting peri-operative blood transfusion in patients undergoing cholecystectomy: a retrospective cohort study

Lawrence O'Leary, William Sherwood, Michael Fadel, Musa Barkeji
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Abstract

Introduction

Group and save (G&S) testing is commonly performed prior to cholecystectomy as part of the pre-operative assessment [1-2]. Growing evidence favours a more targeted approach to avoid unnecessary investigations and operative delays [3-5]. In this retrospective cohort study, we explored pre-operative risk factors that predict intra- and post-operative blood transfusion.

Methods

Health records of 453 patients (aged ≥ 18 years) who underwent laparoscopic/ open cholecystectomy in a single, acute London NHS trust were assessed for transfusion of red blood cells up to 30 days post-operatively. Requirement for transfusion was compared to patient demographics, co-morbidities, indication and urgency of cholecystectomy, and number of prior emergency hospital attendances with gallstone complications. Binomial logistic regression was used to determine whether prior emergency attendances independently predicted the need for transfusion. A receiver operating characteristic (ROC) curve was drawn to further assess this association.

Results

Five of 453 patients (1.1%) received a blood transfusion within 30 days of operation. All patients who received a blood transfusion were laparoscopic (100% vs. 99.1%) and four were elective (80% vs. 82.1%). They had a higher ASA grade of ≥ 3 ($p < 0.001$), were more likely to have a primary haematological malignancy (20.0% vs. 0.2%; $p < 0.001$) and had more prior emergency hospital attendances with gallstone complications (median 4 vs. 1; $p < 0.001$). Logistic regression showed each prior emergency hospital attendance increased odds of a transfusion by 4.6 ($p = 0.019$). ROC curve analysis showed an area under the curve of 0.92. Two or more attendances predicted need for blood transfusion with 80.0% sensitivity and 89.7% specificity. None required emergency O negative blood intra-operatively or post-operatively.

Conclusions

Frequency of prior emergency hospital attendances with gallstone complications, ASA grade and co-morbidities associated with coagulopathies could help guide clinicians in identifying which patients may require a post-operative blood transfusion following cholecystectomy. A more selective approach to performing G&S samples pre-operatively could be safe and avoid the wastage of resources.

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Poster keywords

Cholecystectomy, Laparoscopic cholecystectomy, Blood transfusion, Group and save, Pre-operative assessment

Evaluation of the performance of the pre-assessment clinic in the identification and management of pre-operative anaemia

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Abstract

Introduction

An international consensus statement recommends the identification, investigation, and treatment of pre-operative anaemia in patients undergoing surgical procedures with expected moderate to high blood loss¹. We set out to gain a snapshot of the current performance of the anaesthetic pre-assessment process in relation to local pre-operative anaemia pathways and the international consensus statement.

Methods

Patients who had undergone relevant surgical procedures were identified by examining recent entries onto the PQIP database, as well as patients admitted to the Post Anaesthesia Care Unit. Their historical blood results were reviewed until 10 patients were identified whose results showed they had been anaemic within the 6 months prior to surgery. The case notes of these patients were then scrutinised to identify any further haematological investigation, and the nature of any treatment given.

Results

Ten patients were identified who had been anaemic as defined by local pathways (haemoglobin <130 g.L⁻¹ for men, <115 g.L⁻¹ for women). All had haematinic parameters suggesting this was due to iron deficiency. Six patients had received pre-operative intravenous iron infusions, three of which were arranged by the pre-assessment clinic, and three had already been organised by either the surgeon or the patient's GP. Two patients were taking oral iron by the time of their pre-assessment appointment. One patient received an intra-operative iron infusion as their pre-assessment clinic appointment was so close to the date of surgery. The remaining patient, with a haemoglobin of 127 g.L⁻¹, was noted at pre-assessment to be anaemic, but not treated on the advice of a consultant anaesthetist.

An additional 6 female patients were identified with haemoglobins between 115 g.L⁻¹ and 130 g.L⁻¹. Four had haematinics suggestive of iron deficiency, whilst two had no further investigation. Only one was on oral iron pre-operatively.

Conclusion

The pre-assessment process is working well to identify those patients who would benefit from iron pre-operatively as per local guidelines. However, the international consensus statement recommends haemoglobin thresholds of 130g.L^{-1} for both sexes in the pre-operative context. In addition, this audit identified several female patients with iron deficiency who were possibly not considered for treatment as their haemoglobin was greater than 115g.L^{-1} . This suggests that it may be beneficial for local guidelines to be brought into line with the international consensus statement.

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Poster keywords

pre-operative anaemia, pre-assessment clinic, iron deficiency, ferritin

Preoperative metabolic inflexibility is associated with the development of postoperative morbidity after radical cystectomy

Nicholas Tetlow^{1,2,3}, Amy Dewar^{1,2,3}, Alistair Sleeman³, Nicholas Yu³, Krishna Vinnakota³, Pietro Arina^{4,5,3}, Salomeja Aliukaite^{1,2,3}, Sam Clark^{4,3}, Nish Arulkumaran^{4,5,3}, Melanie Tan¹, Ashwin Sridhar⁶, John D. Kelly^{6,2}, Daniel S. Martin^{7,2}, Ramani Moonesinghe^{1,8}, Robert CM. Stephens^{1,2}, John Whittle^{1,4,3}

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Abstract

INTRODUCTION:

Mechanisms underlying the development of postoperative complications remain underexplored. Although low aerobic fitness is associated with perioperative morbidity, the mechanisms underlying this association are unclear. One explanation implies underlying cardiac limitation causing reduced perioperative oxygen delivery. Emerging evidence indicates that in deconditioned individuals mitochondrial VO₂ is more predictive of exercise capacity than cardiac output, implying peripheral rather than central limitation(1). This peripheral limitation is associated with metabolic inflexibility, i.e. the inability to respond or adapt to conditional changes in metabolic demand through appropriate substrate selection and regulation. This novel candidate mechanism may underlie the development of postoperative morbidity. We hypothesise that metabolic inflexibility is associated with the development of postoperative morbidity.

METHODS:

Between June 2020 & December 2021 we prospectively collected preoperative CPET data in patients who subsequently underwent radical cystectomy. CPET was performed in accordance with guidelines. Substrate utilisation rates for lipid (FATox) and glucose (CHOox) were derived in g/min from respired gases(2). Postoperative Morbidity Survey (POMS) data, routinely collected at UCLH, was analysed in reference to CPET-derived metabolic flexibility markers. We defined morbidity as presence or absence of POMS and/or discharge from hospital on day 7. Significance was set at p<0.05. All analyses were performed using GraphPad Prism (9.3.1). P-values were obtained using unpaired t-test, Mann-Whitney, Chi squared or Fisher's exact tests. Non-linear regression was used to interpolate and fit a standard curve.

RESULTS:

One-hundred and seven patients underwent CPET and subsequent cystectomy. Demographics for patients with or without postoperative morbidity is presented in Table 1. No differences in commonly-derived CPET variables between groups existed, except for the V_E/VCO_2 slope.

Higher median FATox was observed for patients without morbidity [0.165g/min (0.136-0.195)] versus any morbidity [0.113g/min (0.094-0.141)]; $p < 0.0001$. Higher median CHOox was observed for patients without morbidity [1.158g/min (1.004-1.358)] versus any morbidity [0.994g/min (0.887-1.159)]; $p < 0.0001$.

CONCLUSION:

Metabolic inflexibility, representing impaired substrate utilisation, defined using CPET was observed in patients who developed postoperative morbidity. This may be a candidate mechanism for the development of postoperative morbidity. Further research is required to describe mechanisms underlying this relationship, providing opportunities for targeted interventions, including exercise, diet and pharmacotherapy.

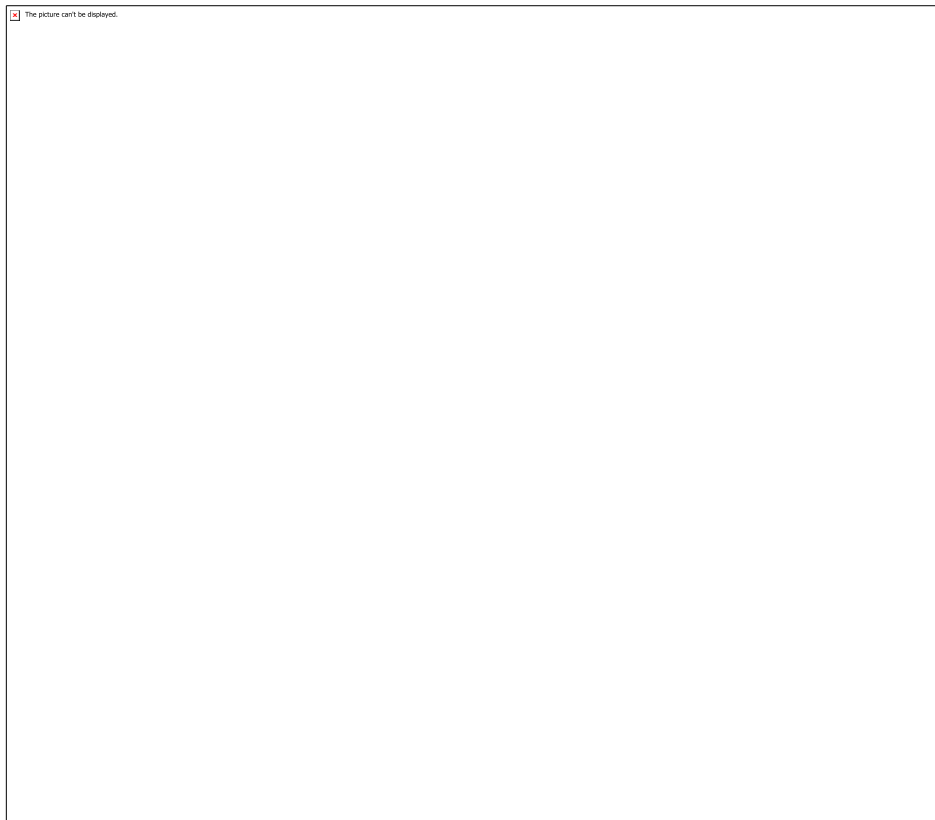
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Poster keywords

CPET, Radical Cystectomy, Substrate Utilisation, Morbidity, Metabolic Inflexibility

Online simulation training for specialty recruitment interviews: a pilot project

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¹University College Hospital London, London, United Kingdom. ²Lewisham University Hospital, London, United Kingdom

Abstract

Introduction

Simulation training is well established in medical education[1]. Uses include clinical scenarios and practical examinations. The ICU junior resident rota at University College London Hospital (UCLH) is staffed mostly by junior clinical fellows (non-training doctors), many of whom subsequently enter specialty training in anaesthesia and internal medicine. We offered interview simulation practice to junior clinical fellows in ICU at UCLH to help them prepare for forthcoming specialty recruitment interviews.

Methods

Interviews were structured according to published recruitment guidance[2,3], and conducted over Zoom (premium version), by pairs of doctors working in that specialty (mostly trainees and consultants at UCLH). Sample questions and clinical scenarios were provided, based on questions asked in recent recruitment rounds. Brief verbal feedback was given at the end of the interview. A short introductory talk was also provided to give general advice on interview preparation. No charge was made for the course. Anonymous written feedback was sought (via Google forms) after the course, to assess candidate and faculty satisfaction, and again after recruitment results were released, to measure interview success and seek qualitative suggestions on adjustments to future courses.

Results

Of 12 interview slots offered and accepted, 11 candidates attended. 11/11 found the experience very helpful. Further follow up surveys were completed by 8/11, of whom 75% (6/8) were offered training posts. This compares to a national success rate of 28% (566/2046) for core anaesthetic training in 2021[4].


Conclusions

The course ran smoothly, and was well-received by candidates and faculty. Our candidates' success rates were higher than recent national averages. We anticipate there will continue to be demand for this type of course, especially with a recruitment backlog. Future courses will be modified according to candidate feedback and Royal college guidance. Making a small charge for the course would cover costs (Zoom subscription), and might make candidate non-attendance less likely. Recruitment to non-training junior ICU posts can be challenging - courses such as ours could form part of a broader departmental approach to addressing this.

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Poster keywords

specialty recruitment, simulation training, interview

Peri-operative management of patients with diabetes in Cork University Hospital.

Aisling Mc Cann, Niamh McAuliffe
Cork University Hospital, Cork, Ireland

Abstract

Introduction

Diabetic patients undergoing surgery have increased risk of complication and mortality. Hyperglycaemia in the peri-operative period contributes to peri-operative morbidity and postoperative complication. Hospitals set out guidelines on how to best manage diabetic patients undergoing surgery to optimise their outcome. This study aims to evaluate whether guideline targets set by Cork University Hospital were being achieved and identify areas of improvement that can be made.

Guidelines state that capillary blood glucose should be between 6 and 10mmol/L, oral hypoglycaemic medications should be held the day of surgery and that diabetic control should be assessed prior to surgery, including measuring HbA1c¹.

Method

A prospective clinical audit of diabetic patients undergoing surgery in Cork University Hospital between 28th of February 2022 and 22nd of March 2022 was conducted. Clinical data was collected from the pre-assessment clinic notes and peri-operative nursing care plan in the patient's chart. Patient's serum HbA1c was obtained from hospital information systems. The hospital guidelines used were CUH "Guidelines for the peri-procedural management of adult patients with diabetes"¹.

Results

Of 13 diabetic patients with a mean age of 62.8 (range 19-74), 12 were type 2 and one was type 1 diabetes mellitus. Blood glucose in recovery was measured in 12 of 13 patients (12/13; 92.3%). First blood glucose measured in recovery was a mean of 8.3 mmol/L (SD 2.51; range 3.6-13.3), the guideline target for blood glucose was achieved in 9 patients (9/12; 75%). Oral hypoglycaemic medications were prescribed to 9 patients, and 8 patients held their oral hypoglycaemic medication the day of surgery

(8/9; 89%) as per the guidelines. HbA1c was measured in 8 patients (8/13; 61.5%), with a mean of 59.2mmol/mol (range 46-75).

Conclusion

This study demonstrates current practice compared to hospital peri-operative guidelines for diabetic patients, and highlights areas for improvement. Measurement of HbA1c prior to surgery was not obtained in 5 of 13 patients and therefore could be improved. Flagging diabetic patients pre-operative could facilitate preoperative optimisation and aid with management of diabetic patients. This would also improve future studies as it could improve the number of diabetic patients included in studies.

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Poster keywords

Blood glucose, HbA1c, Post-operative

Identification, management and outcomes of acute kidney injury among emergency general surgical admissions

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Royal Devon University Healthcare NHS Foundation Trust, Exeter, United Kingdom

Abstract

Introduction:

Peri-operative acute kidney injury (AKI) is associated with significant short- and long-term morbidity, mortality and poor processes of care (1). Despite recent reports outlining key recommendations for emergency surgical care, particularly for those living with frailty (2,3), AKI data among emergency general surgery (EGS) admissions is poorly reported.

We outline a novel comprehensive analysis of AKI among all local EGS admissions in January 2022, providing baseline measurements for a future quality improvement project (QIP).

Methods:

We retrospectively assessed all EGS admissions during January 2022 (n=559). Admission details were acquired from routine hospital admission statistics. Basic demographics, clinical information and investigation results were obtained from pre-collected data within the trust's electronic patient record.

Demographic and outcome data were compared between EGS patients both with (n=45) and without (n=514) AKI during admission using standard statistical analyses. Further assessment of all AKI included evaluation of onset, key clinical process measures, associated specialty referrals and adverse outcomes.

Results:

AKI occurred in 8.1% of admissions. Gender representation was similar between patients with and without AKI (males: 20, 44.4%; 260, 50.6% respectively). However, patients with AKI were older (mean age, years: AKI, 74.4; non-AKI, 59.0, $p < 0.05$), experienced greater length of stay (days, mean \pm SD: AKI, 14.3 \pm 13.0; non-AKI, 3.5 \pm 5.5) and suffered higher mortality at discharge (AKI, 8, 17.8%; non-AKI, 5, 1.0%). Most AKI occurred early during admission, with only 28.9% developing hospital-acquired AKI, and 9 cases (20%) followed recent surgery. Although AKI was often mild, key aspects of AKI management were often inadequate and associated with poor clinical outcomes (Table 1).

Conclusion:

To-date, this is the most comprehensive evaluation of AKI among EGS admissions. Key performance measures were often omitted or delayed for effective AKI management and patients with AKI subsequently experienced worse outcomes. We will now implement interventions to augment early identification and management of AKI among EGS patients within a local QIP.

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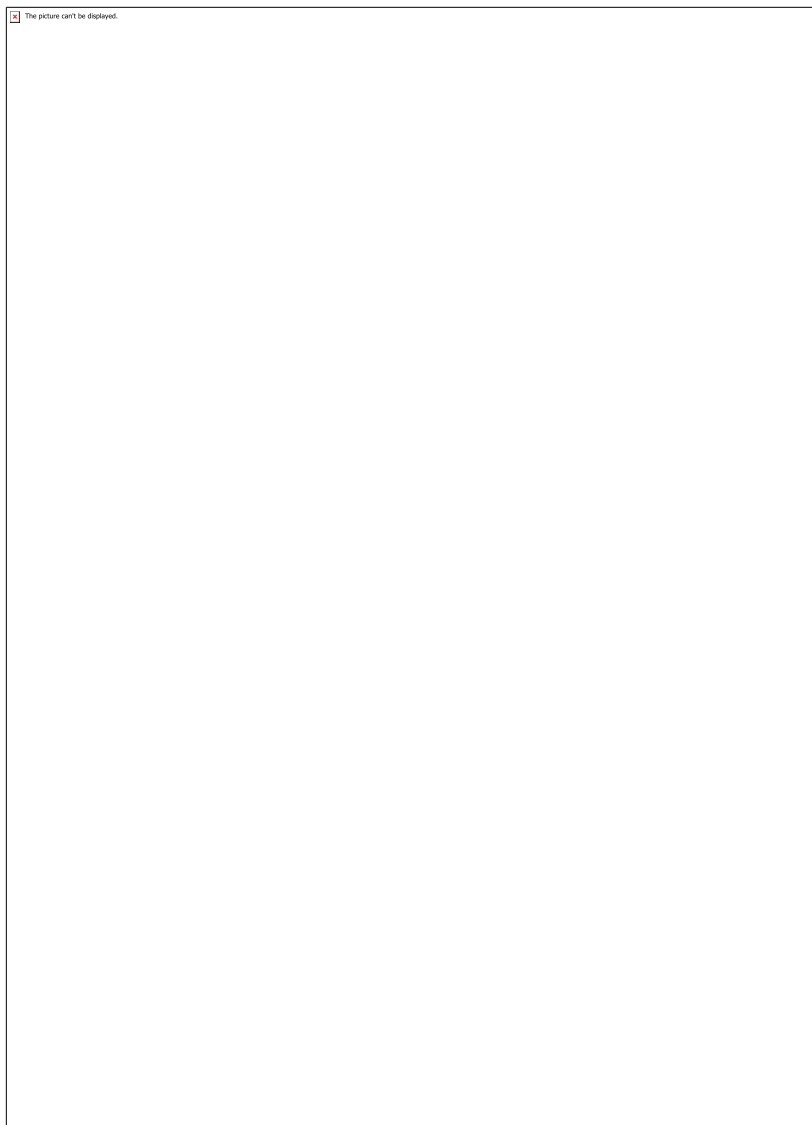


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Poster keywords

Acute kidney injury, Quality improvement, Emergency general surgery

Assessment of the impact of hospital capacity strain on the outcome of patients having emergency laparotomy.

Amit Deshmukh, Daniel Stubbs, Katharina Kohler, Ram Adapa, Petrus Fourie
Cambridge University Hospitals, Cambridge, United Kingdom

Abstract

Introduction: The UK National Emergency laparotomy audit (NELA) started in 2013[1] and comprises a major category of high-risk surgical patients. The NELA score which is used for clinical stratification and planning, has shown high discriminative power. This score includes patient and peri-operative care factors, but excludes hospital capacity strain factors such as bed capacity, emergency department activity and nursing workload or inpatient acuity.

Objectives: The aim was to investigate the effect of strain factors on the outcomes and resource usage of emergency laparotomy patients. The primary outcome was 60-day-mortality and the secondary outcome was length of stay.

Materials and methods:

This was a single-centre study at a tertiary teaching hospital in the U.K. Patient data was extracted from the local NELA database. Hospital strain factors were collected via the operational reporting tool and collated together with acuity measures from a concurrent peri-operative study. The strain and acuity parameters were normalized using z-scoring and matched to the NELA patient data by day of surgery and split into pre- and intra-pandemic time periods (pre-pandemic was set before 01/04/2020). The effect of the strain factors on the length of stay of patients was assessed on each day during the first 7 days of their admission. The data was processed in the statistical programme R[2]. Multi-variable logistic regression was used to build cox regression models to determine if stress factors improved the discriminative accuracy of the NELA score. Strength of the models was determined by p values of the individual factors, the ROC curves and concordance values.

Results:

Inclusion of the strain factors in the NELA model, during or before covid, did not improve it's performance. Although capacity strain factors like mean missing NEWS and Z score median had a significant association with the length of stay, their inclusion in a predictive model resulted in poor

concordance. Capacity strain factors had an increasingly significant relationship with the length of stay as it approached day 7.

Conclusions:

Effect of hospital strain factors on mortality of NELA patients is minimal. There is a scope for further research in predictive modelling for length of stay including hospital strain factors.

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Poster keywords

laparotomy, predictive modelling, hospital capacity stress, logistic regression, NELA

Transitioning from paper based to electronic ICU documentation - a Quality Improvement Project

Hadia Farooq, Chloe Baker, Charlotte Tai
Barts Health NHS Trust, London, United Kingdom

Abstract

Introduction

The aim of this quality improvement project (QIP) was to improve the quality and standards of our electronic ICU daily review documentation.

Due to the pandemic, our critical care unit underwent an unplanned transition from paper based ward round (WR) documentation to electronic WR documentation. Due to the unexpected and swift transition there was no standardised electronic format for trainees to follow. We noted that the detail and quality of trainees' freetext electronic documentation was extremely variable.

The daily review entry is a key facet of patient care. It should provide details of current issues, daily examination findings, ceilings of care, prompt reviews of critical care bundles, and medical plans.

Methods

The ICU daily review entries were audited against a minimum expected dataset. As there are no national guidelines on what is considered a minimum dataset, consultant consensus was obtained on an expected dataset that should be included in every daily review entry by trainees. The QIP cycles were as follows:

STEP 1: Audit of 30 'freetext' electronic daily reviews.

STEP 2: INTERVENTION 1: Creation and introduction of a pre-configured electronic 'Critical Care Daily Proforma' on the electronic patient record system.

STEP 3: Re-audit 30 daily reviews after electronic proforma introduction.

STEP 4: INTERVENTION 2: Anonymous survey sent out – trainee feedback led to creation of a more user-friendly format; streamlined number of data entry parameters; removed need to transcribe individual blood results.

STEP 5: Re-audit 30 daily reviews.

Measurements:

The following systems based areas were included, with the datasets in each area combining to give a total of 70 datasets:

- Patient overview (day on ICU, examining doctor, ICU consultant, parent team, resus status, reason for admission, current problems, background, notable investigations)
- Airway, respiratory, cardiovascular, neurological, gastroenterology, renal, haematology, microbiology, daily checks and bundles

Results

As figure 1 demonstrates we saw a significant global improvement in the documentation of datasets across all systems following the implementation of our electronic proforma.

Further smaller improvements were obtained following adjustments in accordance with trainee feedback.

Conclusions


Introduction of our electronic proforma led to significant improvements in the critical care daily review documentation standards across all system's datasets.

Ascertaining trainee feedback and input into the proforma through the 2nd QIP cycle helped to improve documentation standards further and improve user functionality.

Further work / suggestions:

Utilise trainee induction to highlight the remaining less well documented areas (neuro and micro) and their importance. This could include aide memoires on the electronic proforma e.g. details of how to assess CAM ICU and Riker scoring.

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Poster keywords

intensive care, critical care, paperless, documentation, quality improvement

An audit of airway practices used during RSI in covid positive patients.

Rachel O'Connell, Carolyn Hayes, Sinead Ahearn
Cork University Hospital, Co Cork, Ireland

Abstract

Introduction: The anaesthesiologist is tasked with minimising the risk to all staff present during a rapid sequence intubation. The importance of maintaining a leak proof seal preventing the spread of aerosolised particles during rapid sequence intubation is critical [3]. The audit examined the hand grip used to open the airway, ensuring adequate oxygenation, in the covid positive patient. Guidelines recommend a two person approach (One handling the airway with a second available to bag ventilated if needed). The VE grip is recommended (See Fig.1). This grip optimises the likelihood of a complete seal while effectively opening the airway [1].

Methods: This audit examined the practice of 38 Doctors in training working in a Level One University Hospital in Ireland. The goal of the audit was to measure the practice of Anaesthetic trainees when delivering anaesthesia to covid positive patients, comparing it with current guidelines. The areas of practice examined were hand grip type (CE versus VE) and whether a one or two handed grip was applied. NCHDs were sent a short form asking them to report their practices based on their experiences intubating covid positive patients.

Results: 0/38 NCHDs surveyed chose VE grip as their hand grip of choice in the covid positive patient. 100% of trainees indicated that they use a CE grip with 78.5% of those respondents used one hand to hold the mask.

Conclusion: Rates of occupational exposure to Covid 19 remain high with significant consequences for staff absences, resulting shortages, and the impact on service provision [2]. Many recommendations were made early on in the pandemic which emphasised the safety of staff and patients, and it is clear that this practice had not been adopted by Doctors in training. One might surmise that doctors have continued to use the grip that they are most proficient in, and this is the safest practice.


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Poster keywords

audit, airway practices, RSI, COVID

Intraoperative normal saline administration and acute kidney injury in patients undergoing liver transplantation: a retrospective cohort study

Ji-Yoon Jung, Hyeyeon Cho, Seong-Mi Yang, Ho-Jin Lee, Won Ho Kim

Seoul National University Hospital, Seoul National University College of Medicine, Seoul, Korea, Republic of

Abstract

Introduction: We investigated whether the greater amount of normal saline administered during liver transplantation is associated with the increased risk of acute kidney injury (AKI) compared to the balanced crystalloids.

Methods: A total of 1440 cases undergoing living or deceased donor liver transplantation were reviewed. The primary exposure was normal saline administered intraoperatively compared to the balanced crystalloid. To compare the risk of AKI after adjusting for potential confounders of baseline characteristics and surgical parameters, a propensity score analysis was performed. Ordinal logistic regression analysis was performed for AKI using inverse probability of treatment weighting (IPTW).

Results: The incidence of AKI in the balanced group (n=198/473, 41.9%) was not significantly different from that in the saline group (n=328/744, 44.1%). The incidence was not significantly different after propensity score matching. However, the incidence of stage 2 or 3 AKI was significantly higher in the saline group (n=11/68, 16.9%) than in the balanced group (n=6/68, 8.9%) after matching (p=0.030). Length of hospital stay was significantly longer in the saline group compared to the balanced group after matching. Ordinal logistic regression analysis using IPTW showed that saline group showed a significant association of saline administration with the risk of AKI of stage 2 or 3 (odds ratio 1.36, 95% CI 1.08-1.67, p<0.001).

Conclusion: Our propensity score analysis using propensity score matching and IPTW showed that normal saline administration during liver transplantation is associated with high risk of postoperative AKI of higher stages and longer hospital stay.

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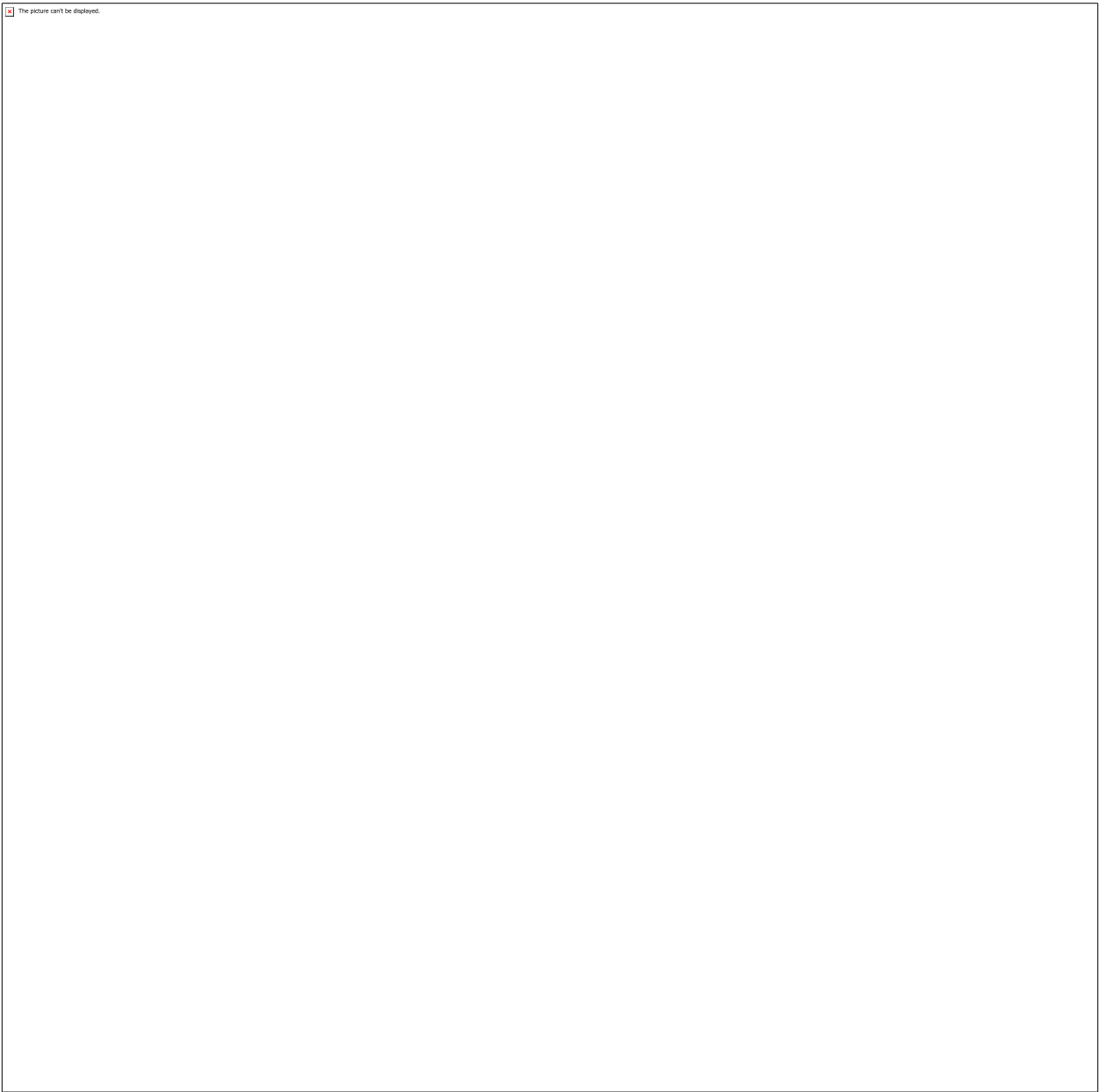



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Poster keywords

liver transplantation, normal saline, crystalloid, early allograft dysfunction, acute kidney injury

The MILE programme: Effects of multimodal prehabilitation on functional capacity, physical fitness and quality of life prior to major surgery

Andreas Mirallais¹, [Frederick Dewey](#)¹, Nicola Bowman¹, Louisa Shovel²

¹UCL, London, United Kingdom. ²Royal Free Hospital, London, United Kingdom

Abstract

Introduction

Prehabilitation prepares patients for surgery, expedites recovery¹, and promotes positive lifestyle habits¹. MILE (My Integrated Life and Exercise) is a well-established multi-centre prehabilitation programme which has demonstrated trends of reduced clinical frailty and improved physical fitness and activity². At The Royal Free Hospital, preoperative patients enrolled onto the MILE programme are offered regular online group exercise classes, receive phone-based mentorship, dietetic education sessions, one-to-one dietetic assessments and interventions, if required. The study objective was to understand the effect of the online MILE group programme exercise component on patients' functional capacity, physical fitness and quality of life.

Methods

We measured the following well-validated indicators: the Duke Activity Status Index³ (DASI), EuroQol-5D⁴ (EQ-5D) and 30-second sit-to-stand test (STS) before (PRE) and after (POST) prehabilitation. A subgroup of 43 MILE patients enrolled between October 2020 and April 2022 were categorised by number of exercise classes attended (Group A_(n=12)=0 classes, Group B_(n=17)=1-2 classes, Group C_(n=14)≥3 classes) and standardised for other prehabilitation modalities. Paired t-tests compared PRE and POST metrics within each of the three groups for DASI, EQ-5D and 30s STS. Repeated-measures ANOVA compared between the three groups to determine statistically significant changes.

Results

Our analysis demonstrated statistically significant improvement in the DASI score of patients who participated in group exercise classes, which was not seen in patients who did not. Improvements were seen within groups, and between the groups (Figure1). The EQ-5D and STS scores showed improvement within all groups which may be attributed to other beneficial MILE inputs (Table1).

Conclusion

Participation in MILE prehabilitation online exercise classes resulted in improved DASI score as a measure of functional capacity. This is encouraging as increased functional capacity is associated with improved surgical outcomes³. Future work will look at whether other MILE interventions result in improved physical activity level (STS) and reduced clinical frailty (EQ-5D).

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Poster keywords

Prehabilitation, Online exercise classes, Surgical outcomes, Patient reported outcome measures, MILE Programme

Improving the experience of the birth partners of women undergoing elective caesarean section - a quality improvement project

Hadia Farooq, Laura Elgie, Dharshini Radhakrishnan
Barts Health NHS Trust, London, United Kingdom

Abstract

Introduction

The experience of birth partners (BPs) of women undergoing elective caesarean section (ELCS) has not been explored prior to this quality improvement project

Our aim was to explore and improve the experience of these BPs.

- Studies indicate there are marked differences in mothers' and fathers' birth satisfaction.
- Post-traumatic stress in fathers can occur in response to negative emotional birth experiences and this in turn can have serious consequences for family relationships.
- Skin-to-skin contact with the father after caesarean section results in babies being calmer and less likely to cry.
- Family involvement is a dimension of patient-centred care.

Methods

Pre intervention

- Data collected from BPs prior to intervention.
- Satisfaction survey data (figure 1) collected from BPs of women undergoing ELCS.
- Responses collected via telephone 2 days post ELCS.

Interventions

- All BPs now provided with labourpains.com leaflet via the ELCS midwife led pre-assessment clinic.
- All BPs are now invited to be present in theatre during the siting of their partner's regional anaesthesia. This was previously not standard practice.
- BPs now given the choice to stay together with mother and baby until ELCS is completed, previously BPs left theatre shortly after baby delivered.

Post intervention

- Post intervention satisfaction survey (figure 1) completed by BPs in the 24-48 hours post ELCS

Results

Figure 2 illustrates the BP survey results pre and post intervention, with a clear improvement in BP satisfaction and experience

Conclusion

- Following the interventions, significantly more BPs knew what to expect with regards to the ELCS and anaesthetic.
- Post interventions we found that BPs were now significantly more satisfied with the degree of information provided about the ELCS and very few wanted further information.
- BPs are very happy to be present for the anaesthetic.
- Most BPs are happy with the anaesthetic experience.

Future ideas

- Create a mock video to demonstrate the ELCS process from start to finish from the patient and BP perspective. This would aid patient and BP expectations of what the ELCS process entails.
- Provide a leaflet with the video weblink prior to the patient's ELCS pre assessment clinic.

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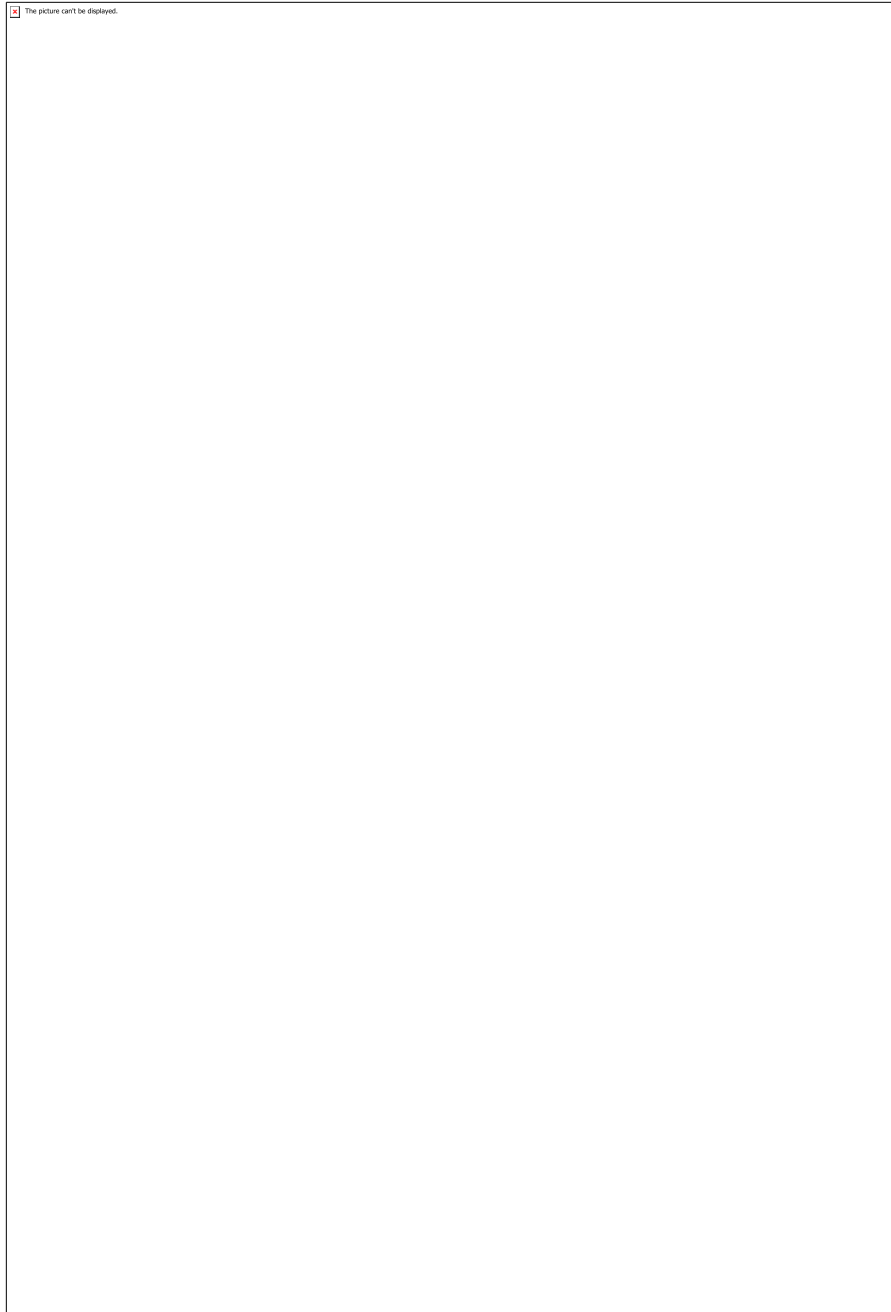
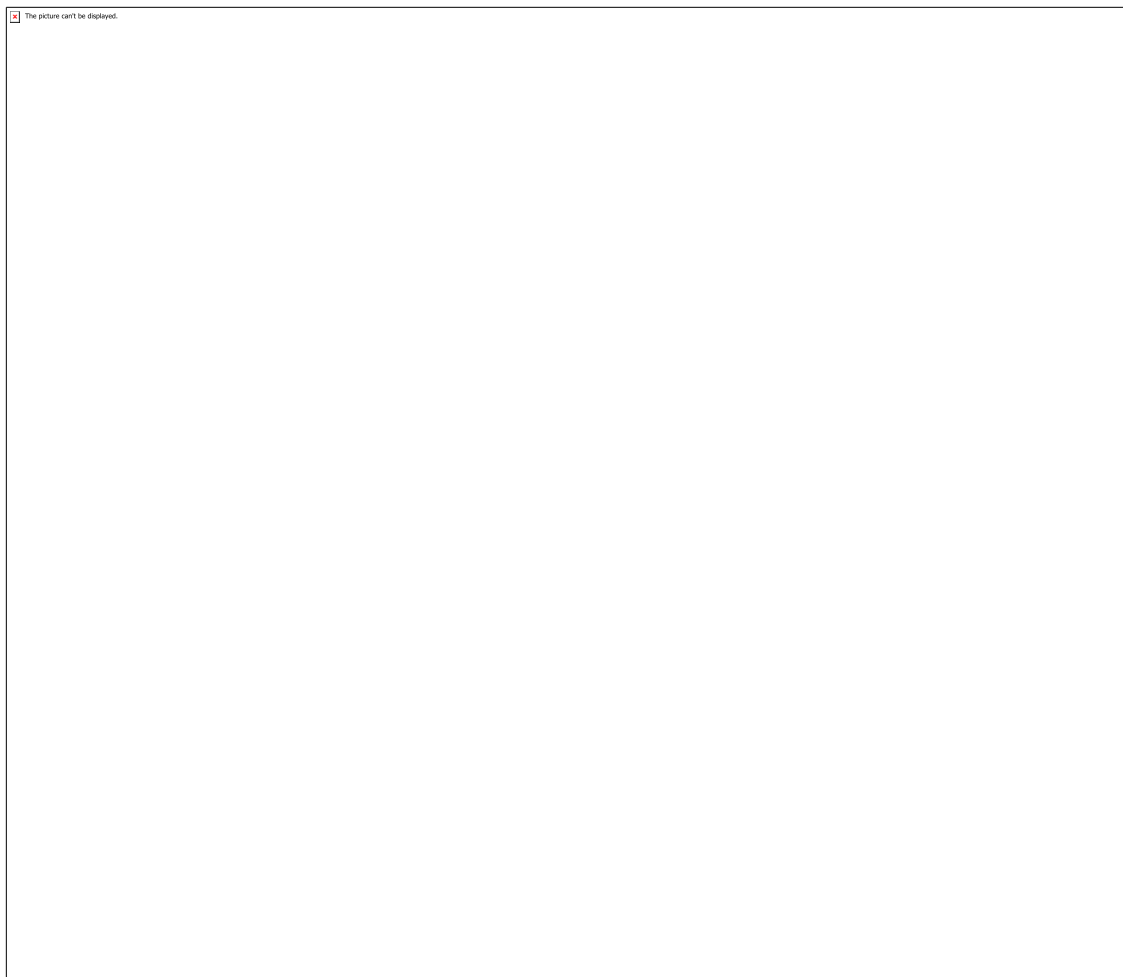


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Poster keywords

obstetric, anaesthesia, anaesthetics, labour, caesarean

Assessment of DrEaMing after surgery: utility and influencing factors

Mariët Faasse¹, Imogen Fecher-Jones², Kay Mitchell², Jack Parnell², John Knight², Helen Moyses², Denny Levett²

¹Erasmus University Medical Center, Rotterdam, Netherlands. ²University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

Abstract

Introduction: DrEaMing (Drinking, Eating and Mobilising) within 24 hours of surgery represents an important patient centred outcome, that is increasingly used to determine restoration of physical function in patients (1,2) as well as assess compliance with Enhanced Recovery Pathways (ERP) (3). Despite this there is limited primary research available evaluating the use of the DrEaM-criteria in clinical practice. Therefore, the aims of this study were to retrospectively review all DrEaM-data collected following colorectal surgery in a three-year period and i) identify which day was most relevant for them to be DrEaMing that correlated to other postoperative outcome measures and, ii) find predictors of postoperative DrEaMing.

Methods: DrEaM-data were collected on the first three postoperative days (POD) from patients who underwent major elective colorectal surgery at University Hospital Southampton between 2016 and 2019. Patients were considered to be 'DrEaMing' if they were Drinking, Eating, and Mobilising altogether on one POD. Spearman's rank correlations between the components per day were assessed. The 'DrEaMing day' most related to prolonged LOS (>median) and significant morbidity (Clavien-Dindo >I), was used to determine which pre- and intraoperative patient variables univariately predicted DrEaMing. Those with a p-value <0.50 were then used as candidates in the multivariable logistic regression.

Results: In 355 patients (57% male), all three DrEaM-criteria were met on POD 1 = 23.1%, POD 2 = 51.5%, POD 3= 63.4% of the patients respectively (Figure 1C). 43 (10.8%) patients were excluded due to incomplete DrEaM-data. The eating component was least present in all days (Figure 1A), and correlations between all components increased over the days (Figure 1B). DrEaMing on POD 3 was the most cumulatively associated with a LOS >6 days ($p<0.001$, pseudo $R^2=0.173$) and significant morbidity ($p=0.017$, pseudo $R^2=0.023$) and was predicted by BMI, duration of surgery and surgical approach (open vs laparoscopic) (pseudo $R^2=0.376$).

Conclusion: DrEaMing can represent a patient's restoration of function and has the most utility in doing so on POD 3.

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Poster keywords

DrEaMing, Restoration of function, Recovery after surgery, Colorectal, Patient-centered outcome

Detection of Delirium in Geriatric Vascular Inpatients

Saveria Cremona, Lucy Fuller, Parmilan Gill, David Scholes
Countess of Chester Hospital, Chester, United Kingdom

Abstract

Delirium is a common post-operative complication in the elderly and has been found to increase the rate of poor outcomes for patients, including longer inpatient stay, higher rates of institutional care and a doubling of mortality rates.[1] Over 50% of cases go unrecognised during inpatient stays, with increasing age being the most significant risk factor. [2] NICE guidance suggests all patients over 65 should be screened post-operatively for delirium.

Aim

The aim of this quality improvement project was to assess the Countess of Chester Hospital's adherence to this standard before and after interventions.

Method

Data was retrospectively collected for 130 randomly selected vascular inpatients. Our inclusion criteria included age >65 years and admission duration >3 days. Data was collected for how many patients were assessed, the method of assessment, and any investigations requested. Comparisons were made between patients assessed by Elderly Care and those not. The quality improvement implementations included teaching sessions for Foundation doctors and IMTs, presentation at Grand Round and creation of delirium posters for surgical wards/offices. The initial prospective re-audit collected data from 50 randomly selected vascular inpatients using the same inclusion criteria as above.

Results

Results from the initial audit cycle showed 48.5% of patients had been screened for delirium; 27.7% of those not reviewed by Elderly Care vs 69.2% of those who were. The most common method of assessment (>50%) was written documentation of whether the patient seemed "confused" or "disorientated". Less than 5% of patients screened were done so using the AMT score. Of the 34 patients identified as having delirium, 50% were investigated further. Re-audit showed 78% screening for post-operative delirium, with 50% investigated further.

Conclusion

Initial re-audit data collection showed an increase of 29.5% in rates of screening, in addition to maintenance in 50% rate of investigation for confirmed delirium cases. This shows that increased teaching and delirium awareness amongst all grades of clinicians (Foundation through to Consultant) leads to an increase in post-operative screening.

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Delirium , Post-operative , Vascular , Geriatric , Surgical

