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1

Using TIVA ? Inspect before you Inject...

Garima Daga, Mohit Tyagi, Batool Nakhjavani, Tooba Nawaz
Northwick Park Hospital London Northwest Healthcare NHS Trust, HARROW, United Kingdom

Abstract

Introduction

The 5th National Audit project (NAP5)[1] demonstrated that Total Intra-Venous Anaesthesia (TIVA) technique, when used with neuromuscular blocking drugs, increases the overall risk of awareness under general anaesthesia by approximately two-folds and that this complication was largely preventable. The report also recommended that 'the relevant anaesthetic organisations should establish a set of standards and recommendations for best practice in the use of TIVA'.

Furthermore, a survey of anaesthetists in UK and Ireland has demonstrated that many anaesthetists do not feel confident in the technique. In view of the above, the Association of Anaesthetists (AA), along with Society for Intravenous Anesthesia (SIVA), produced a set of guidelines and recommendations in 2018, for best practice in the use of TIVA. [2]

Utilising the SIVA guidelines we aim to produce a simple safety checklist for anaesthetists using TIVA. In doing so, we intend to raise awareness of the SIVA guidelines and improve the confidence of anaesthetists in its use. Additionally, we also hope to enhance the safe use of TIVA and reduce the risk of associated complications.

METHODS

Anaesthetists at London Northwest University Healthcare NHS Trust were surveyed prior to the introduction of the TIVA checklist via a short (paper) survey consisting of six questions. Once we achieved a response count of 30, we moved onto the next stage: the introduction of the TIVA checklist (see below). The TIVA checklist was developed in accordance with the SIVA 2018 guidelines and laminated copies were displayed in each theatre. Additionally, a TIVA sticker was produced summarising the main TIVA considerations, to aid documentation as well as facilitating data collection.

All anaesthetists at the trust were introduced to the new checklist and stickers via departmental email and word of mouth.

After one month of the introduction, another short (paper) survey was done to assess the compliance and usefulness of the introduced checklist and sticker. Another total of 30 responses were collected.

Putting **patients** at the **HEART** of everything we do

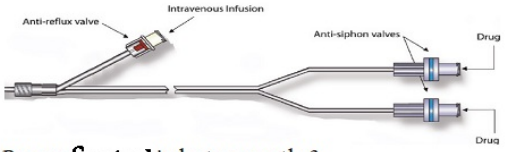
Using TIVA ?

INSPECT before you INJECT...

Dedicated TCI pump being used ?

Using a **New** TIVA Infusion set with :

- ✓ Luer - Lock
- ✓ Anti-siphon valve
- ✓ Anti-reflux valve



Pumps **Serviced** in last 12 months?

Are the PUMPS :

- ✓ Adequately Charged ?
- ✓ Power cables ready to use ?

Correct concentration of **Propofol** ? 1 % or 2%

Correct dilution of Remifentanil ? 20 mcg/ml or 50 mcg/ml

Drug syringes loaded into the pumps before programming ?

Does the patient have :

- ✓ AAGBI monitoring attached
- ✓ Processed **EEG** attached

IV **Cannula** visible and drip running ?

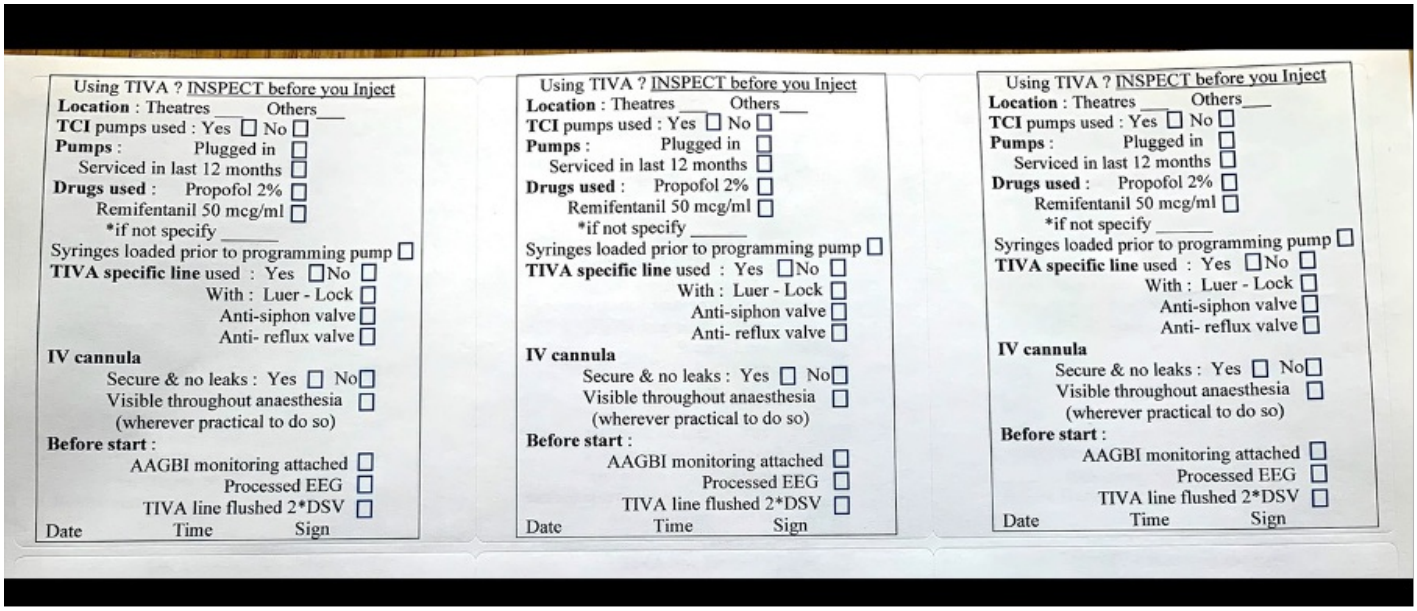
(throughout the procedure whenever practical to do so)

TIVA set primed, unclamped & connected at both ends ?

Two Person Positive Confirmatory Check before START ?

NHS London North West University Healthcare NHS Trust

SIVA



Using TIVA ? INSPECT before you Inject
Location : Theatres ___ Others ___
TCI pumps used : Yes ☐ No ☐
Pumps : Plugged in ☐
Serviced in last 12 months ☐
Drugs used : Propofol 2% ☐
Remifentanil 50 mcg/ml ☐
*if not specify _____
Syringes loaded prior to programming pump ☐
TIVA specific line used : Yes ☐ No ☐
With : Luer - Lock ☐
Anti-siphon valve ☐
Anti- reflux valve ☐
IV cannula
Secure & no leaks : Yes ☐ No ☐
Visible throughout anaesthesia ☐
(wherever practical to do so)
Before start :
AAGBI monitoring attached ☐
Processed EEG ☐
TIVA line flushed 2*DSV ☐
Date Time Sign

Using TIVA ? INSPECT before you Inject
Location : Theatres ___ Others ___
TCI pumps used : Yes ☐ No ☐
Pumps : Plugged in ☐
Serviced in last 12 months ☐
Drugs used : Propofol 2% ☐
Remifentanil 50 mcg/ml ☐
*if not specify _____
Syringes loaded prior to programming pump ☐
TIVA specific line used : Yes ☐ No ☐
With : Luer - Lock ☐
Anti-siphon valve ☐
Anti- reflux valve ☐
IV cannula
Secure & no leaks : Yes ☐ No ☐
Visible throughout anaesthesia ☐
(wherever practical to do so)
Before start :
AAGBI monitoring attached ☐
Processed EEG ☐
TIVA line flushed 2*DSV ☐
Date Time Sign

Using TIVA ? INSPECT before you Inject
Location : Theatres ___ Others ___
TCI pumps used : Yes ☐ No ☐
Pumps : Plugged in ☐
Serviced in last 12 months ☐
Drugs used : Propofol 2% ☐
Remifentanil 50 mcg/ml ☐
*if not specify _____
Syringes loaded prior to programming pump ☐
TIVA specific line used : Yes ☐ No ☐
With : Luer - Lock ☐
Anti-siphon valve ☐
Anti- reflux valve ☐
IV cannula
Secure & no leaks : Yes ☐ No ☐
Visible throughout anaesthesia ☐
(wherever practical to do so)
Before start :
AAGBI monitoring attached ☐
Processed EEG ☐
TIVA line flushed 2*DSV ☐
Date Time Sign

STANDARDS MONITORED

- Comparability of knowledge of SIVA 2018 Guidelines.
- Enhancing safety of TIVA by assessing the relative incidences of adverse events and technical failures before and after introduction of checklist.

RESULTS

There was an increased familiarity with regards to SIVA 2018 guidelines – Fig 1

The incidence of technical failures associated with the use of TIVA decreased to 2/30 from 19/30 responses collected pre-introduction. Similarly there was a significant reduction noticed with adverse outcomes after introduction of the checklist from 10/30 incidences to 0/30 incidences after introduction of checklist - Fig 2

CONCLUSIONS

The TIVA checklist has helped raise awareness with the existing SIVA 2018 guidelines, made the anaesthetists' confidence in using TIVA and improved patient safety. In the future, we plan to audit the documentation of TIVA and find out the commonly occuring reasons of TIVA related complications along with a focus on more teaching sessions to promote safe use to the technique.

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1. PanditJJ,AndradeJ,BogodDG,etal.The5thNationalAudit Project (NAP5) on accidental awareness during general anaesthesia: summary of main findings and risk factors. Anaesthesia 2014; 69: 1089–101

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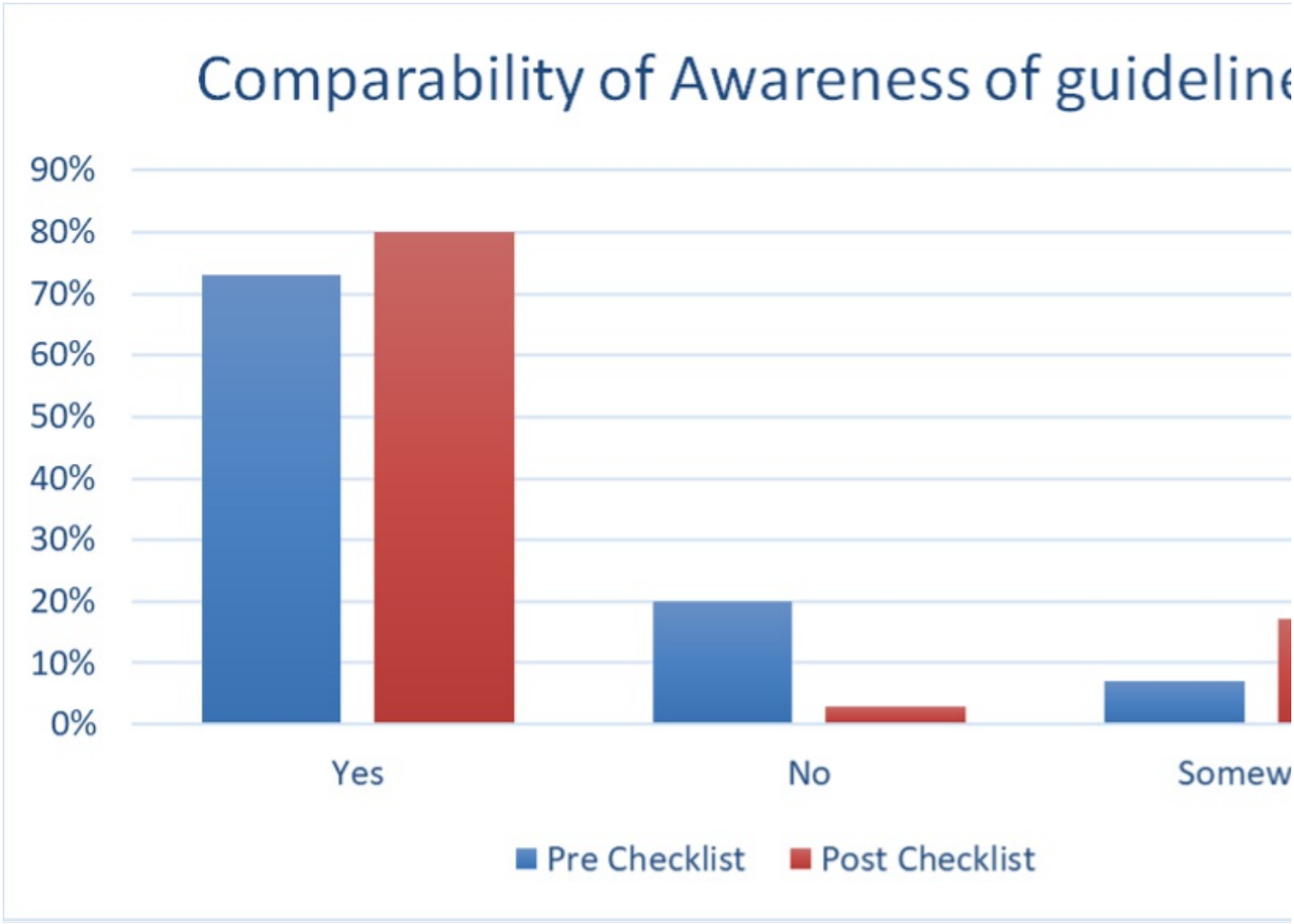

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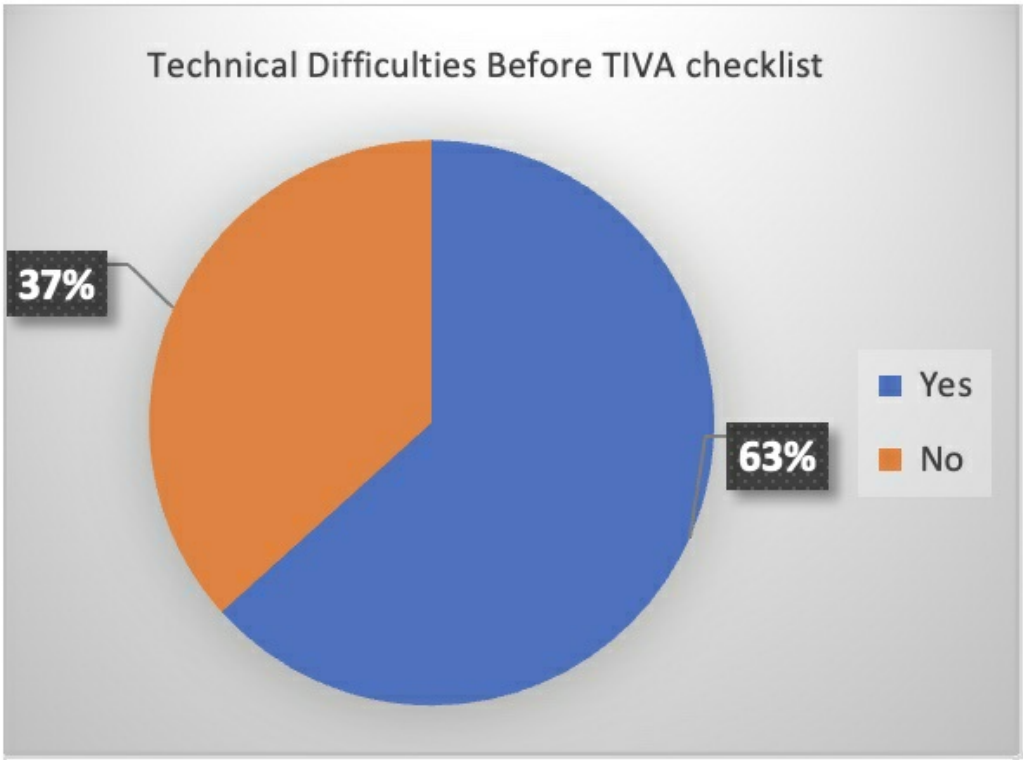

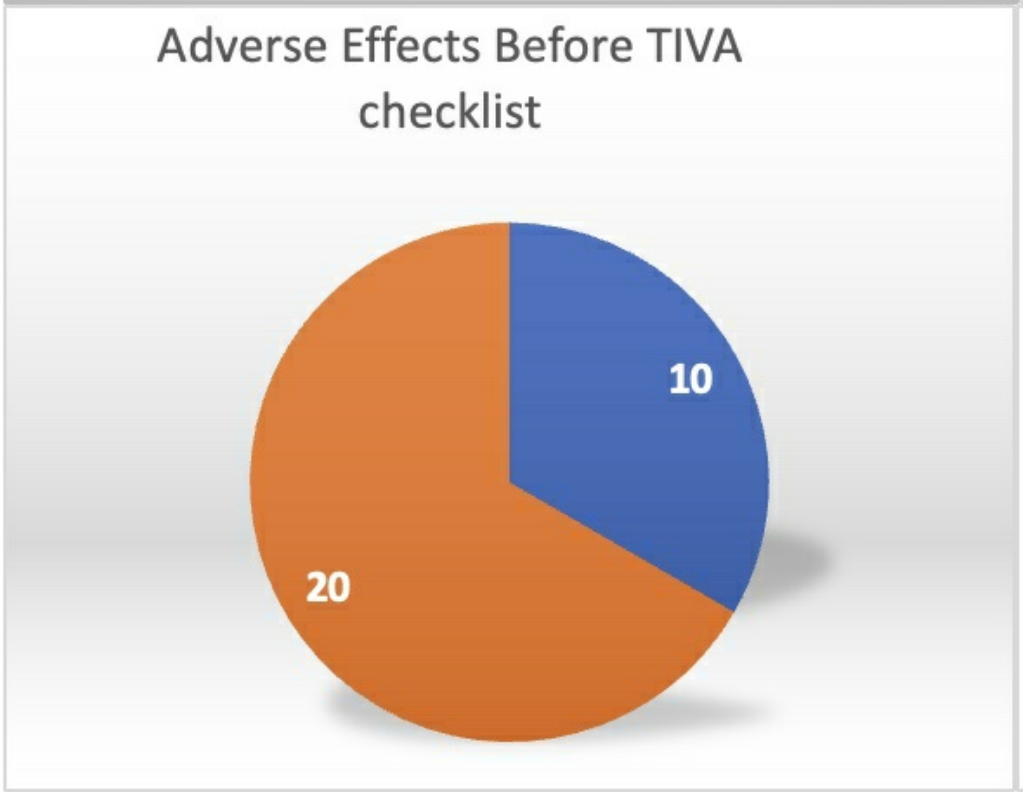

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Poster keywords

TIVA, depth of anaesthesia, awareness

2

Validation of self-reported smoking cessation through salivary cotinine levels before general anaesthesia: A validation study

Mohsin Nazir, Tahir Munir, Maaz Khan, Gauhar Afshan
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Abstract

Introduction: Surgical and anaesthesia teams mainly rely on the patient's self-reported smoking status to orient counseling and other preventive interventions. Serum, salivary and urinary samples have been used in multiple studies to detect the nicotine levels in smokers versus non-smokers [1]. We could not found any published data, estimating the duration of “preoperative smoking cessation” through salivary cotinine levels in “smokers only” group. We hypothesized that the salivary cotinine levels would negatively correlate with increasing duration of short term preoperative smoking cessation.

Methods: Out of 256 patients in primary cohort [2], eighty (80) patients were randomly selected for this validation study through systematic sampling approach. Every third recruited patient of primary cohort was included in this validation study (systematic sampling interval k= 3).

Result: Out of 80 salivary samples, nine were excluded from the final analysis (i.e. seven were insufficient for analysis and two samples were delayed in sending to the laboratory for storage). The mean(SD) of age was 38.7(13.7) years and BMI was 27.6(6.52) kg/m2. Almost all included patients were male 69 (97.2%), more than half 43(60.6%) were ASA physical status II and 44(62%) patients came for minor to intermediate surgeries. Bivariate Pearson's correlation analysis was carried out to determine the strength of association between salivary cotinine levels and duration of preoperative cessation. We found an overall weak positive correlation (R=0.14, P=0.25) between preoperative smoking cessation and salivary cotinine levels (Figure 1). Cross tabulating with type of surgery and educational status showed weak negative correlation with major & complex surgeries (R= -0.1, P=0.61) and patients with professional education (R= -0.053, P=0.7) almost all correlation were statistically insignificant.

Conclusion: Salivary cotinine level came out to be a weak parameter in validating the self-reported cessation of smoking. However, in major surgeries & highly educated patients, correlation remains weak but negative in direction. It might be due to the social desirability bias.

References:

1. Dhavan P, Bassi S, Stigler MH, Arora M, Gupta VK, Perry CL, et al. Using salivary cotinine to validate self-reports of tobacco use by Indian youth living in low-income neighborhoods. Asian Pacific Journal of Cancer Prevention. 2011;12(10):2551
2. Nazir M, Afshan G, Ejaz M, Raza A. Duration of Cessation of Smoking before Elective Surgery: Impact on Intraoperative Hemodynamics and Early Postoperative Pain in Developing Country. Open Journal of Anesthesiology. 2021;11(9):288-97.

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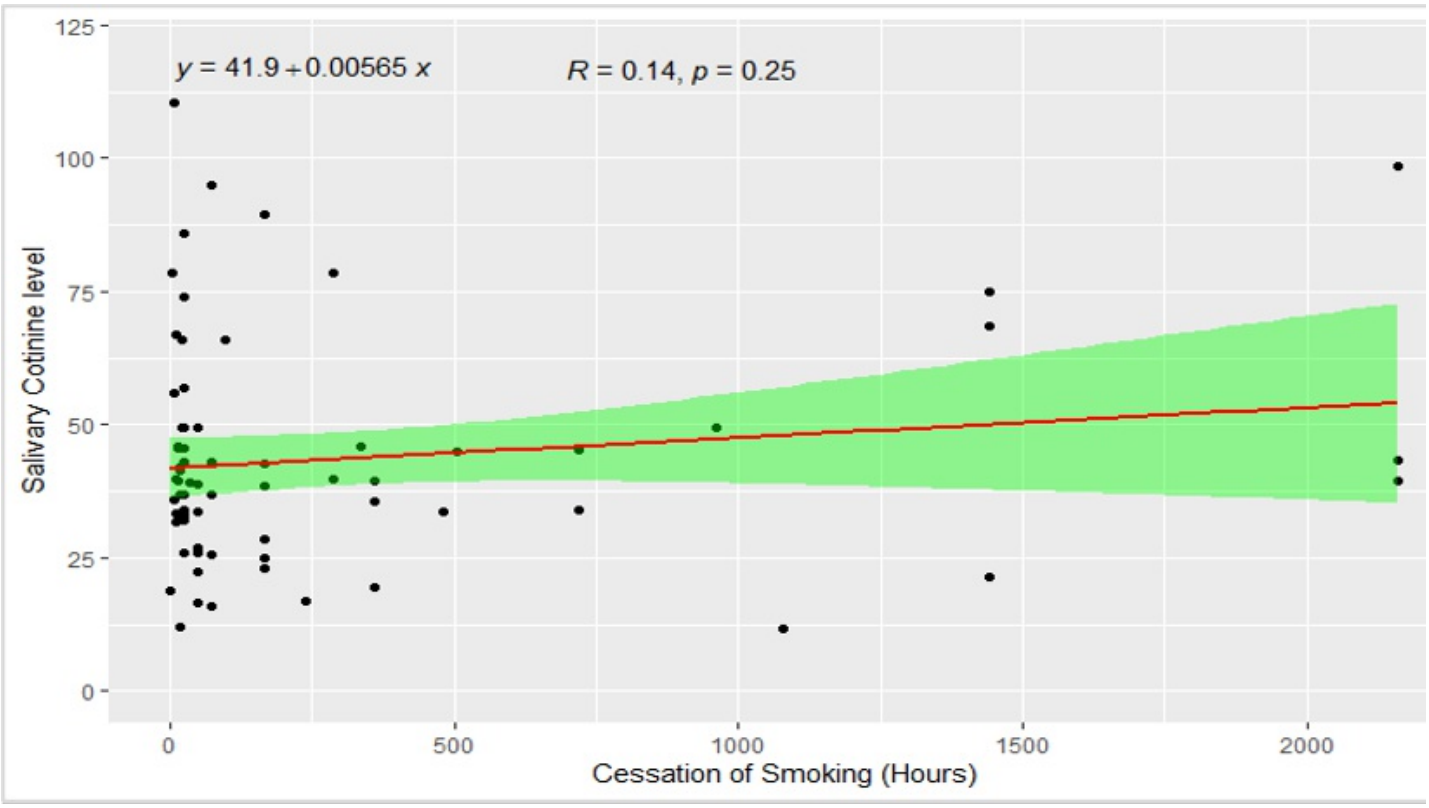

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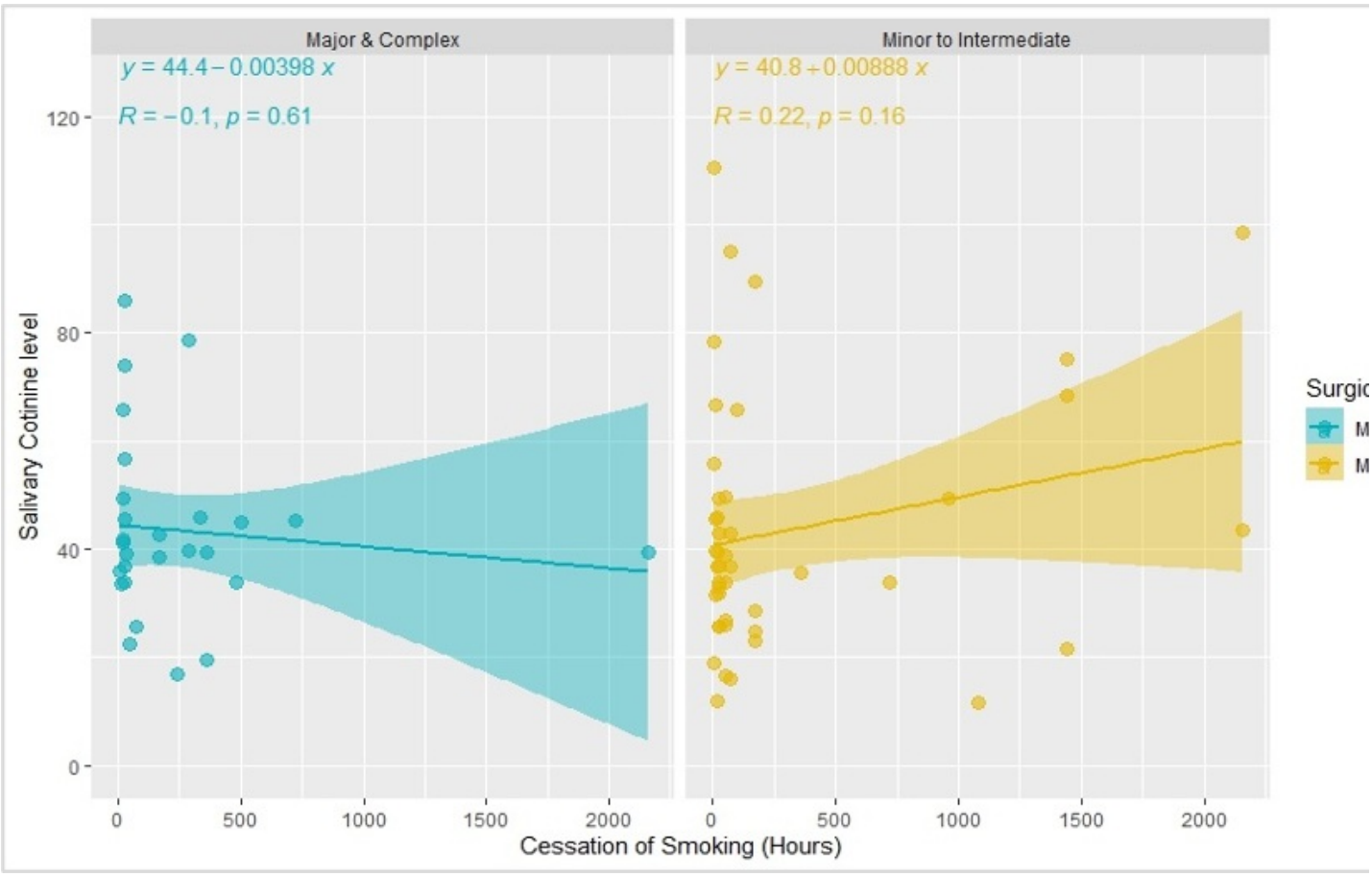

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3

The impact of frailty on longer-term outcomes in major colorectal surgery: Experience from a tertiary centre

Rachel Butterworth, Edward Pugh
Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, United Kingdom

Abstract

Introduction

Frailty is a multidomain decline in physiological reserve and function. In the perioperative period, frailty has been associated with increased mortality, complications and adverse outcomes, such as quality of life (QoL).[1]

We performed a service evaluation at a tertiary hospital in the north east of England, to assess the impact of frailty on outcomes including length of stay (LOS), complication rate, 6 month mortality, discharge destination and QoL, in patients undergoing major colorectal surgery.

Methods

Retrospective analysis of consecutive colorectal cases from the perioperative quality improvement programme dataset (PQIP) between 3/12/20 and 21/10/21.[2]

QoL was assessed pre-operatively and 6 months postoperatively, using the EuroQol 5 domain, 5 level questionnaire (EQ-5D-5L) and the EuroQol visual analogue scale (EQ-VAS).[3]

Frailty was recorded using the Rockwood Clinical Frailty Scale (CFS).[1]

Results

81 cases in total. The results are summarised in Table 1.

Only 1 of the 81 patients was not discharged to their own home and this patient did not have a recorded CFS.

Figure 1. illustrates the number of patients with changes in their EQ-VAS score postoperatively compared to pre-operatively. Only 3 frail patients completed the EQ-5D 5L and EQ-VAS at 6 months and 1/3 had a lower EQ-VAS score, however 0/3 patients had a worse EQ-5D 5L score.

Conclusions

In relation to QoL, the limited number of patients living with frailty in our dataset prevents meaningful analysis, however it is reassuring that QoL scores at 6 months are not worse in patients living with frailty compared to those without.

Frailty was associated with an increased length of stay, however there was no significant increase in complication rate or mortality at 6 months. The small sample size and small number of patients with frailty, necessitates the need for caution when drawing conclusions and the need for further assessment with larger numbers. However, this data, especially the lack of an increase in mortality at 6 months, raises the question – should more patients living with frailty be considered for major colorectal surgery?

References

1. Moorhouse P, Rockwood K. Frailty and its quantitative clinical evaluation. J R Coll Physicians Edinb. 2012;42(4):333-40.

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testing of the new five-level version of EQ-5D (EQ-5D-5L). Qual Life Res. 2011;20(10):1727-36.

3. Perioperative Quality Improvement Programme (PQIP). About PQIP [Available from: https://pqip.org.uk/pages/aboutpqip.

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Table 1. Postoperative outcomes of length of stay month mortality by CFS

Frailty category (CFS)	No. of patients	Median LOS (days)
Not frail (1-3)	64	7
Very mild and mild frailty (4 – 5)	6	10
Moderately frail (6)	1	13
Not recorded	10	8

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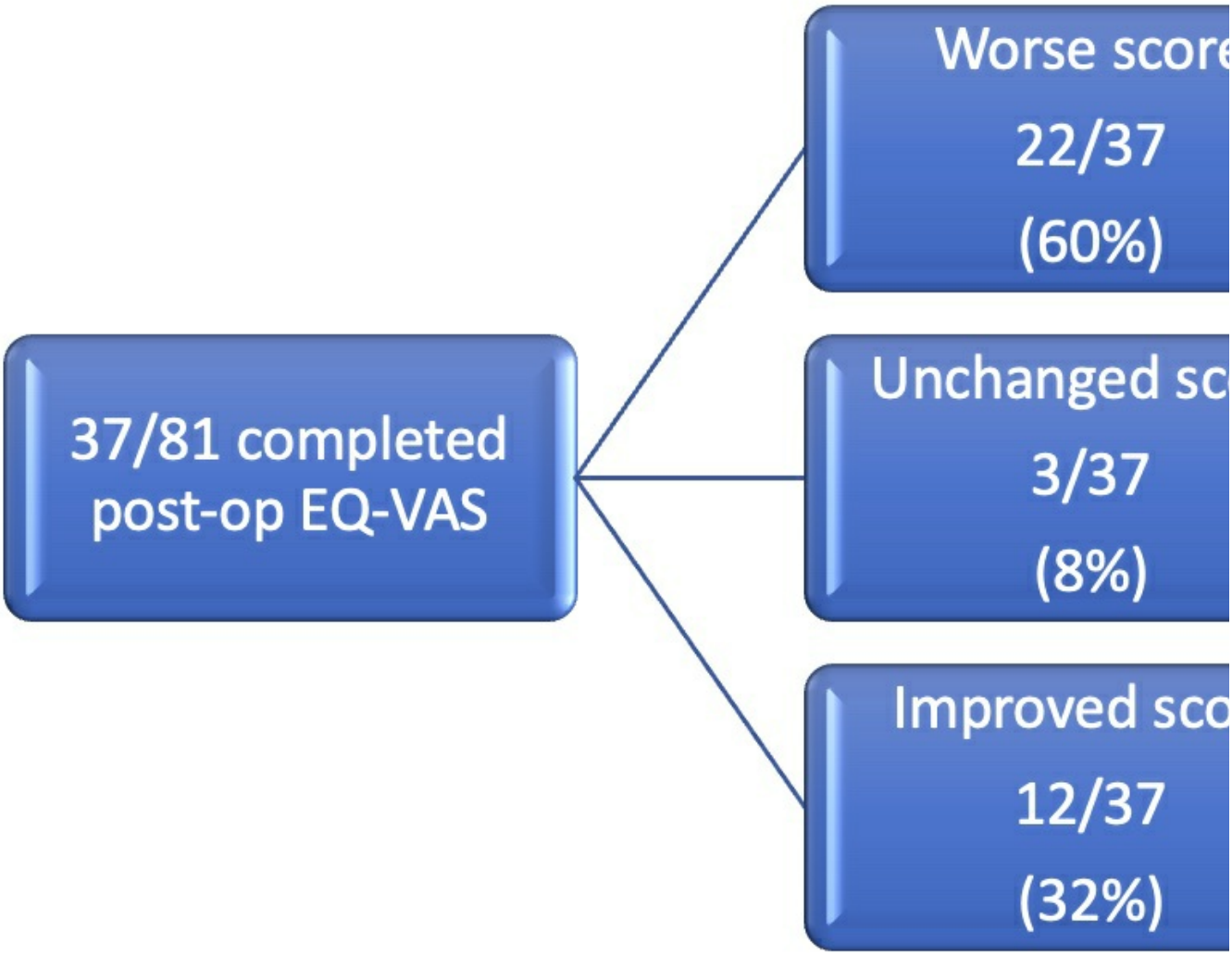
Figure 1. How patients EQ-VAS score changed pre- and p



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Poster keywords

Frailty, Colorectal surgery, Quality of life, Complications, Outcomes

4

Audit into perioperative hypothermia

Laura Gallop
East Sussex Healthcare NHS Trust, Hastings, United Kingdom

Abstract

Introduction

Inadvertent perioperative hypothermia (IPH) is a common but preventable complication of anaesthesia and is associated with poor outcomes for patients. IPH increases the risk of intraoperative blood loss and consequent blood transfusion1, surgical wound infections2, morbid cardiac events3, length of stay in hospital and recovery time in PACU4, as well as affecting patient comfort and wellbeing.

The objective of the study was to see whether as a unit we were meeting guidelines5 for measuring perioperative temperatures (pre induction, intraoperatively and in recovery) and what are our rates of inadvertent perioperative hypothermia.

Methods

Data was collected from the notes of patients undergoing elective procedures over 2 weeks.

Results

100 elective surgery patients notes examined between 16/10/20 and 30/10/20. 43% of patients had temperatures measured pre induction, 26% intra operatively and 100% in PACU

Rates of hypothermia:

- 15 patients had pre induction hypothermia
- 8 with intraoperative hypothermia (but only 26 had intraoperative temperatures taken)
- 5 patients with postoperative hypothermia. Of those, 1 had no fluid warmer and 2 had no fluid warmer of bair hugger intraoperatively

Conclusion

How to improve rates of temperature monitoring

- more thermometers in anaesthetic rooms and theatre
- education of anaesthetists/ ODPs

22% of patients had perioperative hypothermia which we need to improve. Ideas include:

- pre theatre temperature measurements to pick up hypothermia
- getting patients to actively walk to theatre
- encourage bair huggers/ fluid warmers or warmed fluids/ keeping patients covered

References

1. Rajagopalan S, Mascha E, Na J, Sessler DI. The effects of mild perioperative hypothermia on blood loss and transfusion requirement, Anesthesiology, 2008, vol. 108 (pg. 71-7)

2. Kurz A, Sessler DI, Lenhardt R. Perioperative normothermia to reduce the incidence of surgical-

wound infection and shorten hospitalization. Study of Wound Infection and Temperature Group, N Engl J Med, 1996, vol. 334 (pg. 1209-15)

3. Frank SM, Fleisher LA, Breslow MJ, et al. Perioperative maintenance of normothermia reduces the incidence of morbid cardiac events. A randomized clinical trial, J Am Med Assoc, 1997, vol. 277 (pg. 1127-34)

4. Lenhardt R, Marker E, Goll V, et al. Mild intraoperative hypothermia prolongs postanesthetic recovery, Anesthesiology, 1997, vol. 87 (pg. 1318-23)

5. Hypothermia: prevention and management in adults having surgery. NICE Clinical guideline [CG65]Published date: 23 April 2008 Last updated: 14 December 2016

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Poster keywords

Hypothermia, Temperature, Monitoring

5

Quantifying the Impact of Obesity on Perioperative Workload

Oscar Dennehy[1], Anthony Hennessy[2]
[1]Cork University Hospital, Cork, Ireland. [2]South Infirmary Victoria University Hospital Cork, Cork, Ireland

Abstract

Introduction:

Ireland is currently at the forefront of the global obesity epidemic. A 2008 report by the World Health Organisation found that 61.9% of adult population in Ireland over 20 years old were overweight and 25.2% of those were obese (BMI >30) [1]. It is estimated that by 2030, 47% of both men and women in Ireland could be obese. Obesity itself is associated with many other co-morbidities that add to the complexity of a surgical procedure [2].

Objectives:

This project aims to assess and compare the mental, physical, and temporal demands and complexity of surgical procedures involving patients with a normal BMI and patients who are obese. To evaluate the impact an obese patient may have, as a stressor, on the perioperative workload of surgeons, anaesthesiologists, and theatre staff in South Infirmary Victoria University Hospital and Cork University Hospital and compare groups.

Methods:

The most widely used measure of workload in human factors research has been the NASA-Task Load Index (NASA-TLX). This cross-sectional survey of 61 participants from SIVUH and CUH uses The Surgical Task Load Index (SURG-TLX), a modified version of the NASA-TLX, and asks participants to answer based on a scenario depicting a surgical procedure performed on a patient with a BMI > 30.

Results:

100% of respondents found surgery on an obese patient to be more demanding across all parameters. 49.2% of respondents said they found it to be “significantly” more mentally demanding. 52.5% of respondents found surgical procedures to be “very significantly” more physically demanding. Over half of respondents (>75%) found surgical procedures to be at least “significantly” more complex. 26.2% of respondents said they found these surgical procedures to be “not at all” more distracting whereas the other 73.8% all found these procedures to be at least “slightly” more distracting.

Conclusion:

Surgical procedures involving obese patients are widely perceived as being more physically and mentally demanding and more complex than the same procedures on patients with a normal BMI. Most respondents believe that patients require increased positioning time, pre-operative care, and post-operative care. Despite this, only a small number of respondents always alter their work practices to accommodate for these additional challenges.

References:

1. World Health Organisation. (2013) Country profiles on nutrition, physical activity and obesity in the 53 WHO European Region Member States. Methodology and summary. http://www.euro.who.int/__data/assets/pdf_file/0016/243304/Ireland-WHO-Country-Profile.pdf?ua=1

2. Pi-Sunyer X. The medical risks of obesity. Postgrad Med. 2009;121(6):21–33. doi:10.3810/pgm.2009.11.2074 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879283/

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Surgical Task Load Index	
How much more mentally demanding are procedures on obese patients compared to normal BMI patients?	**Frequency (N=61)**
Not at all	0 (0%)
Slightly	11 (18%)
Significantly	30 (49.2%)
Very significantly	13 (21.3%)
Extremely	7(11.5%)
How much more physically demanding are procedures on obese patients compared to normal BMI patients?	**Frequency (N=61)**
Not at all	0 (0%)
Slightly	6 (9.8%)
Significantly	13 (21.3%)
Very significantly	32 (52.5%)
Extremely	10 (16.4%)
How much more complex are procedures on obese patients compared to normal BMI patients?	**Frequency (N=61)**
Not at all	0 (0%)
Slightly	6 (9.8%)
Significantly	24 (39.3%)
Very significantly	25 (41.0%)
Extremely	6 (9.8%)
How distracting is the operating environment?	**Frequency (N=61)**
Not at all	16 (26.2%)
Slightly	17 (27.9%)
Significantly	18 (29.5%)
Very significantly	9 (14.8%)
Extremely	1 (1.6%)

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Obese patients require additional time to position required to normal BMI patients	Frequency (N=61)
Strongly disagree	2 (3.3%)
Disagree	0 (0.0%)
Neutral	2 (3.3%)
Agree	20 (32.8%)
Strongly agree	37 (60.7%)
Obese patients require extra time spend on assessment pre-operatively compared to normal BMI patients	**Frequency (N=61)**
Strongly disagree	2 (3.3%)
Disagree	0 (0.0%)
Neutral	5 (8.2%)
Agree	32 (52.5%)
Strongly agree	22 (36.1%)
Obese patients require an increased level of post-operative care compared to normal BMI patients	**Frequency (N=61)**
Strongly disagree	1 (1.6%)
Disagree	0 (0.0%)
Neutral	0 (0.0%)
Agree	29 (47.5%)
Strongly agree	31 (50.8%)
Do you allocate extra time in your schedule to account for the increased workload of obese patients?	**Frequency (N=61)**
Never	11 (18.0%)
Rarely	19 (31.1%)
Sometimes	22 (36.1%)
Always	9 (14.8%)
How often do you alter your work practice to account for the demands of obese patients compared to normal BMI patients	**Frequency (N=61)**
Never	0 (0.0%)
Rarely	4 (6.6%)
Sometimes	27 (44.3%)
Always	30 (49.2%)

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Poster keywords

Obesity, Perioperative Workload, Workload, SURG-TLX, BMI

6

McGrath MAC versus Macintosh for perioperative endotracheal intubation

Ubong Silas[1], Sita Saunders[1], Rhodri Saunders[1], Alistair McNarry[2]
[1]Coreva Scientific, Koenigswinter, Germany. [2]NHS Lothian, Edinburgh, United Kingdom

Abstract

Introduction: Cochrane evidence demonstrates that video laryngoscopy (VL) is better than direct laryngoscopy (DL) for successful tracheal intubation.(1) However, with multiple devices available, identifying a particular VL for clinical use can be difficult. We reassessed the Cochrane meta-analysis to compare McGrath MAC versus Macintosh DL.

Methods: We reviewed the randomized controlled trials (RCTs) included in the Cochrane review, selecting only RCTs that used McGrath MAC VL compared with Macintosh DL in perioperative care. Outcomes assessed were first-pass success (FPS), failed intubation, esophageal intubation, dental injury, and hypoxemia. Meta-analysis was performed using RevMan 5.4.(2) Failed and esophageal intubations are rare events and were therefore assessed using the Peto odds ratio (OR).(3) The risk ratio (RR) was used for FPS and we present it alongside the original result from the Cochrane review where all Macintosh-style VL devices were grouped together.(1)

Results: Compared with the 21 studies originally included in the Cochrane review as using McGrath MAC, we excluded seven of these RCTs: two used a mix of VLs, two were not for perioperative care, two used McGrath series 3 or 5, and one was retracted. Included were 14 RCTs with 3,137 patients (1,570 using McGrath MAC). FPS was significantly improved using McGrath MAC in comparison to Macintosh (RR 1.07, 95% CI 1.01 – 1.15) and the RR was similar to that reported in the Cochrane review (Table 1, Figure 1). In addition, use of McGrath MAC saw a significant reduction in failed intubations (OR 0.33, 95% CI 0.12 – 0.92) and a non-significant reduction in esophageal intubations (Table 1, Figure 1). There were insufficient data to report results on dental trauma or hypoxemia.

Conclusion: In perioperative care, FPS is higher with McGrath MAC in comparison to Macintosh DL and failed intubation is less common. To determine the clinical significance real-world data, a larger RCT, or a network meta-analysis would be useful.

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3. Higgins, J.P.T. and Green, Sally (editors) (2011). Cochrane Handbook for Systematic Reviews of Interventions. The Cochrane Collaboration, version 5.1.0, Chapter 9.4.4.2.

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Table 1 Re-analysis of Cochrane review comparing only McGrath MAC with Macintosh

Outcome	Re-analysis RR or OR [95% CI]	Cochrane review* RR [95% CI]
First-pass success, RR	1.07 [1.01, 1.15]	1.05 [1.02, 1.09]
Failed intubation, OR	0.33 [0.12, 0.92]	Not reported as OR
Esophageal intubation, OR	0.23 [0.04, 1.15]	Not reported as OR

*Hansel 2022 (1); OR, Petos odds ratio; RR, risk ratio.

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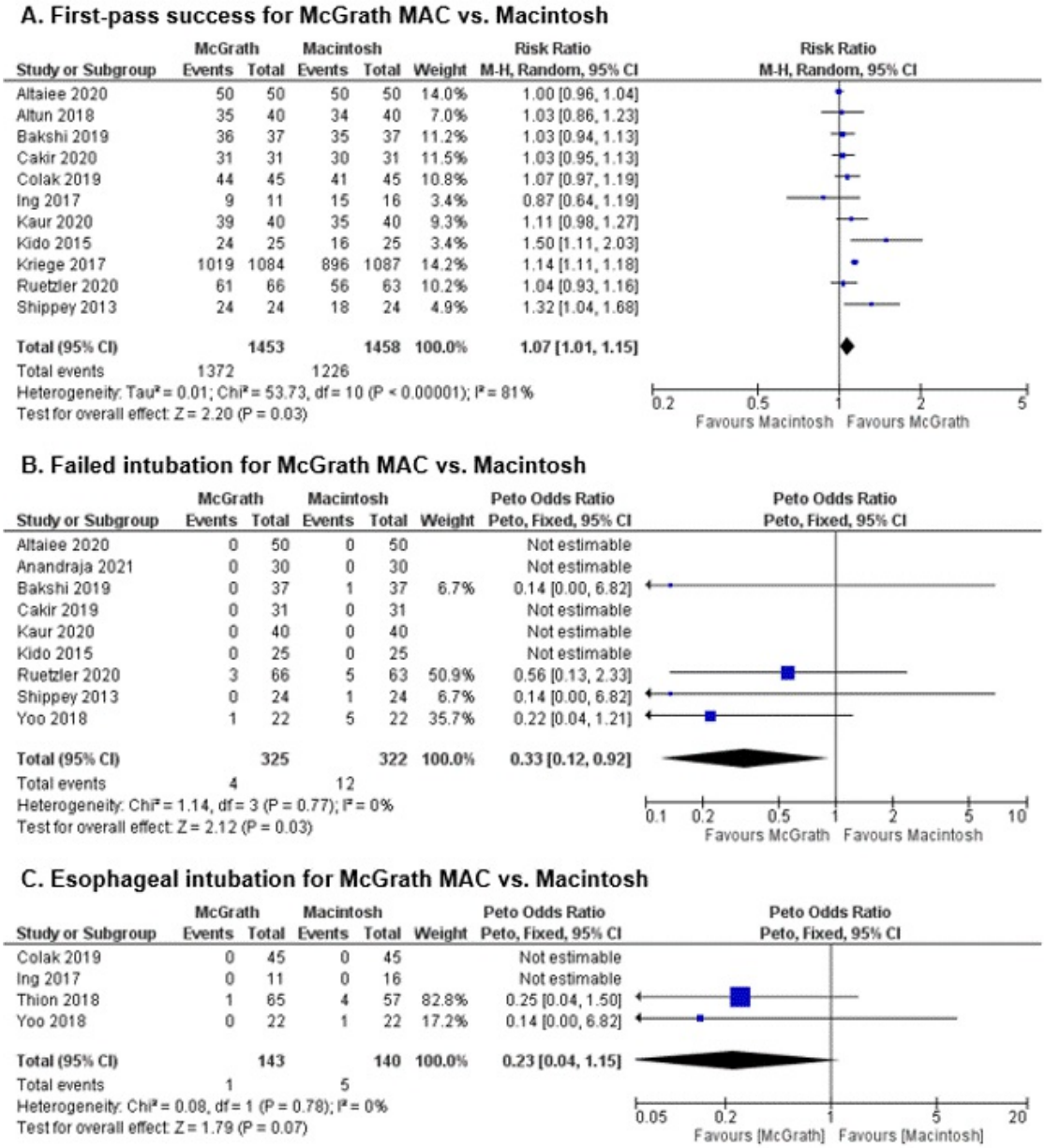

Figure 1. Meta-analysis outcomes including studies comparing McGrath MAC VL with Macintosh DL for (A) first-pass success, (B) failed intubation, and (C) esophageal intubations. The diamonds in each forest plot represent the total estimate where the mid points are the average and the extremities indicate the confidence interval.

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Poster keywords

Intubation, McGrath MAC, Macintosh, First-pass success, Failed intubation

7

Surgical Inpatient Delirium : An Audit Of The Documentation Of The 4AT Score

Tawassol Mohammed, Gareth Wilkinson, Hannah Smyth, Noelle Healy, Shanice Vallely, Colm Byrne, Lorraine Kyne, Srinivas Kodukula, Padraig O'Scanaill
Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Introduction

Postoperative delirium and perioperative neurocognitive disorder are the commonest postoperative complications in patients over 65 years old. This has implications for brain health with an increased risk of length of stay, a higher incidence of morbidity and mortality. Internationally, perioperative teams often fail to routinely screen for delirium. Our aim was to audit the documentation of the 4AT score for surgical inpatients >65 years old and gain insight into the incidence of delirium on surgical wards.

Methods

Using the guideline for Perioperative Care for People Living with Frailty undergoing Elective and Emergency Surgery from the CPOC and BGS as a standard, an audit of surgical inpatients >65 years old was carried out on 3 surgical wards over 5 days. Data was collected on 4AT documentation on admission, day1 and day3 post operatively, type of surgery & anaesthesia and risk factors for delirium (dementia, polypharmacy, opioids & benzodiazepine use, PD, surgery>2h, stroke, alcohol, >2 medical conditions, multiple ward moves).

Results

Of the 36 surgical patients over 65 years of age were included in the audit. The average age was 78 years old (range 65-91). 50% (n=18) were admitted under the orthopaedic team, 31% (n=11) under general surgical teams, 11% (n=4) urology and 8% (n=3) under other surgical specialties. 33% of patients (n=12) had a 4AT score documented at any stage during their admission and 25% of patients (n=9) had a baseline 4AT documented preoperatively. Of the data captured, the incidence of delirium was 18.7% with 6 patients having a 4AT score >4. Surgical risk factors for delirium were found in 69% of older inpatients (n=25).

Conclusions

Delirium screening was under used in our cohort of older surgical patients, despite a proportion of patients developing delirium postoperatively. Under recognition of delirium perioperatively is associated with poor outcomes and higher morbidity and mortality. Further interdisciplinary educational sessions are required to increase awareness and screening of delirium in surgical patients >65 years old with the aim to re-audit in 6 months.

1: Br J Anaesth 2021:126(2); 423-432

2: Guideline Perioperative Care for People Living with Frailty undergoing Elective and Emergency Surgery, Centre for Perioperative Care (CPOC), September 2021[CB1]

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Poster keywords

4AT score, Documentation of 4AT score audit, Surgical inpatient delirium, Delirium post surgery audit, 4AT score use for surgical inpatients

8

Title: Extreme Physiologic derangement: an unexpected case of survival in a 51-year-old man with an unusually elevated APACHE II score.

Natalie Lenggenhager-Krakoski
Cork University Hospital, Cork, Ireland

Abstract

The acute physiology and chronic health evaluation score, also known as the APACHE score, was originally developed as a severity classification tool for critically ill patients. In the interim it has become the most commonly used parameter when discussing prognostication for patients in the intensive care unit.

We report a case of a 51-year-old diabetic, blind, double amputee man who was brought in by ambulance with a calculated APACHE II score of 52. The patient was unresponsive on arrival with a mean arterial pressure of 39 and blood results demonstrating a pH of 6.5, K+ of 10, creatinine of 1500 and a glucose of 30. He was subsequently diagnosed with diabetic ketoacidosis and urosepsis having fallen while intoxicated. He was treated for the same in the intensive care unit and transferred to the stepdown unit within a week.

This patient made a rapid and surprising recovery although his APACHE II score predicted an 85% non-operative mortality. This case is thus a reminder of the true purpose of the APACHE II score as a tool of stratification rather than a prediction model. While it's a naturally tempting progression, prognostication is not the intended use of the score. Furthermore, one should be cautious in allowing such a score to influence attitudes to treatment or offers thereof. At the same time, resource allocation cannot be ignored. Given the patients extremely poor health status and behavior prior to this event, one might question medical apportionment on a consequentialist ethical basis.

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9

Fluid Fasting Times and a Case for Change

Sean Davis, Jack Mcgrath
St. Vincent's University Hospital, Dublin, Ireland

Abstract

Authors: Sean Davis (SHO), Jack McGrath (SHO)

Sponsor: Dr. Abigail Walsh, Consultant Anaesthetist

Institution: St. Vincent’s University Hospital, Anaesthesia Department

Introduction: Fasting time for clear fluids is a minimum of two hours prior to surgery. In practice however, we commonly observe that these times are far longer despite increasing evidence that it is not only unnecessary, but that it promotes anxiety, discomfort and post-operative nausea and vomiting. Tayside in the NHS recently introduced ‘Sip til Send,’ a more relaxed fluid-fasting policy whereby patients would be allowed to sip water right up until they are called to theatre, provided they have no contraindications such as impaired gastric emptying. Such an initiative is being considered in our institution.

Aims: An audit carried out in SVUH two years ago reported a mean fluid-fasting time of 11.2 hours for orthopaedic patients, consistent with NHS findings. Prior to proposing a ‘Sip til Send’ policy in SVUH, we aimed to review these times, alongside patient-related outcomes measures, to assess the need for such a policy change.

Methodology: Following approval from the SVUH audit committee, we employed a questionnaire for orthopaedic patients to gather data on fluid-fasting time, degree of thirst from 1-5, presence of mouth dryness, and level of discomfort from 1-5.

Results: With n=25, the mean fluid-fasting time was 11.1hrs. 64% reported the presence of dry mouth. The mean thirst score was 3.24/5, and the mean discomfort score was 3.02/5, with no respondents reporting a discomfort level of 1.

Conclusions: There has been no improvement in fluid-fasting times over the past two years, despite the issue having been previously highlighted. There prevails a ‘just to be sure’ culture around fasting times between both patients and staff, one that is leading to dehydration and general discomfort. This audit has resulted in a review of the current fluid fasting policy and a trial at adoption of the ‘Sip til Send’ is being commenced.

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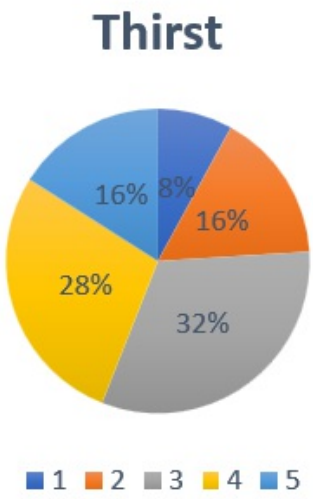

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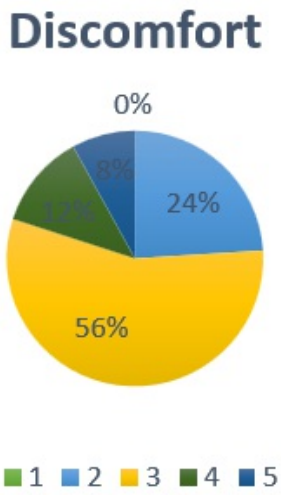

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Poster keywords

Fasting Times, Sip til Send, Case for change, Dehydration, Fluids

10

Hypotension Prediction Index technology as a measure of instability in a porcine model undergoing incremental volume loss

Amy Gomes[1], Simon Davies[2,3], Monty Mythen[4,5]

[1]Hull York Medical School, York, United Kingdom. [2]Department of Anaesthesia, Critical Care and Perioperative Medicine, York Teaching Hospitals, York, United Kingdom. [3]Centre for Health and Population Science, Hull York Medical School, York, United Kingdom. [4]Edwards Lifesciences, California, USA. [5]UCL/UCLH National Institute of Health Research Biomedical Research Centre, London, United Kingdom

Abstract

Introduction

The hypotension prediction index (HPI) is a machine learning algorithm that predicts hypotension prior to its occurrence (1). Once HPI output is greater than 85 then hypotension is highly likely to occur; however, we hypothesise that early changes in HPI are associated with increasing physiological instability.

Methods

9 anaesthetised, mechanically ventilated porcine models were studied. The blood volume of the animals was calculated at 70 mL.kg-1. After induction of anaesthesia animals were infused with up to 10 mL.kg-1 of Lactated Ringers solution to achieve a stroke volume variation (SVV) <12%. Following this a phenylephrine infusion to achieve a mean arterial pressure (MAP) >80mmHg was commenced if required.

The model was then haemorrhaged in 1% increments (H1-10) with haemodynamic measurements including HPI taken at each stage, following which the blood volume was reinfused in 2% aliquots.

Data is expressed as the mean (SD). Differences at each experimental stage from baseline values were computed using a mixed effects model with correction for multiple comparisons

Results

Haemodynamic measurements at selected time points are shown in table 1. Data for all time points is shown in figure 1.

HPI increased at each experimental stage compared to baseline and was statistically significant compared to baseline at H5 onwards. Statistically significant changes were seen in MAP, but values remained above 65mmHg throughout the experiment. In addition, SVV was also significantly increased at H5. No significant change was seen in SV or HR at any time point.

During reinfusion, HPI decreased with each incremental bolus and was significantly different from R2 as compared to maximal haemorrhage. MAP increased throughout reinfusion and SVV decreased. Again, no change was seen in HR or SV.

Conclusion

Increasing volume loss as a marker of haemodynamic instability was associated with increasing values of HPI with a significant change at 5% blood volume loss. Whilst MAP and SVV showed significant changes they remained within clinically normal ranges. HPI is a potential measure of underlying haemodynamic instability not reflected by any other commonly measured parameter.

References

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	Baseline	H5	p-value*	H10	p-
HR (bpm)	87 (12)	86 (11)	ns	83 (10)	
MAP (mmHg)	93 (3)	84 (6)	0.036	67 (8)	
SV (mL)	78 (14)	78 (12)	ns	71 (12)	
SVV (%)	11 (2)	14 (3)	0.010	20 (6)	
HPI	17 (6)	44 (22)	0.033	88 (21)	

Table 1 – Haemodynamic parameter values at the time points of baseli
volume loss (H10) and reinfusion with 10% volume (R5) with subsequer
**Compared to baseline*
***Compared to H10*
HR = heart rate, MAP = mean arterial pressure, SV = stroke volume, SVV
= hypotension prediction index, ns = non-significant

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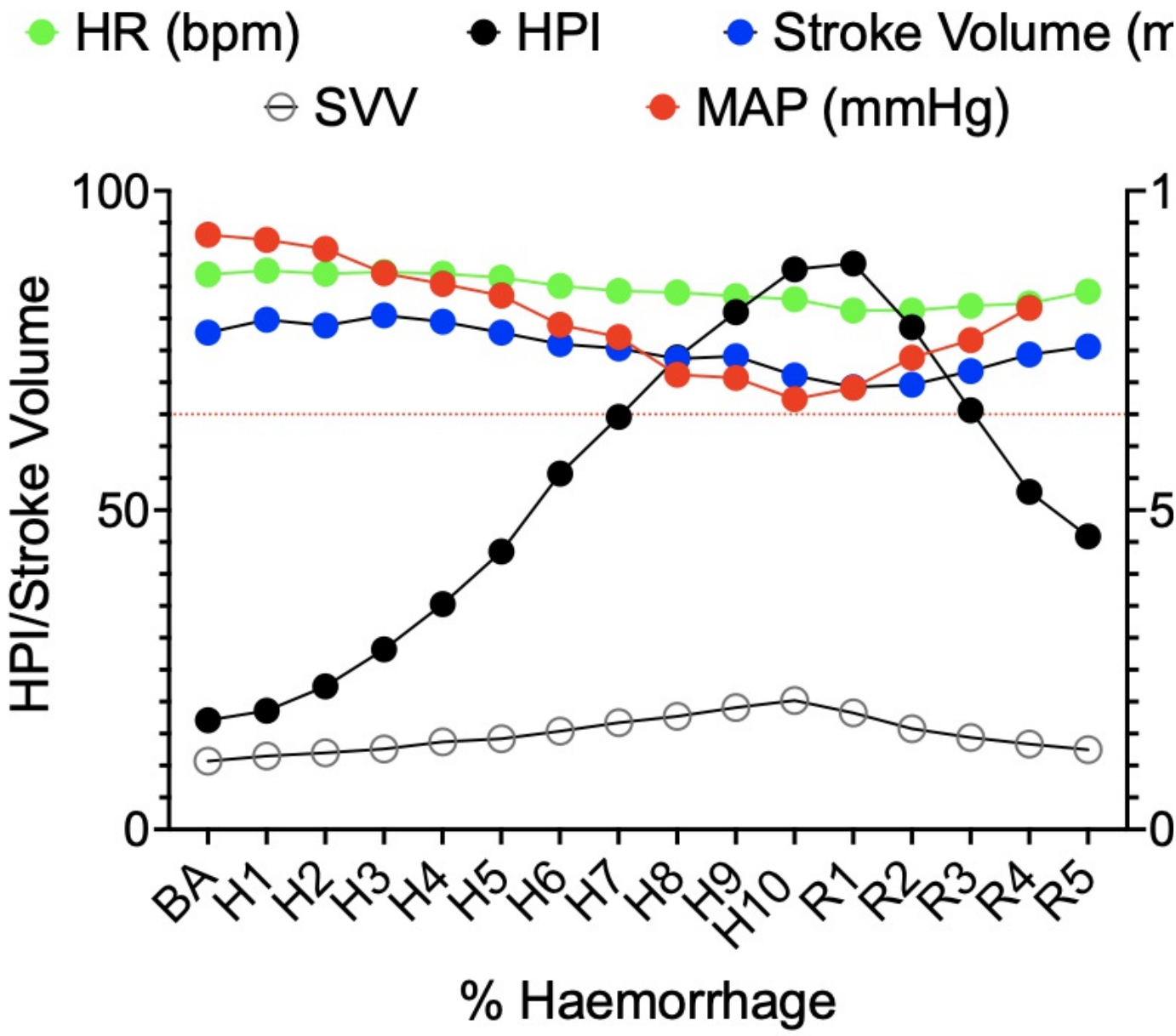

Graph 1 – Grouped data showing mean values at each of the 1% volum
points (H1-H10), followed by reinfusion with 2% volume (R1-R5).
Red dotted line represents a MAP of 65mmHg.

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Poster keywords

HPI, Machine learning , Instability, Hypotension, Haemodynamics

11

Improving perioperative protective ventilation with a single sustainable intervention to Positive End-Expiratory Pressure (PEEP) settings on perioperative ventilators.

Cian Hurley, Mohsin Kamal, Niamh McAuliffe
Department of Anaesthesia, Intensive care and Pain medicine. Cork University Hospital., Cork, Ireland

Abstract

Introduction:

General anaesthesia and mechanical ventilation in the operating theatre (OT) result in changes to the respiratory system. A significant proportion of patients (8%) go on to develop a postoperative pulmonary complication (PPC) [1]. This has implications for perioperative morbidity and mortality. Low tidal volumes based on ideal body weight in combination with the use of moderate positive end-expiratory pressure (PEEP) are components of protective perioperative ventilation which have many proven benefits in reducing PPCs [2]. We hypothesised that a change of the default setting on the perioperative ventilator from 0cmH2O to 4cmH2O would improve intraoperative PEEP use in the OT.

Methods:

In this study we examined the use of intraoperative PEEP across non cardiac surgery patients in a tertiary referral centre. We performed a retrospective chart review of perioperative ventilation strategies before and after the institution of a change to the default PEEP setting on ventilators in the OT.

Results:

85 patients with heterogenic characteristics and surgical procedures were included in the study. In the preintervention group 72% (n=36) of cases used PEEP. 55% of those with a laryngeal mask airway (LMA) and 86% with an endotracheal tube (ETT) received PEEP. Following the intervention 100% of cases (n=35) used PEEP irrespective of the airway device. Within the confines of this study no negative effects of PEEP were observed. Anaesthesia less than the median anaesthetic time of 105 minutes was associated with a higher omission of PEEP compared to a duration ≥105 minutes (32% vs 8% respectively). The median maximum tidal volume observed was 492mL (358-761; IQR = 103.5). Females were at greater risk of receiving large tidal volumes. Tidal volumes ≥500mL were associated with a higher peak airway pressure and were not associated with lower end-tidal carbon dioxide. 89% with an ETT who had received an aminosteroidal muscle relaxant received reversal (42% neostigmine and 58% suggamadex).

Conclusion:

Setting the default PEEP on anaesthetic machines to 4 cmH2O proved to be a highly effective, safe, and sustainable intervention with reproducible results across theatres in our centre. This simple sustainable anaesthesia related intervention has the potential to improve perioperative ventilation and reduce PPCs.

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postoperative pulmonary complications. Anesthesiology 2014;121:219–231
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Poster keywords

PEEP, Perioperative, Ventilation, Pulmonary, Complications

12

Assessing Preoperative Investigations in the Elective Patient cohort – are we following the guidelines?

Christi Brady, Tom Wall, Niamh Leonard
St James Hospital, Dublin, Ireland

Abstract

Introduction

- Preoperative investigations are used to supplement information for risk stratification and assessing reserve for surgery (Karim et al, 2016).
- They are a low-cost but high-volume activity, with resource implications to health services (Murray et al., 2012).
- Although there are evidence-based recommendations for investigations (NICE, 2016), practice within institutions varies.
- This audit aims to assess the volume of testing (laboratory, radiology, blood transfusion requests) carried out on patients admitted on the evening before elective surgery and to identify how current practice is following the NICE guidelines (NICE, 2016).

Methods

- This audit was carried out during a two month period in a Tertiary Teaching Hospital after approval from the Ethics Committee.
- We identified 100 patients admitted by NCHDs the evening before their planned elective surgery.
- We evaluated investigations carried out on adult patients classified as American Society of Anaesthesiologists (ASA) grades 1 to 3 undergoing elective minor (grade 1) or intermediate (grade 2) or major (grade 3) surgical procedures.
- Patient demographics including gender, age, past medical history, ASA status and planned surgery were identified.

Results

- 100 patients undergoing elective surgery were identified. Patient demographics, ASA classification and surgery are highlighted in Table 1.
- Laboratory and radiological investigations concluded:
  - 92% of patients admitted had some form of investigation undertaken.
  - 92% of patients had FBC and renal profile taken with 73% and 68% of these appropriate, 78% had a coagulation profile taken with only 43% these being as per guidelines.
  - 23% had repeat bloods in AM, zero of these are appropriate.
  - 43% of people had chest x-rays, with 78% of these clinically appropriate.

Conclusion

- Only 22% of patients had the appropriate investigations as per NICE guidelines
- It would be beneficial to examine whether the introduction of a standardised care set for investigations based on ASA status and surgical procedure being undertaken would improve adherence to guidelines.

References

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Poster keywords

Pre Operative Investigation, Standardised Care Sets, NICE Guidance, Laboratory Investigation, Radiology Investigations

13

Safety while you fall asleep: A single-centre audit and quality improvement project to reduce noise distractions in theatre during induction of anaesthesia.

Orlagh McNally, Grace McClune
Ulster Hospital Dundonald, Belfast, United Kingdom

Abstract

Introduction:

Excessive noise and distraction during induction of anaesthesia is a patient safety issue and can lead to adverse patient outcomes through ineffective communication, impaired concentration and increased patient anxiety. There are multiple sources of distraction in theatre [(1)] and despite the safety implications of this, no national guidance exists regarding safe levels of noise during induction. Given that a normal conversation is 60 decibels(dB) [(2)] our aim was for average noise levels to be 60dB or less in theatre during induction of anaesthesia with the maximum noise recorded less than 80dB.

Methods:

A prospective, single-centre project was carried out in a district general teaching hospital in Northern Ireland to determine both the average and maximum noises recorded during induction of anaesthesia. Consultant and trainee anaesthetists downloaded a standardised decibel-recording app to their smartphones with baseline data collected over a two-week period. Data was collected for 102 inductions with elective paediatrics and category 1-3 caesarean sections excluded. To avoid bias, all theatre staff excluding the anaesthetic team were unaware of the initial audit taking place. After introducing measures to reduce noise and distractions during induction, a second two-week period of data collection took place.

Results:

Of the initial 103 inductions captured, 25% had average noise levels >60dB with a maximum noise >80dB recorded during 45% of inductions. 28 patients had a noise recorded that was equal to or louder than the hospital fire alarm ringing. Multiple sources of inappropriate noise distraction were identified.

Interventions to reduce noise were implemented and subsequent data collection showed improvement; average noise levels >60dB were recorded during 11% of inductions with 25% having a maximum noise >80dB. Only 1 patient had a noise equal to the hospital fire alarm ringing.

Conclusion:

Excessive noise and distraction during induction of anaesthesia affects theatre ergonomics and creates an unpleasant and unsafe environment in which patients are anaesthetised. A “sterile cockpit” concept used by the aviation industry has been previously discussed in relation to the induction and emergence of anaesthesia [(3)], but it’s use is not widespread in clinical practice. Changing the culture in theatres and implementing a "distraction free zone" during induction of anaesthesia requires engagement from the entire multi-disciplinary team, and is a relatively cheap and effective way to reduce harm and improve patient safety and outcomes in the peri-operative period.

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Poster keywords

Ergonomics, Patient safety, General anaesthesia, Quality improvement , Communication

14

Audit of the safety and efficacy of continuous renal replacement therapy (CRRT) via an arteriovenous fistula (AVF) in the Intensive Care Unit (ICU).

Aisling Betts, Julia Temlett, Tom Burbridge-King
Royal Perth Hospital, Perth, Australia

Abstract

Introduction

Royal Perth Hospital ICU does not have the infrastructure to perform Intermittent Haemodialysis (IHD) via an AVF within the ICU. Therefore, traditionally all patients with end stage renal failure (ESRF) in RPH ICU requiring dialysis had a Vascath (temporary dialysis catheter) inserted for more prolonged continuous renal replacement therapy (CRRT) or, were transferred to the dialysis unit if able. Whilst historically there have been concerns about prolonged dialysis via a needled AVF there is international observational data that it is safe and effective. A new guideline was therefore implemented in RPH ICU in 2020 to allow CRRT via an AVF for up to 12 hours per session in with the aim of reducing the risks associated with central venous access including central vein stenosis.

Methods:

In order to assess the safety and efficacy of the new guideline, we retrospectively reviewed all ESRF admissions with an AVF in RPH ICU from May 2020 to December 2021. Data was collected from paper and electronic records. Local governance and ethics approval were obtained.

Results:

In total, 34 ESRF patients with an AVF were admitted to RPH ICU over the collection period.

3 patient's AVFs were awaiting maturation. Of the 31 patients with active AVFs, 14 received CRRT using their AVF with a median of 2 (1-6) sessions. Where data was available, mean session time was 8.65 (2-12) hours. With mean urea reduction ratio (URR) of 29.5% (14.3-41.6%). 9 patients with an active AVF had a Vascath placed. There were no recorded complications in any patients who underwent CRRT via AVF in ICU.

Conclusion:

The results demonstrate that prolonged dialysis with CRRT via an AVF in RPH ICU using our guideline is safe and effective. The work has highlighted the need for better documentation within our unit surrounding dialysis, and for education to medical and nursing staff regarding the significance of preserving vascular access for ESRF patients.

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Poster keywords

CRRT, dialysis, ICU, AVF, ESRF

15

An Audit assessing the preoperative prevalence of anaemia in a large Irish University Hospital and potential for optimisation

Fintan Bray, Nathalie Edmunds, Amy Donnelly, Shrijit Nair
St. Vincent's University Hospital, Dublin, Ireland

Abstract

Introduction:

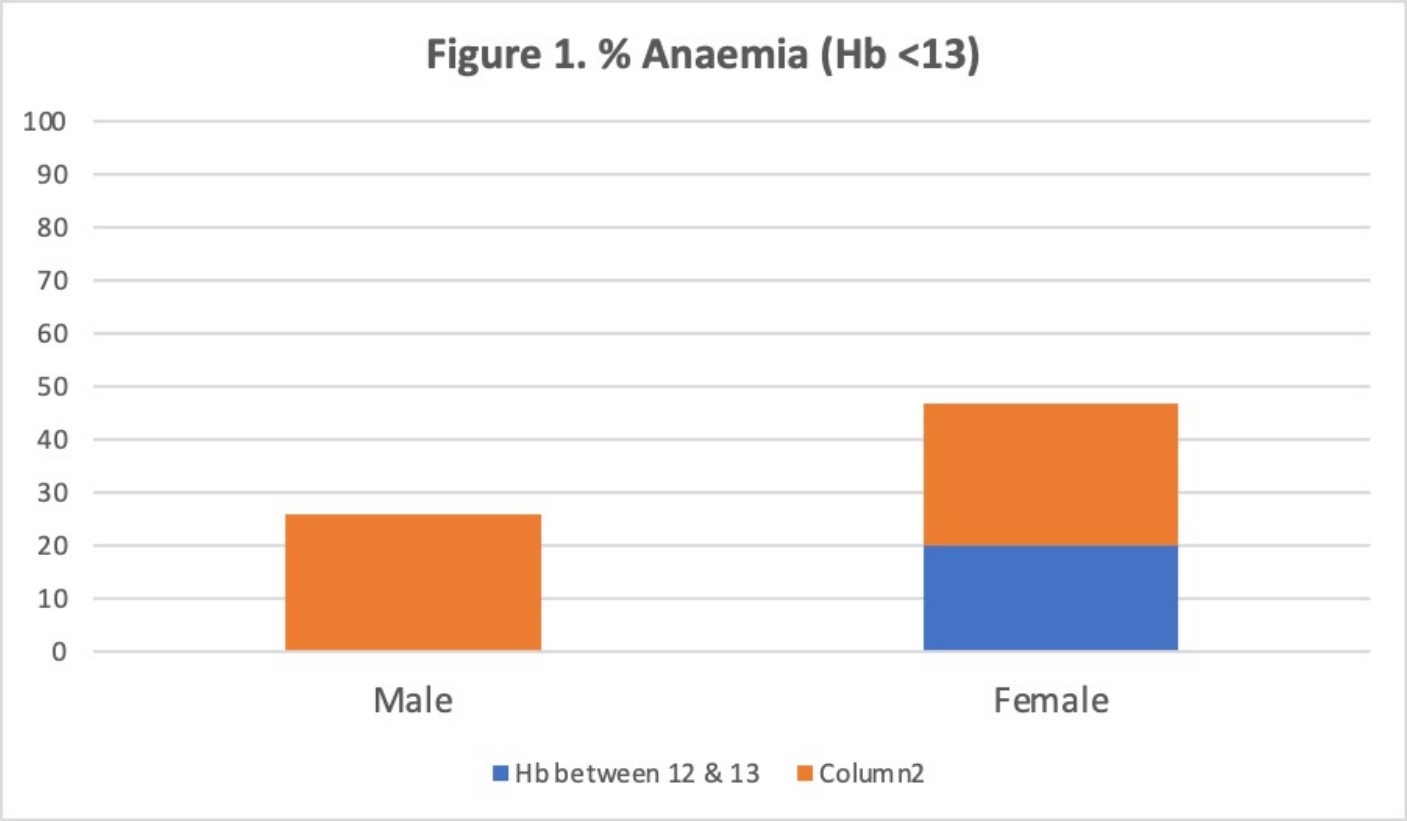
Anaemia is defined by the WHO as a haemoglobin <13g/dL in males and <12g/L in females[1], however the international consensus statement by the Association of Anaesthetists recommends a haemoglobin level of <13g/dL is used in both sexes[2]. The aim of this audit was to determine the prevalence of preoperative anaemia in our surgical population.

Methods:

Following approval from the audit committee, data was collected retrospectively from patient charts on all patients who attended the Pre-Operative assessment clinic between July-December 2021. We analysed the prevalence of anaemia in pre-operative patients in regards to sex, ASA physical status classification and surgery type (major, intermediate, or minor).

Results:

A total of 542 patients were included, 253 female and 289 male. The prevalence of anaemia in males was 26%. The prevalence in females was 47% using the international consensus definition of Hb <13g/dL, compared to 20% when using the WHO definition of <12g/dL (Blue section in Figure 1.)



Conclusion:

Identification and treatment of preoperative anaemia aims to avoid or minimise perioperative blood transfusion[3] and its associated issues such as risk of transfusion reactions and cost implications. Mussalam et al. in 2011 suggested that "Preoperative anaemia, even to a mild degree, is independently associated with an increased risk of 30-day morbidity and mortality in patients undergoing major non-cardiac surgery."[4]

The international consensus statement advises that preoperative anaemia is treated as early as possible. This audit highlights that anaemia is prevalent in over a quarter of male pre-operative patients, and just under half of female pre-operative patients.

A future revised WHO definition for women (Hb<13) would significantly increase the cohort in our institution classified as anaemic. This is a potential area for optimisation or even consideration as a public health intervention for education on anaemia in this cohort.

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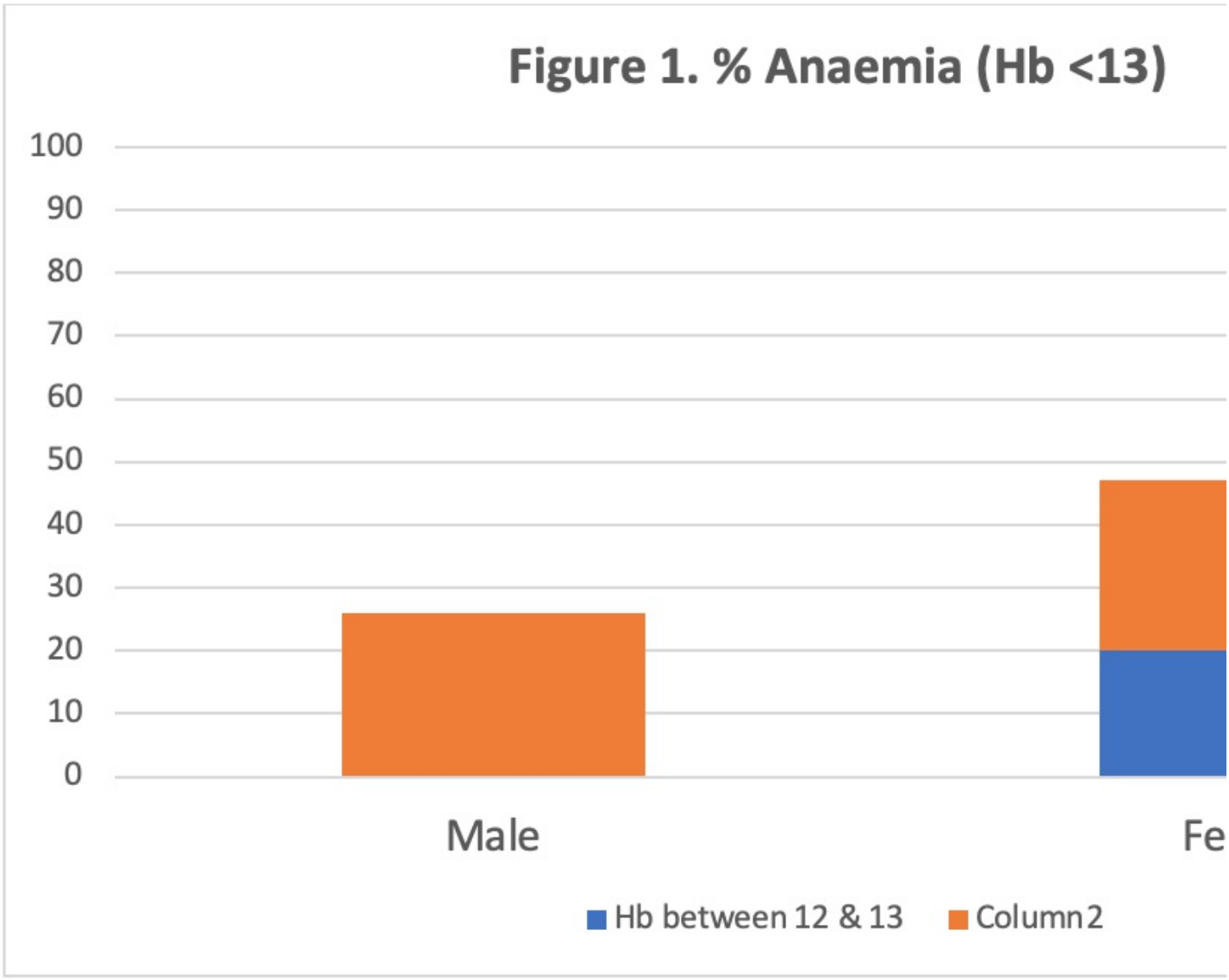

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Poster keywords

anaemia, preoperative, haemoglobin, public health, preoperative assessment clinic

16

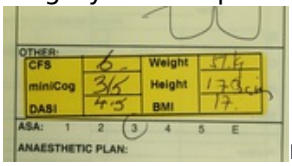
A quality improvement project to standardise preoperative assessment data

Jack McGrath, Sean Davis, Amy Donnelly, Abigail Walsh
St. Vincent's University Hospital, Dublin, Ireland

Abstract

Introduction:

The pre-op assessment clinic (POAC) is an invaluable resource for safe and adequate preparation for surgery[1]. Basic patient data including weight and height are often incompletely reco



rded which can delay interpretation. With basic peri-operative drug calculation, MAC-value calculation and TIVA parameters[2] dependent on weight input, it is paramount for this information to be accurate and easily accessible.

Figure 1

Aims:

To assess the effectiveness of a pre-op sticker in improving data standardisation in the peri-operative setting.

Methods:

A sticker (Figure 1) was designed and added to our POAC record. POAC records were reviewed between January 1st - July 31st 2022, assessing the proportion with weight recorded pre and post introduction of the sticker.

Secondly, we selected ten records completed by ten different anaesthesiologists/nurses with non-uniform weight documentation pre-sticker and ten records completed by ten different providers after the sticker introduction. We timed 25 participants in the theatre department to locate and record every weight on both sets of ten sheets.

Results:

From January to July 2022, 795 patients were seen in the POAC. Of 497 patients assessed pre-sticker introduction, 306 had weight recorded. (62%). Of 298 patients assessed post-sticker introduction, 279 had weight recorded. (94%). There was a 52% relative increase in weight documentation after sticker introduction.

	Weight Recorded	No Weight Recorded	% Weight Recorded
Pre-Sticker	306	191	62%
Post-Sticker	279	19	94%

Table 1

In our survey, the median time taken to locate and record ten weights on the records with no sticker was 1min 52s. The median time taken to locate and record ten weights on records with stickers was 35s. Speed of data collection was improved over threefold.

Conclusion:

Weight documentation is fundamental in peri-operative assessment and case planning. The introduction of the pre-op sticker has standardised documentation of patient data prior to surgery and has increased the speed at which the data is available. An electronic patient record should standardise this data in time, but in our institution, this will not occur in the near future. A simple sticker such as this has improved our documentation and patient safety.

References:

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Effectiveness of pre-anaesthetic assessment clinic: a systematic review of randomised and non-randomised prospective controlled studies

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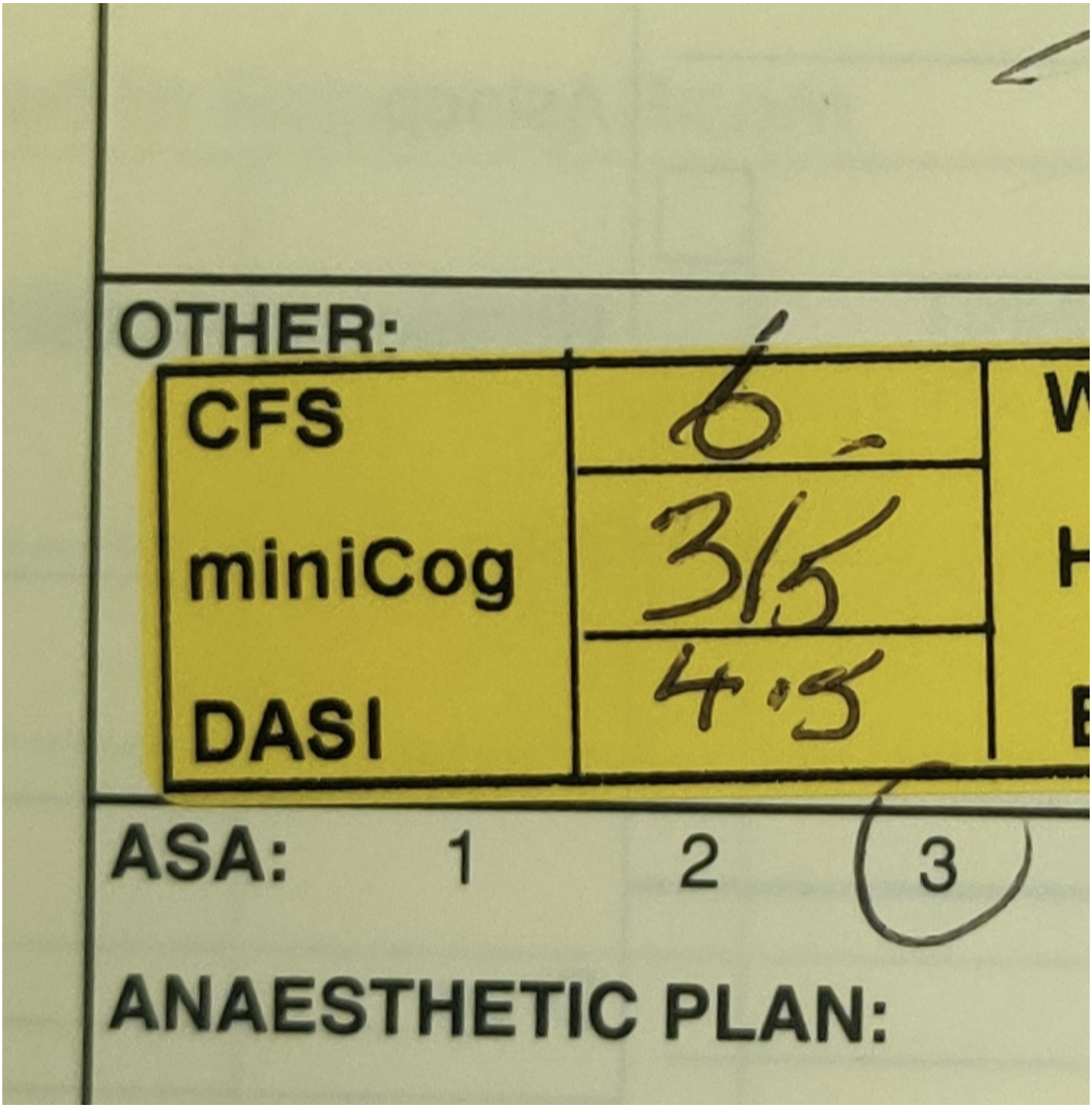

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	Weight Recorded	No W Recor
Pre-Sticker	306	191
Post-Sticker	279	19

Table 1

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Poster keywords

Sticker, Weight, Clinic, POAC, Data

17

Pharmacobezoar - Looking Beyond the Chest Radiograph

Roisin McCarthy, Margaret Coleman
University Hospital Limerick, Limerick, Ireland

Abstract

Introduction

A bezoar is an accumulation of undigested material that forms a hard mass in the gastrointestinal tract. It's incidence is approximately 0.4%[1]. A subtype of bezoar is a pharmacobezoar which forms due to a conglomerate of medications in the GI tract and is an extremely rare occurrence [1,2]. A pharmacobezoar is high risk for causing recurrent or persistent intoxication [3]. This report describes the management of prolonged toxicity secondary to an overdose of sustained-release Clomipramine and Lamotrigine resulting in the formation of a pharmacobezoar.

Case Report

A 37 year old woman was clinically stable during the initial 24 hours of admission but subsequently deteriorated, requiring intubation and admission to the Intensive Care Unit. A post-intubation chest radiograph revealed a conglomerate of medications, a pharmacobezoar, in the stomach (Picture 1). An OGD was performed and the medication was removed endoscopically. Subsequently, the patient's clinical condition improved significantly and she was extubated and medically discharged to the psychiatric ward five days after admission.

Discussion

The toxic doses of both Clomipramine and Lamotrigine is 20mg/kg which is 1.5g for the described patient. The patient was assumed to have ingested 4.2g Clomipramine which is considered a fatal dose [4]. The symptoms following overdose of sustained-release Clomipramine appear within 4 hours of ingestion, with maximum severity within 24 hours [5] . Fatal intoxication despite removal of the Clomipramine pharmacobezoar has been described, emphasising the importance of early investigation and intervention [6]. The present case report provides evidence that a high quality admission chest radiograph which includes visualisation of the upper abdomen should be performed in patients who present with deliberate drug overdose to detect the presence of a pharmacobezoar.

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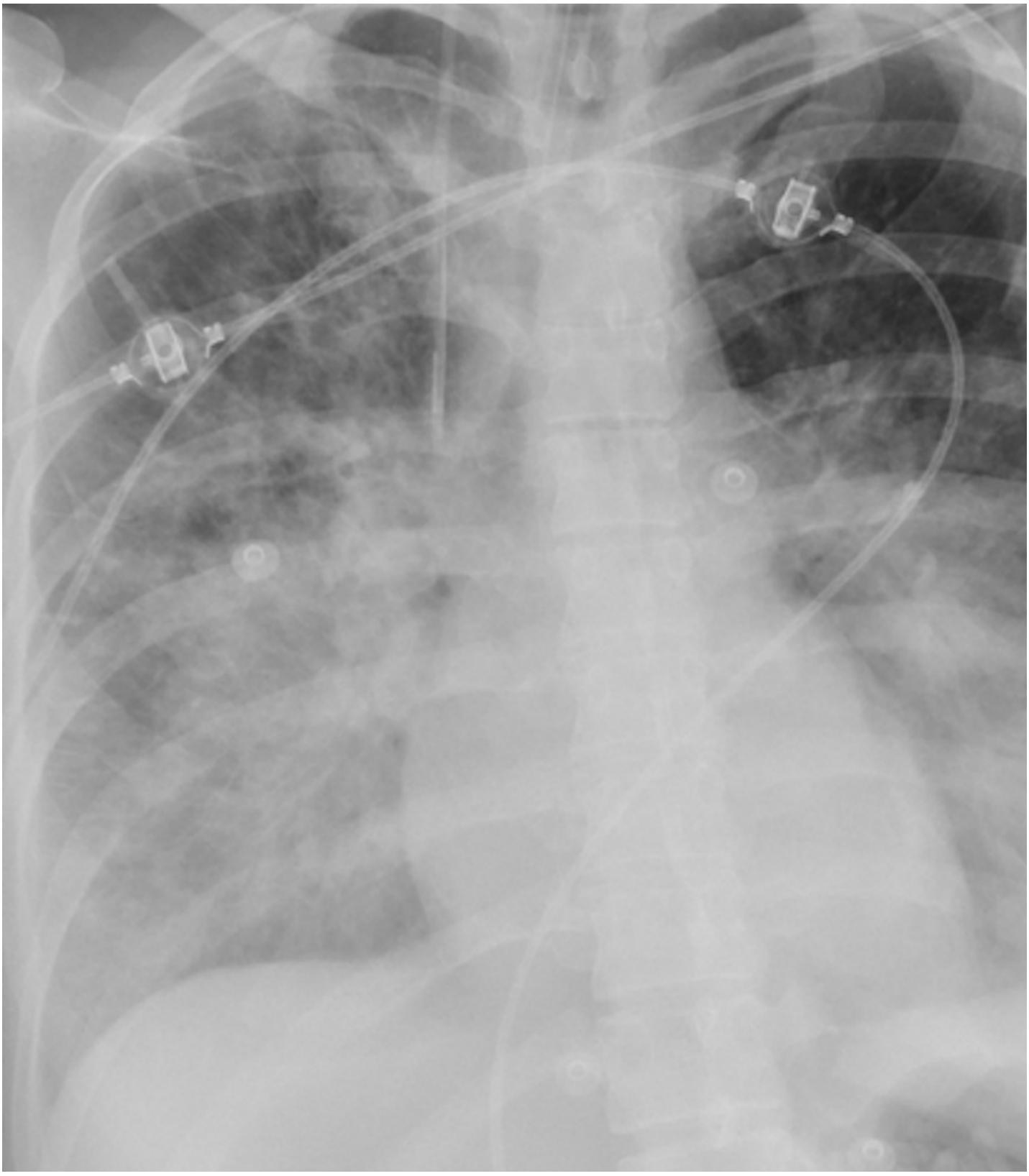

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Poster keywords

Anaesthesia, Intensive Care, Toxicology, Overdose, Pharmacobezoar

18

Mind the gap or risk a broken heart

Roisin McCarthy, John Dowling
Mercy University Hospital, Cork, Ireland

Abstract

Introduction

Alcoholic ketoacidosis is a condition associated with chronic alcohol abuse, particularly following an alcoholic binge [1]. Patients often present with a recent history of heavy drinking and subsequent relative starvation for a 1 to 3 day period [1]. Takotsubo Cardiomyopathy is a transient left ventricular dysfunction caused by physiological or emotional stress [2,3]. It is postulated that this cardiomyopathy is triggered by a catecholamine surge, such as in ketoacidosis, which releases metabolites which are toxic to the myocardium [3]. This paper presents a case of the management of a patient with alcoholic ketoacidosis complicated by Takotsubo cardiomyopathy.

Case Report

A 55 year old woman presented with a high anion gap ketoacidosis following a recent alcohol binge. Treatment was initiated for a presumed starvation ketosis but the patient's condition subsequently deteriorated, becoming clinically unstable with a worsening acidosis and significant electrolyte derangement. She was admitted to the Intensive Care Unit for supportive management of alcoholic ketoacidosis and began to clinically improve. However, she later developed significant respiratory distress and was anaesthetised and intubated. She was clinically hypervolaemic and both BNP and troponin markers were elevated. An echocardiogram confirmed a Takotsubo cardiomyopathy. She required diuresis and inotropic support. Her biomarkers improved, she was weaned successfully from the ventilator and was extubated with subsequent discharge to the ward.

Discussion

Alcoholic Ketoacidosis can be fatal due to associated electrolyte abnormalities and subsequent development of cardiac arrhythmias [4]. The diagnosis is often delayed as it can present similarly to a starvation ketoacidosis or diabetic ketoacidosis, such as in the described case [4]. As Takotsubo cardiomyopathy is thought to be caused by a catecholamine surge and is exacerbated by acidosis, early diagnosis and appropriate treatment of alcoholic ketoacidosis is important in reducing morbidity and mortality [3].

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Poster keywords

Alcoholic Ketoacidosis, Anaesthesia, Cardiomyopathy, Intensive Care, Takotsubo

19

Achieving Success Preparing for Surgery: Helping patients take control of their health before elective operations

Elliot Tillling, Lindsay Wallace, Sarah Sullivan
Institute of Neurosciences, Glasgow, United Kingdom

Abstract

Introduction: The Covid-19 pandemic has had a huge impact on the ability of the NHS to provide elective surgical services. Waiting times and the number of patients on waiting lists for elective procedures are at unprecedented levels. These unfortunate circumstances may however present an opportunity for health promotion. We have conducted a quality improvement project aiming to address health problems that affect patients on elective surgery waiting lists.

Aims and Methods: This regionally implemented quality improvement project set out to identify incidences of common health and social problems among our preoperative patient cohort in the west of Scotland. We then delivered NHS endorsed health promotional materials collated in the form of a patient information leaflet in an attempt to sign post patients on our waiting lists to appropriate resources.

Results: One hundred patients who attended at our regional neurosurgical/ maxillofacial service were included: 59% were found to be overweight; 28% were clinically obese; 30% had a diagnosis of hypertension; 23% drank alcohol to excess; 16% were smokers; 6% had type two diabetes mellitus. Our patient information leaflet was disseminated to a sample of our current waiting list patient cohort. We will follow up these patients to investigate take up of resources and the perceived utility of the information provided.

Conclusion: The health promotional initiatives explored in this project may represent an opportunity to help patients on elective waiting lists to take control of their health problems as they prepare for their surgery. Such resources are widely implementable and may lead to improvements in patient's preoperative health. These improvements would have the potential to reduce peri-operative complications and length of stay, which is critical at a time of significant pressures within the NHS.

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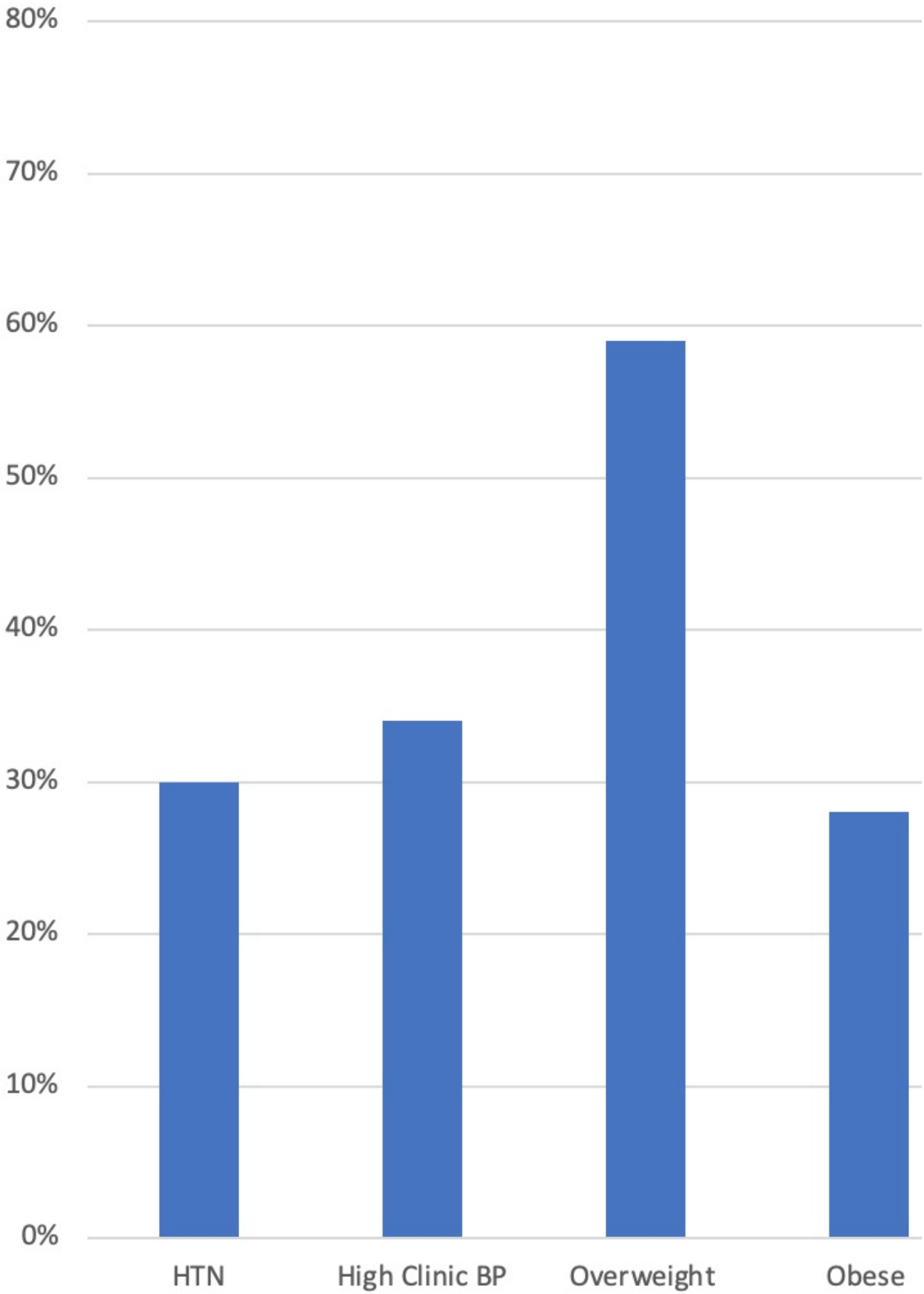

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Health Promotion, Pre-operative Assessment, Quality Improvement, Social Factors , Prehabilitation

20

Delete this one - Delirium prevention and management in the Intensive Care Unit (ICU) of University Hospital Waterford in Ireland

Muhammed Elhady Muhammed Elgasim, Tarek Abdelmaksoud, Kim Caulfield
University Hospital Waterford - anaesthesia department, Waterford, Ireland

Abstract

Introduction

Delirium is a common complication of critical illness. Its diagnosis can have a significant impact on patients' morbidity and mortality. This audit was conducted in a 10-bedded ICU at University Hospital Waterford, Ireland. We wanted to ascertain a baseline analysis of our delirium: prevention, assessment, diagnosis and management and to confirm our compliance with the National Institute for Health and Care Excellence (NICE) guidelines[1]. The results of this audit aim to guide the writing of local guidelines and staff training.

Method

The data collection checklist was designed to include the five-quality standard statement according to the NICE guideline [1, 2]. Retrospectives review of the evaluated medical and nursing notes for 35 high-risk patients admitted to the Intensive Care Unit. The implementation of the standards was evaluated by a Likert scale (one: not implemented and documented, two: partially, and three: fully implemented and documented).

Results

Validated assessment for delirium was not done on any admitted patients. 14.3% of those patients experienced delirium. The management was almost entirely confined to drug treatment. There was inconsistency with medications used between Quetiapine, Dexmedetomidine, Lorazepam and Haloperidol. The following non-pharmacological preventive interventions were well implemented, Pain control, progressive mobility, oxygenation, nutrition & hydration. The optimization orientation & sensory stimulation and sleep promotion were not well implemented (figure no 1).

Discussion

The overall incidence of delirium ranged from 45% to 87%[3, 4]. A formal management guideline for delirium assessment and management has been developed for our institution as a result this audit. Before now there was no clear guidance on the use of anti-psychotics or escalation with treatment failure in our ICU. The non-pharmacological interventions[2, 5] such as adequate pain control, early mobilization and adequate oxygenation are being implemented, however optimization of orientation and sensory stimulation and sleep promotion[5] is still required. Post the introduction of our guideline alongside a blended eLearning and face to face training approach we hope our re-audit will demonstrate benefited effect of our intervention.

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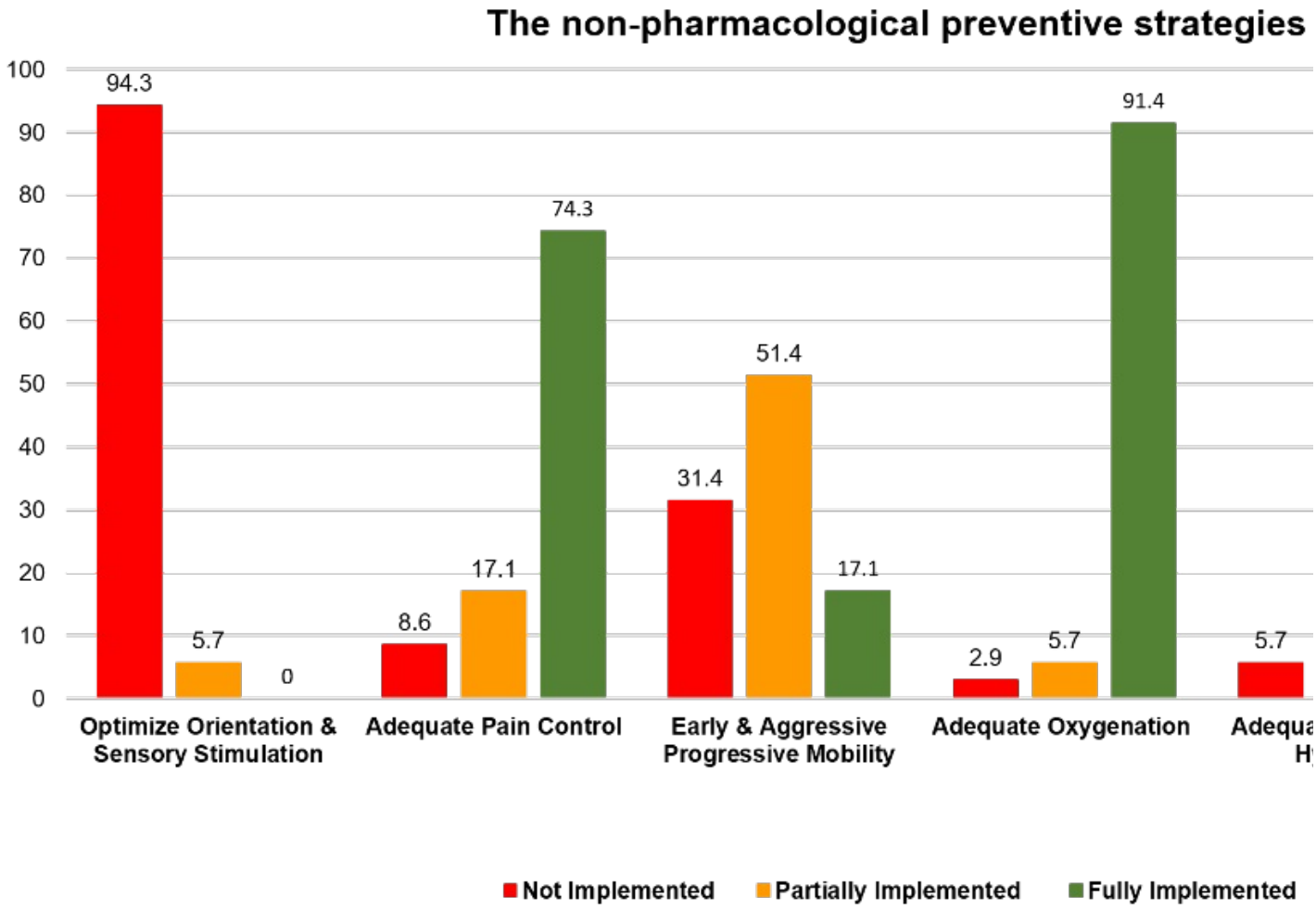

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21

The Evaluation of a novel Post Anaesthesia Care Unit (PACU)

Jacyntha Khera, Kyria Roberson, Carlotta Bianchi, Mark Edsell
St George's University Hospital, London, United Kingdom

Abstract

INTRODUCTION

An enhanced perioperative care service should deliver benefits to patients (provide high quality postoperative care and reduced likelihood of cancellation) and to systems (reduced pressure on critical care services and overall improved efficient care).1

The Post Anaesthesia Care Unit (PACU) is a 4 bedded unit formed in the summer of 2020 with an aim to maintain elective surgical capacity during the COVID-19 pandemic (Figure 1). Today, it has treated over 700 patients and continues to deliver enhanced post-operative level 1.5 care to elective surgical patients.

This project aimed to assess the impact of the PACU and overall stakeholder satisfaction.

METHODS

A survey was created which consisted of 2 sections: general and specific questions targeted at stakeholders (Anaesthetic consultants, Anaesthetic trainees, Surgical consultants and trainees, PACU nurses and ICU nurses in charge). The survey was open for 4 weeks in April 2022 to allow for completion.

RESULTS

- Total of 96 responses were collected.
- 90% (86/96) agreed that PACU had been a good development for the hospital (Figure 1) with 66% (63/96) felt that PACU positively impacted clinical practice with “reducing HDU/ICU bed pressure” and “improved post-operative care” being the most common reasons.
- 92% (24/26) of surgeons agree that PACU has led to: reduced elective cancellations; easier starting of elective lists; and more comprehensive care compared to surgical wards.
- Only 28% (26/96) of users find the PACU referral process simple.
- 88% (30/34) Anaesthetic consultants agree that patient flow through PACU is affected by hospital bed pressures.
- 90% (9/10) of PACU nurses felt that the workload is more than they can manage.
- Majority of service users (44%) want the priority for PACU to have an increase bed capacity.
- One service user comment was “Excellent service, helpful, approachable team, should be expanded.”

CONCLUSION

- The implementation of PACU has had a positive impact on post-operative care for patients.
- The future priorities should be to support PACU nurses in training in post-operative care, streamline referral process as well as increase bed capacity to extend the service.

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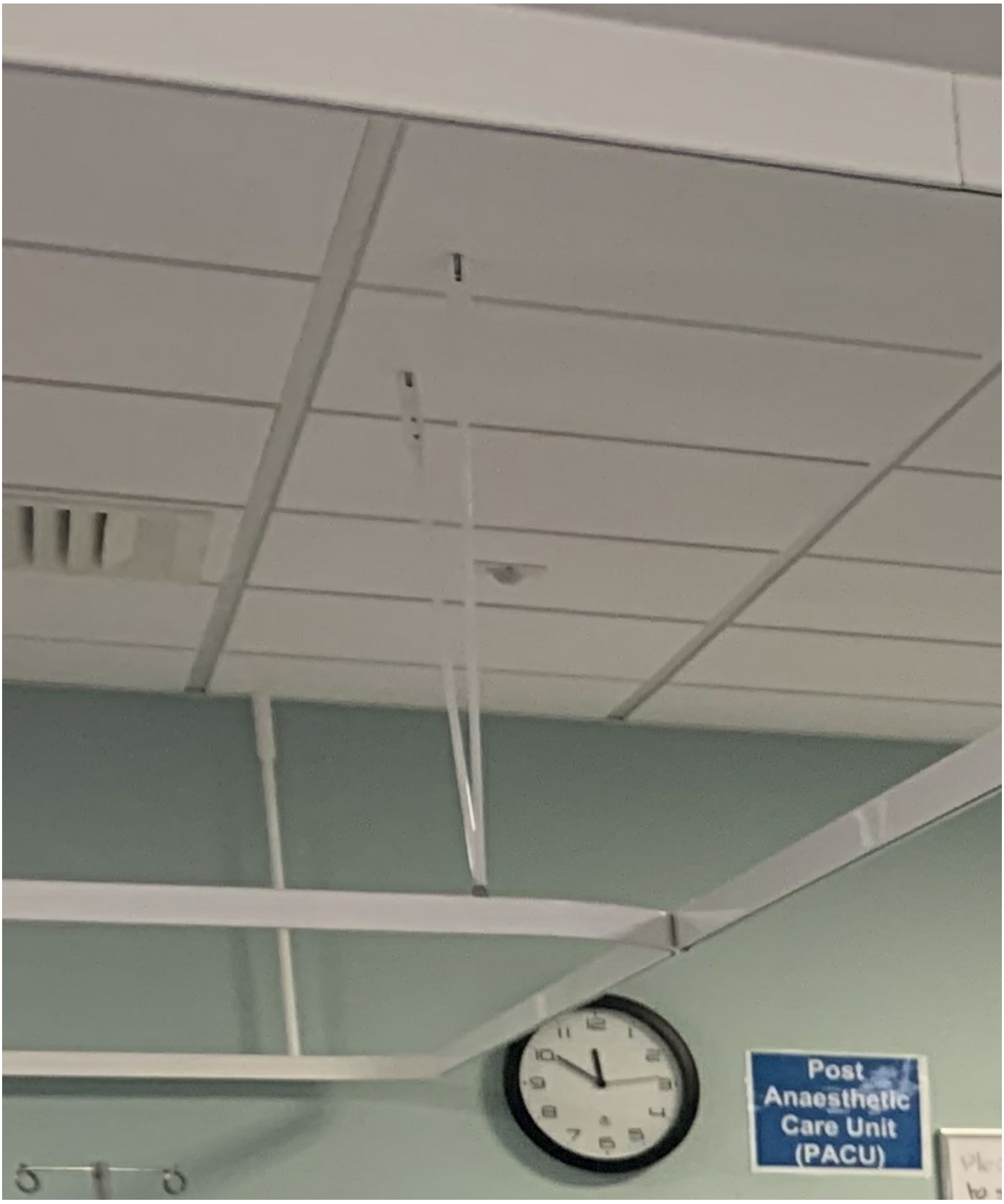

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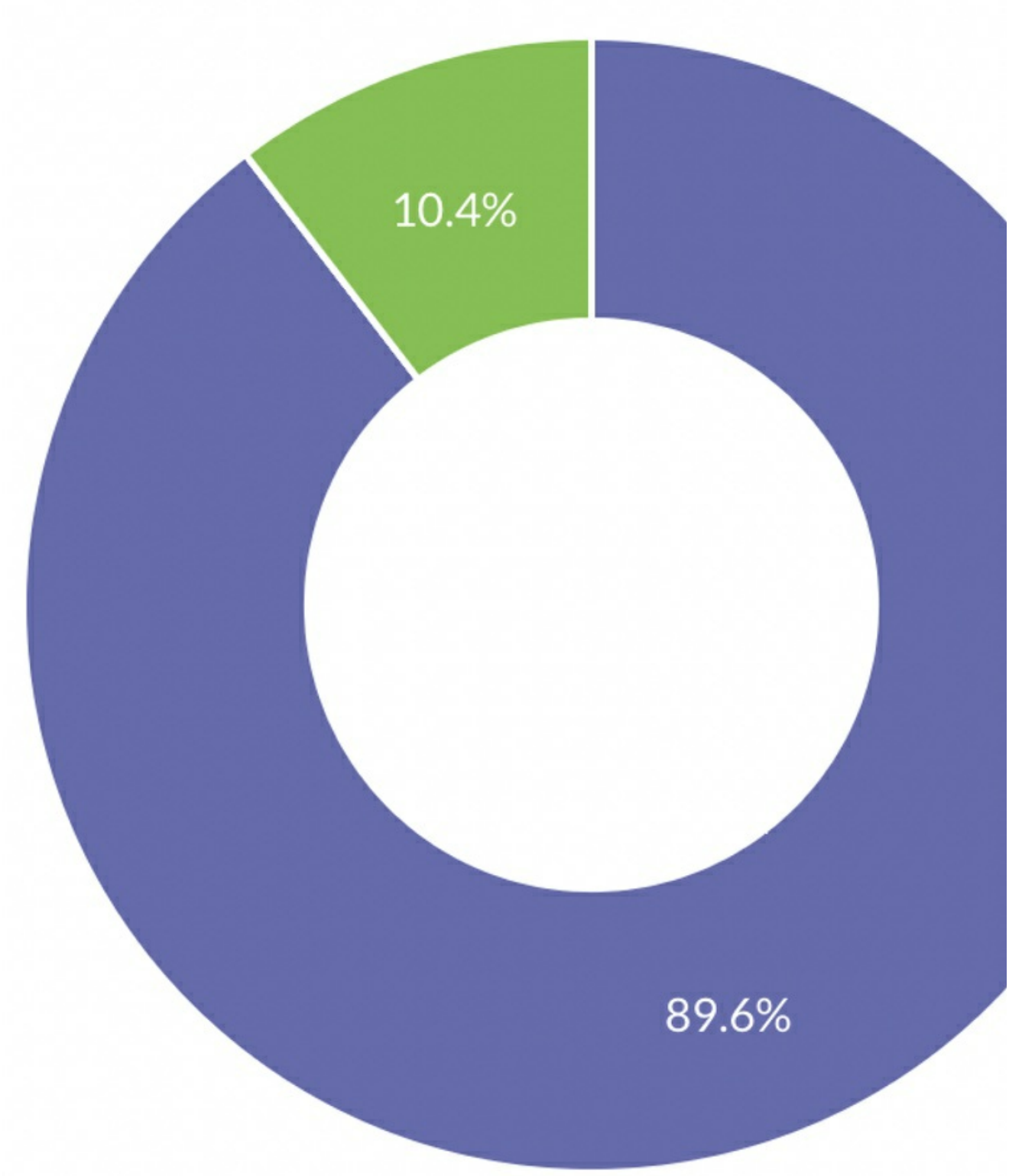

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Poster keywords

PACU, Perioperative, Recovery, London, Post Anaesthesia

22

A Case Report and Review of The Literature: The Importance of Preoperative Multidisciplinary Management of a Ball Valving Vocal Cord Polyp Presenting with Respiratory Distress.

Tarek Abdelmaksoud[1], Pradipta Bhakta[1,2], Liam Skinner[1], Vida Hamilton[1]
[1]University Hospital Waterford, Waterford, Ireland. [2]Hull University Teaching Hospital NHS Trust, East Yorkshire, United Kingdom

Abstract

Case Description

A 68-year-old 70 kg male presented to ED with one-day history of dyspnea and non-productive cough. Tracheal tug was noted, bilateral wheeze was heard and SpO2 was 90% on FiO2 0.4. Nebulized 5mg x2.5ml Salbutamol and 16mg IV dexamethasone showed no improvement. Nebulised 1mgx5ml adrenaline gave some temporary improvement. History revealed elective vocal cord polypectomy 25 years ago, well-controlled hypertension and smoking of 30+ pack years. Fibreoptic examination revealed non-anterior-commissure ball valving vocal cord polyp (1.5x1.5x1.0) obstructing the laryngeal inlet. The polyp was noted to be mobile and soft. Sufficient space for a bougie or microlaryngoscopy tube was anticipated. Consent was obtained for emergency polypectomy and tracheostomy. After MDM discussion; Plan A was inhalational induction, Plan B rapid sequence induction and Plan C surgical airway. Inhalational induction with sevoflurane in 100% oxygen was insufficient for intubation and was supplemented with intravenous propofol 100mg and suxamethonium 100mg. Video-assisted intubation with a microlaryngeal endotracheal tube size 6.0 was performed from 1st attempt followed by 100mcg fentanyl. Polypectomy was performed and patient was transferred to ICU due to high O2 requirement despite endotracheal suctioning. Patient was vitally stable throughout the intraoperative and postoperative periods with improving ABGs overnight. He was extubated successfully 10 hours later and subsequently discharged after 48 hours on oral amoxacillin. Histology showed dysplasia with heavy growth of H Infleunza sensitive to amoxacillin. The patient quit smoking and remained well on outpatient follow-up with no evidence of recurrence on repeat outpatient endoscopy.

Patient Consent: Obtained.

Discussion

Tracheostomy has complications in up to 30% of patients (1,2). Mortality from a vocal cord polyp is very rare (3,4). Tracheostomy has been previously described in a similar case (5). The decision to go for tracheostomy was based on concerns that the polyp could be dislodged. Polyp dislodgement has been described (6) but remained attached to its stalk and caused no clinical issues.

Learning Points

- We recommend MDT discussion and consideration for tracheal intubation, with surgical airway access on standby, for these soft mobile polyps.
- Support HiB vaccination.

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Poster keywords

ENT, Case report, Vocal Cord Polyp, Multidisciplinary, Preoperative

23

Digital Innovation in the Perioperative Pathway; using HbA1c as a measure for improving optimisation

Hannah Catton[1], Graham Jackson[2,3], Kanwal Stolworthy[4], Jeremy Drake[1], Caroline Pritchard[1]
[1]Buckinghamshire Healthcare NHS Trust, Aylesbury, United Kingdom. [2]NHS England, Oxford, United Kingdom. [3]Whitehill Surgery, Aylesbury, United Kingdom. [4]Graphnet Health, Milton Keynes, United Kingdom

Abstract

Introduction

We have a live platform to detail patients on our hospital admitted and non-admitted patient pathways, the Patient Treatment List (PTL), which allows understanding for the first time the co-morbidity load of our surgical population. This platform can link the electronic patient record to GP records, results and demographic data and this could have enormous implications for planning for future workload with changing demographics. Diabetes is the most common metabolic disease in the UK, with increased mortality, morbidity and increased length of stay post-operatively.1 By improving optimisation, we could avoid more day-of-surgery cancellations, improve anaesthetic safety and improve longer-term recovery.

We aimed to examine a cohort of diabetic patients on admitted pathways in our DGH who had HbA1c levels above the cancellation threshold and establish other information about them, to subsequently improve the patient optimisation pathway.

Methods

We used the dashboard to select parameters for our cohort within elective waiting lists for 3 surgical specialties; we set the minimum HbA1c value to 69mmol/L which is the cancellation threshold.

We obtained more information for each patient using the PTL itself and the electronic patient record. Microsoft Excel spreadsheets were used for data collection and analysis.

Results

This platform is a user-friendly live interface allowing easy identification of patient groups on the PTL.

For Trauma & Orthopaedics, General Surgery & Gynaecology, 199 diabetic patients were identified on the PTL. 20% had a HbA1c of greater than 69mmol/L which could lead to cancellation.

72% had higher HbA1c levels recorded on their most recent result suggesting that their diabetic control had worsened whilst on the waiting list (Fig 1).

28 patients (72%) had at least 4 co-morbidities, the most common being; hypertension, chronic obstructive lung disease, ischaemic heart disease, and high BMI.

Conclusion

We have used this technology to identify high-risk patients who would benefit from pre-surgical optimisation. For the first time, we see that one fifth of diabetic patients had deteriorating diabetic control whilst on the waiting list.
With Primary Care and community services, we aim to develop a pathway for elective surgery, including Primary Care notification if patients are added to waiting lists and ensuring diabetic patients have a HbA1c within 3 months of surgery.5

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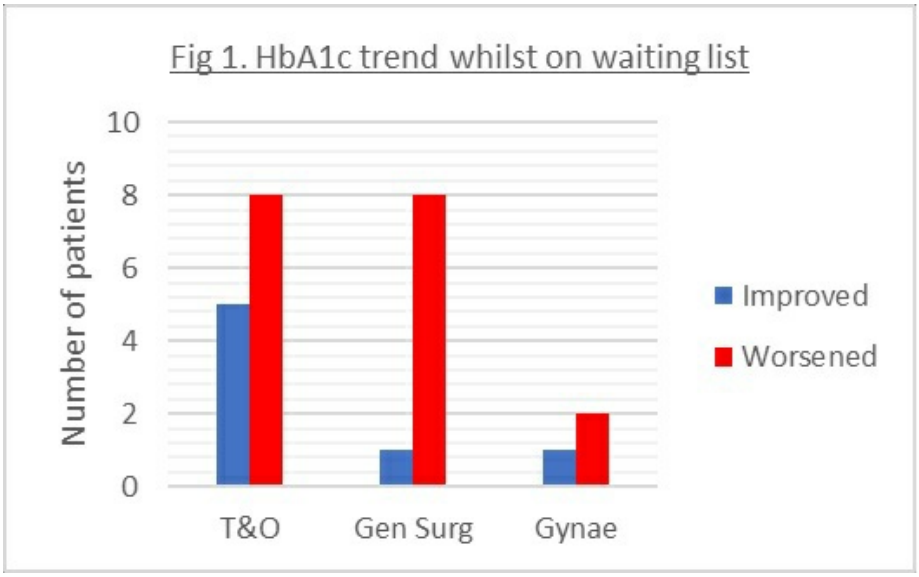

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Poster keywords

Diabetes, Optimisation, Perioperative, Digital platform

24

Introduction of Upper Limb Nerve Blocks without GA & Block Bay in UHW - A prospective observational study on quality improvement & cost effectiveness

Albert Hanekom, Sudhir Immanni, Pradipta Bhakta, Petr Jemelik, Jhansi Raparthi
University Hospital Waterford, Waterford, Ireland

Abstract

Introduction: The average daily running cost of an in-patient hospital bed across acute hospitals is approximately €878 per night. This represents the in-patient cost of a hospital bed including clinical staffing, theatres, laboratories, non-clinical staffing and cleaning, maintenance and other running costs. UHW has introduced a “block bay” in the orthopaedic ward for patients who will undergo day surgery to the upper limbs under regional anaesthesia only and be discharged the same day. The aim is to increase bed turnover and reduce post-operative hospital stay, thereby saving costs and improving quality of service. This is the first of its kind and needed a big cultural change from staff and patients as well.

Methods: A prospective observational study was carried out in UHW over a span of 3 months on upper limb surgery cases done under regional anaesthesia only without GA. The primary aim is the length of stay in the hospital and the secondary aims were same day discharge, improved post-operative pain scores, and decreased opioid requirements and less post operative nausea and vomiting. Data is collected from admission to discharge, as well as follow up information where available.

Results: Of 35 patients tracked, 26 were discharged the same day of surgery. Of the remaining 9, 3 were kept overnight due to prolonged motor block and 6 due to surgical reasons such as IV antibiotics. Additionally, 34 of 35 cases had a successful block with post op pain scores of 0 for at least 2 hours and no opioid requirement. Satisfaction scores from patients, surgeons and nursing were extremely high.

Conclusion: A dedicated “block bay” for orthopaedic upper limb surgery provides a fast- tracked path for selected patients to be discharged safely after day-surgery under regional anaesthesia on the same day. This results in fast theatre turnover, short recovery time in theatre, fast discharge from the ward and thus available beds for those that need it most. We were able to do two cases instead of one case done under GA in the same timeframe. Our second limb of the study involves comparing it with GA only upper limb orthopaedic procedures prospectively, which is ongoing. Not only are available hospital beds a massive commodity in a time of a pandemic but also prevents unnecessary overnight stay in hospital, which is very cost effective for hospital and hence the taxpayer.

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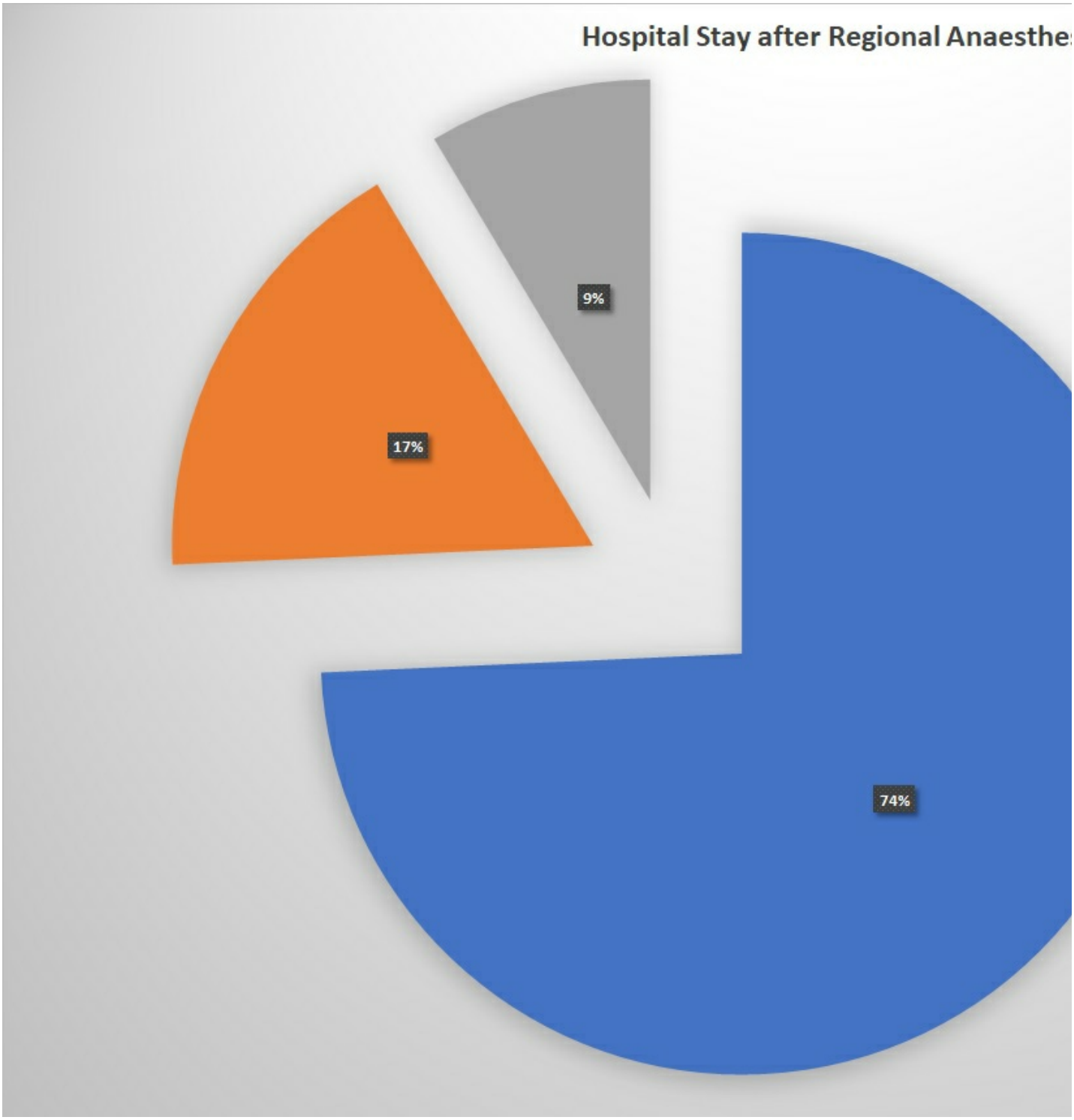

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Poster keywords

UHW, Regional, Cost, Length of stay, Pain

25

The perils of phone consultation perioperative clinics, a case example

Martina Mannion, Ciara Hanley
Department of Anaesthesia, University Hospital Galway, Galway, Ireland

Abstract

This report discusses a case of a seventy eight year old female with an incidental finding of severe aortic stenosis prior to major abdominal surgery. This patient had a history significant for colorectal cancer and was scheduled for an abdomino-perineal resection (APR). Phone call pre-operative assessment was carried out in the weeks preceding the planned surgery date. As a result, physical examination of the patient was not possible at the time.

On pre-operative anaesthetic review, an ejection systolic murmur was heard. The patient was asymptomatic. She had no history of cardiac symptoms and was never referred to cardiology. Her background history included scleroderma, Raynaud's phenomenon, rheumatoid arthritis, osteoporosis and hypercholesterolaemia. Her surgical history was significant for a mastectomy with post-op chemotherapy. She was also an ex-smoker.

Bedside transthoracic echocardiography (TTE) was performed by the anaesthetic team in theatre. This revealed severe aortic stenosis and left ventricular hypertrophy. Cardiology were consulted immediately. A formal TTE confirmed severe aortic stenosis with a max gradient of 79mmHg, mean gradient 54mmHg and aortic valve area (AVA) measuring 0.7cm2. Moderate-to-severe concentric left ventricular hypertrophy, mild aortic regurgitation and mild mitral regurgitation were also evident. Ejection fraction was preserved at 55-60%.

Given these significant findings it was not possible to proceed with surgery. This was distressing for the patient who had been waiting for this surgery for quite some time. Had the pre-op assessment clinic been in person, this delay would likely have been avoided.

A coronary angiogram and CT TAVI were performed. Long diffuse stenosis of the LAD, calcific ostial disease (40%) and distal disease (30%) were evident. Transcatheter aortic valve implantation (TAVI) was advised by Cardiology prior to resection. This was successfully performed three weeks later and the APR was rescheduled.

Aortic stenosis is a major clinical predictor of adverse outcomes. As severity progresses, there is increased left ventricular (LV) outflow obstruction and reduced LV compliance. Patients are at risk of myocardial ischaemia, infarction, arrhythmias and heart failure [1].

Risk stratification of patients prior to surgery is of paramount importance. Optimising cancer patients can however be challenging due to the time critical nature of definitive treatment. Unanticipated delays in perioperative optimisation in a patient awaiting major oncological resection have implications for curative resection.

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Poster keywords

aortic stenosis, POAC, echo, pre-op

26

Audit of intra-operative temperature monitoring at a university teaching hospital

Martina Mannion[1], Ciarán Fitzgerald[2], Mark Ross[1]

[1]Department of Anaesthesia, University Hospital Galway, Galway, Ireland. [2]Department of Anaesthesia, Galway University Hospital, Galway, Ireland

Abstract

The Association of Anaesthetists regards it essential that minimum standards of monitoring be adhered to whenever a patient is anaesthetised, irrespective of duration or location of anaesthesia. Pulse oximetry, non-invasive blood pressure, ECG and temperature, before anaesthesia and every 30 min until the end of surgery are considered to be such minimum monitoring for anaesthesia [1].

NICE guidelines state that a patient's temperature should be measured and documented before induction of anaesthesia and then every 30 minutes until the end of surgery. They also state that active rewarming should be carried out intra-operatively [2].

Retrospective clinical audit of practice in this anaesthetic department showed lack of compliance with the use of temperature monitoring. In a random sampling of 50 anaesthesia records in patient charts from surgical wards in the hospital, 18 out of n=50 patients (36%) had temperature documented intra-operatively. In addition, in the majority of instances where temperature was reported, it was not documented throughout the procedure but only one to two measurements were noted. In 100% of cases (50/50), warming blankets were employed.

Factors that impact patient temperature include, the cold theatre environment, vasodilation due to volatile or intravenous anaesthetic agents, surgical instrumentation, and the extent and duration of surgery. Hypothermia is defined as a temperature of <36.0 degrees Celsius. It increases morbidity and potentially mortality. Prevention of intra op hypothermia is important due to the inherent risk of complications such as arrhythmias, coagulopathies, impaired enzyme activity and altered pharmacokinetics of anaesthetic drugs [3]

Recording of temperature throughout a case should be a standard practice to facilitate appropriate management of any hypothermia. IV fluid warmers and warming blankets are key components of intra-operative temperature management due to the importance of maintenance of normothermia during surgery.

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Poster keywords

temperature, audit, hypothermia, intra-operative

27

Delirium Assessment in a Single Centre Intensive Care Unit

Patrick Sweeney[1], Ciarán Fitzgerald[2], Bruno Biancardi[2], Geraldine McCarthy[1]
[1]National University Of Ireland, Galway, Galway, Ireland. [2]Sligo University Hospital, Sligo, Ireland

Abstract

Introduction:

Delirium is an under-recognised medical emergency in the ICU. Delirium incidence in the ICU is as high as 55% and is associated with mortality, longer length of ICU admission and more days spent on mechanical ventilation 1. Delirium is often under-diagnosed in the ICU. Specific ICU delirium assessments such as CAM-ICU were designed with the complexities of ICU patients in mind 2. This audit investigates the rates of delirium in one Model 3 University Hospitals ICU.

Methods:

Retrospective chart review of all ICU admissions lasting more than 24 hours over a 1 year period (n = 162, xage = 63, 85 male, 77 female).

Results:

22 patients (13%) were CAM-ICU positive for delirium and 34 patients (21%) were too obtunded to be assessed for delirium. There was no significant difference in medical or surgical rates of delirium [2 = 7.588 p =0.109] . Initial assessment of the delirium rates in intubated patients suggested a significant difference in the rates of delirium between patients who were intubated and those who were not [2 = 58. 233 p =0.000]. Further analysis however demonstrated that the difference wasn’t due to higher rates of delirium amongst the intubated population, but instead was confounded by the higher rate of patients with RASS scores <4, excluding them from CAM-ICU assessment. This pattern was repeated when rates of delirium among patients who died in the ICU were compared against those who survived their ICU admission.

Conclusion:

This study demonstrated a much lower rate of delirium than anticipated in our ICU. Possible reasons include poor recognition of delirium by ICU staff and perhaps over-sedation. This study was conducted in a centre without dedicated PACU or HDU facilities. It is possible this altered the patient demographics in this centre when compared to other centres. A focus group study with ICU staff was conducted given the results of this study to explore possible factors leading to such unexpectedly low numbers of delirium diagnoses.

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Poster keywords

Delierium, ICU, CAM-ICU, Intensive Care

28

Title: Mitral valve repair, ring annuloplasty, and septal myomectomy for Systolic anterior motion of the mitral valve (SAM) in a patient with hypertrophic cardiomyopathy and degenerative mitral valve disease.

Liam O'Driscoll, Sean Carolan, Pádraig Ó'Scanaill
Mater Misercordiae Hospital, Dublin, Ireland

Abstract

Title: Mitral valve repair, ring annuloplasty, and septal myomectomy for Systolic anterior motion of the mitral valve (SAM) in a patient with hypertrophic cardiomyopathy and degenerative mitral valve disease.

Introduction/background:

Systolic anterior motion (SAM) is a life-threatening condition. The term describes the movement of the anterior leaflet of the mitral valve (MV) towards the left ventricular outflow tract (LVOT) during systole. it was first described by termini et al (1) as a sequela of MV repair, however It can occur in multiple pathoanatomical states where the functional anatomy of the MV complex is altered. SAM is most associated with Hypertrophic cardiomyopathy (HCM). LVOT narrowing due to septal hypertrophy is a common feature of HCM and is thought to result in fluid pressure conditions favouring a venturi effect. These pressure conditions are postulated to drag the anterior MV leaflet into the LVOT causing outlet obstruction (2)(3). LVOT obstruction due to SAM is most likely to occur during states of increased sympathetic tone which should be minimised during general anaesthesia.

Case Presentation:

A 74-year-old woman presented with a short history of NYHA class 3 dyspnoea and new onset paroxysmal atrial fibrillation. Initial Transthoracic echocardiography showed eccentric type hypertrophic cardiomyopathy with basal-septal hypertrophy >20mm and Severe Mitral regurgitation with PISA of 1cmand a Vena Contracta width of 1cm. Intra-operative trans-oesophageal echocardiography (TOE) showed dynamic LVOT obstruction with Grade III SAM and Carpentier Type II dysfunction of the mitral valve with Isolated prolapse of the P2 scallop. The etiology of the degenerative mitral valve disease was most likely fibro-elastic deficiency given the patient’s age and acuity of presentation. The Surgical correction consisted of a quadrangular resection of the P2 cusp, mitral valvuloplasty, mitral annuloplasty, and a septal myomectomy.

Conclusions:

Our case discusses the perioperative anaesthesia-related challenges posed by SAM pathology and the additional considerations made in the presence of severe co-existent mitral regurgitation. We will also discuss the pathoanatomical features of the mitral valve complex associated with SAM.

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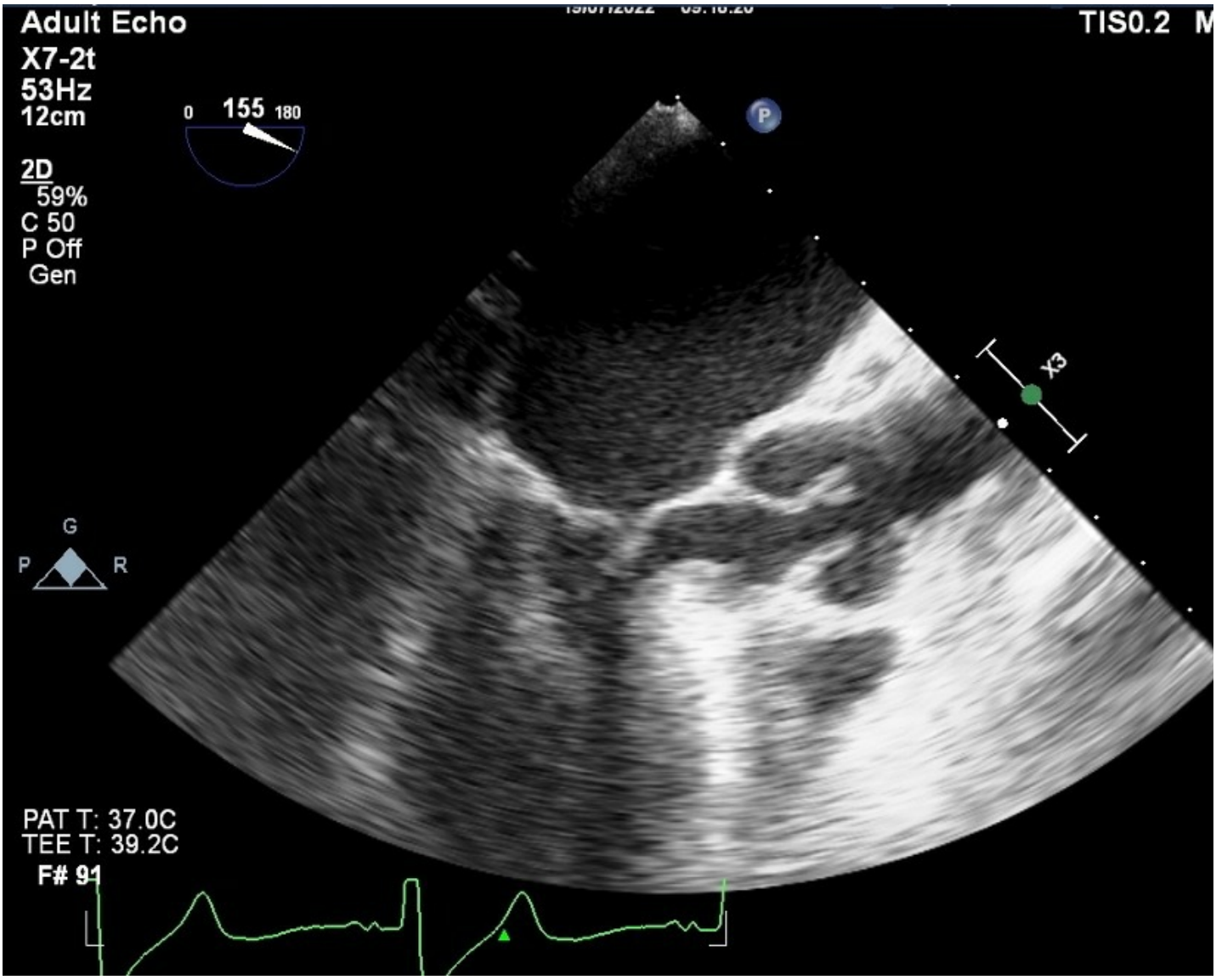

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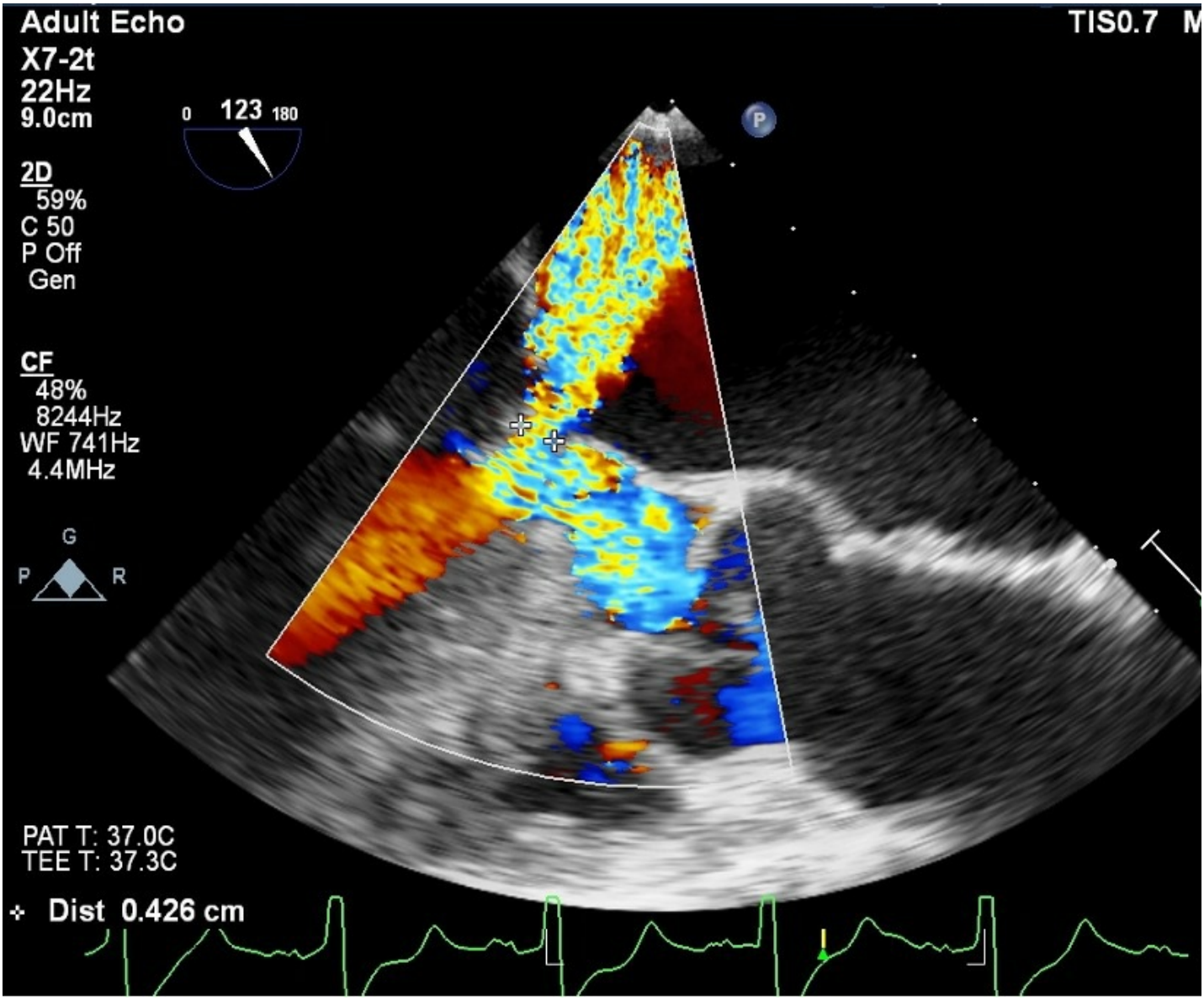

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29

Title: Systematic Review and Meta-Analysis of Fibrinogen Factor concentrate for the treatment of post-bypass bleeding in patients undergoing Cardiothoracic Surgery.

Sean Carolan
Mater Misercordiae Hospital, Dublin, Ireland

Abstract

Introduction:

Excessive blood loss, defined as class 3 or 4 bleeding according to the universal definition of perioperative bleeding, occurs in approximately 3-10% of patients undergoing cardiovascular surgery.

Transfusion of allogeneic blood products in the perioperative setting is common in patients undergoing cardiovascular surgery and accounts for over 20% of blood product usage worldwide. Allogenic blood product usage may increase the risk of adverse events thus it is important to develop strategies to reduce their use in the cardiovascular surgical setting(1).

Major perioperative Haemorrhage exposes patients to an increased risk of allogenic blood product transfusion. Those who undergo re-sternotomy due to bleeding have a threefold increase in the risk of mortality.

Coagulopathy in the unique setting of CPB is complex and multifactorial(2). The use of cardiopulmonary bypass is associated with significant decreases in plasma fibrinogen levels even in the absence of bleeding(2). Fibrinogen is the first clotting factor to decrease during major haemorrhage resulting in acquired Hypofibrinogenemia. Acquired hypofibrinogenemia during cardiac surgery is most frequently caused by Haemodilution and consumption of clotting factors. Observational studies have identified a relationship between acquired hypofibrinogenemia in the setting of bleeding and increased risk of major postoperative blood loss in cardiac surgery.

Methods:

The following databases were searched Pubmed, Cochrane Library, Medline (OvidSP), Web of Science (Thompson Reuters) searched on 22/05/2021 date, with automatic updates searched until 22/06/2021 to identify all RCTs investigating the use of fibrinogen concentrate in the use intraoperative bleeding during procedures requiring cardiopulmonary bypass.

Results:

In Total 7 Trials were identified for inclusion in the meta-analysis with a combined total of 1266 participants. In aggregate these trials showed no difference in all-cause mortality measured at 30 days (RR, 0.62; 95%CI, 0.16-2.48, I2=34%, P=0.50).

Administration of fibrinogen concentrate significantly reduced the proportion of patients who were transfused with allogenic red blood cells (RBCs) (RR 0.47, ;95%CI,0.28-0.8, I2=0%, P= 0.005).

No significant differences were found for other clinical outcomes

Conclusions:

The Haemostasis and transfusion scientific subcommittee of the European association of cardiothoracic anaesthesiology (EACTA) recommends the administration of fibrinogen concentrate for maintaining physiological fibrinogen activity in the case of microvascular post-cardiopulmonary bypass bleeding(3). The findings of this systematic review and meta-analysis support these recommendations. The American

society of anaesthesiologists task force on perioperative blood management recommends that fibrinogen concentrate should be considered in patients with excessive bleeding the findings of this review do not impact this advice. The European society of anaesthesiology (ESA) currently recommends treatment of hypofibrinogenemia in bleeding patients with fibrinogen concentrate or cryoprecipitate.

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30

Acceptable and effective peri-operative smoking cessation for people with orthopaedic infections: a realist synthesis

Maria Dudareva[1], Jamie Hartmann-Boyce[2], Matthew Scarborough[1], Martin McNally[3]
[1]Oxford University Hospitals, Oxford, United Kingdom. [2]Department of Primary Care Health Sciences, Oxford, United Kingdom. [3]Nuffield Orthopaedic Centre, Oxford, United Kingdom

Abstract

Introduction:

Smoking cessation before orthopaedic surgery has been associated with improved outcomes and a lower risk of surgical site infection. For people who already have orthopaedic infection, smoking cessation may improve wound healing and infection clearance. Around thirty percent of people having surgery for orthopaedic infections in an English tertiary referral centre smoked within the three months before their operation. Despite the availability of smoking cessation services, uptake in both research and clinical contexts is known to be low.

Aims:

To identify mechanisms leading to service engagement, smoking cessation attempts and behaviours underlying ongoing cessation, in context relevant to peri-operative care for people with orthopaedic infection.

To identify Behaviour Change Techniques for smoking cessation support that are more effective and more acceptable for people having surgery for orthopaedic infection.

Methods:

People referred for orthopaedic infection surgery were approached for semi-structured interviews, so as to obtain in-depth descriptions of pre-operative experiences from a purposive maximum variability sample.

A panel of three Patient Representatives were involved at all stages of the study, and ethical approval was obtained prior to recruitment (21/NI/0056). Interviews were transcribed verbatim and coded using thematic analysis with the Theoretical Domains Framework and Behaviour Change Taxonomy 1.1 as a priori deductive codes. In parallel, a Realist evidence synthesis was used to triangulate interview findings.

Results:

Sixteen adults (four women and twelve men, identifying across a range of ethnicities, four of whom spoke English as a non-primary language) contributed interviews between July 2021 and February 2022.

Thirteen participants discussed smoking cessation attempts during their interview. Ten described prior quit attempts, most often supported with NRT or nicotine vaping. Participants avoided Stop Smoking Services when obtaining NRT or vapes. Several cited partners' smoking behaviour as central to the success or failure of their own quit attempts. Contextual factors salient to many participants' preoperative experiences included fighting the health system for diagnosis and treatment; continuity of care or its absence; and severe pain, sleep disturbance and depression.

Conclusion:

Behaviour change techniques that reduce stigma and embarrassment, and that are not cognitively loading, may be most acceptable for people with orthopaedic infection. Behavioural regulation including

providing nicotine vapes or NRT and stress reduction techniques; self-efficacy interventions; and instructions for vapes and NRT, delivered in the multidisciplinary assessment clinic as a routine part of surgical planning, involving partners when they attend, could best support peri-operative smoking cessation for this group.

References:

- DOI: 10.1186/s13012-017-0605-9

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Poster keywords

Smoking, Orthopaedics, Qualitative, Interview, Service design

31

Surgical Antibiotic Prophylaxis in Galway University Hospital, a review of adherence to prophylactic antibiotic guidelines outlined in the GAPP.

Michaela van der Walt
Galway University Hospital, Galway, Ireland

Abstract

Introduction:

Surgical antibiotic prophylaxis (SAP) is used to prevent postoperative surgical site infection. The rate of non-compliance with SAP recommendations is highly variable. The aim of this audit is to demonstrate the degree of adherence to local SAP guidelines outlined in the Galway Antimicrobial Prescribing Policy (GAPP).

Methods:

All patients who underwent a surgical procedure in the main theatre complex in Galway University Hospital (GUH), and who were admitted to the main post-operative recovery bays post-procedure, were included in this audit. Patients who underwent surgery during three consecutive weekdays in April 2022 were included. Patients admitted for day-case surgical procedures, patients admitted electively pre-operatively, and hospital inpatients were included.

The EVOLVE electronic record system was used in the collection of data. Information was gathered from intra-operative documentation, and from pre- and post-operative clinical notes and drug administration records. Information surrounding the selection, timing and dosage of intraoperative administration of antibiotic agents was gathered. The aforementioned data was compared with the GAPP local SAP guidelines.

Results:

The majority of surgical procedures examined were classified as elective (73%), followed by emergency (18%) and urgent surgeries (9%). Eighty-five percent of cases were conducted under general anaesthesia. The documentation of timing of intraoperative antibiotics was complete in 94% of cases, and timing of the delivery of agents was prior to the first incision in 53% of cases. There was one documented instance of intra-operative allergy to SAP.

When comparing practice with local recommendations, there were 10 cases (14%) where SAP was administered without a clear indication (Fig. 1). The recommended duration of SAP was exceeded in 20% of patients who received SAP alone, An absence of clear justification for the continuation of antibiotics, both in the operative notes and post-operative clinical notes, was present in all cases. However, approximately 85% of the cohort of patients who should have received postoperative doses of SAP, received the correct agent.

Conclusions:

Adherence to SAP administration within this sample of patients from GUH was demonstrated to be approximately 80% during the intraoperative phase in those who were not receiving empiric therapy preoperatively. Accurate documentation surrounding dosage administration was present in every case, and timing of administration was documented in 94% of cases. One in five patients who received SAP received additional post-operative doses, demonstrating non-adherence to local guidelines.

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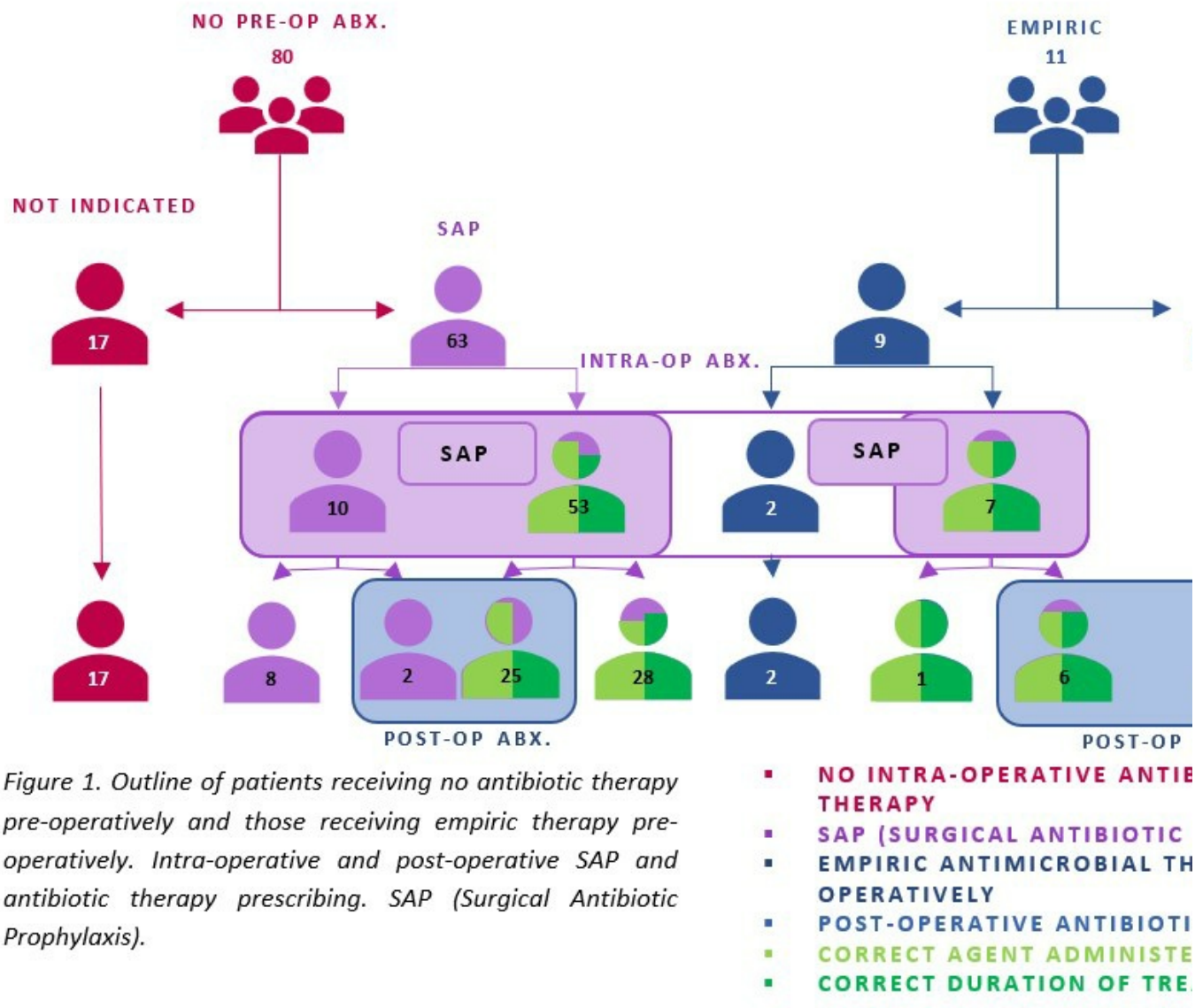

Figure 1. Outline of patients receiving no antibiotic therapy pre-operatively and those receiving empiric therapy pre-operatively. Intra-operative and post-operative SAP and antibiotic therapy prescribing. SAP (Surgical Antibiotic Prophylaxis).

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Poster keywords

Surgical antibiotic prophylaxis, Empiric therapy, Antibiotic prescribing, Antibiotic allergy, Antimicrobial resistance

32

Capnography in the Post-Anaesthesia Care Unit (PACU) of a Tertiary Maternity Hospital

Kate Rafferty, Stephen Smith
Department of Anaesthesia, Coombe Women and Infants University Hospital, Dublin, Ireland

Abstract

Introduction: The value of capnography monitoring outside the operating theatre cannot be underestimated. Its use is not universal in all clinical areas. AAGBI recommends continuous capnography in all patients who are anaesthetised or intubated, regardless of their location in the hospital, or the type of airway device used[1]. Most patients who have been intubated will have endotracheal tubes removed in the operating theatre before transfer to the recovery unit. The increasing use of supraglottic airway devices has resulted in these airway devices being maintained in place until the patient is fully awake in the recovery room.

Aim: To assess the availability of capnography equipment and the use of continuous capnography in patients with airway devices in PACU.

Methods: Patient monitors in PACU were assessed for capability to perform continuous capnography monitoring. Over four days, the patients entering PACU with a supraglottic airway and the patients who were attached to capnography were determined by interview of an anaesthetic trainee at the end of the theatre list for the day. The trainees interviewed each day were varied.

Results: All 4 monitors in the recovery room were capable of performing continuous capnography. 3 (75%) of the monitors had a capnography sampling line attached the morning of assessment. Over the four days, 7 patients were reported to have entered the recovery room with a supraglottic airway device. Capnography was not used in 6 (86%) of these patients.

Conclusion: The NAP4 report identified one-third of all anaesthetic major airway complications occur during emergence or recovery[2]. With this knowledge, it is difficult to justify not using capnography in patients with airway devices in PACU. The small sample size is a limitation of this study, however it provides us with a snapshot of the use of capnography in this setting which is below standard. Further studies will be performed to include a larger sample size, to assess capnography in the transfer of patients, and to determine staff attitudes on the value of capnography in PACU.

References:

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Poster keywords

capnography, recovery, safety, airway, monitoring

33

The practice of documentation surrounding medication management at preoperative assessment

Kate Rafferty, Petar Popivanov
Department of Anaesthesia, Coombe Women and Infants University Hospital, Dublin, Ireland

Abstract

Introduction: Preanaesthetic assessment including an accurate and complete medication history is the clinical base for perioperative patient management. The preoperative preparation of patients should include guidance on the administration of regular medications, as set out in AAGBI Safety Guidelines[1]. The preoperative assessment clinic provides an ideal opportunity to acquire and document a complete medication history, and to counsel patients on whether their regular medications should continue or be held prior to scheduled surgery. Studies have identified less clear preoperative instructions as contributing factors for perioperative medication errors[2]. Documentation of the medication history and guidance surrounding medication management as part of the preoperative evaluation is important for both medicolegal purposes and ensuring accurate medication information transfer at all interfaces of care.

Aim: To evaluate medication documentation practice during preoperative clinic assessment. To investigate for evidence of written information provided to the patient outlining preoperative medication management, in accordance with local hospital policy for pre-operative medication reconciliation.

Methods: The preoperative assessment forms of 54 gynaecology patients undergoing elective surgery at a tertiary maternity hospital who attended the preoperative assessment clinic over a one month period (July – Aug 2022) were reviewed. Predefined four indicators were prepared:

Drug allergy

Medication name, dosage, and route

Medications to continue or hold preoperatively

Evidence of written information provided to the patient

Results: Allergy status was documented in 98% of cases, with the nature of allergy clearly documented in 94%. Brand name instead of the generic name was used for at least one medication in 59% of medication lists. The dosage of all medications was documented in 59% of the medication lists. Documentation regarding medications to be continued or held preoperatively was present in 35% of cases. Evidence of written information provided to the patient was present in 3 patient charts (6%).

Conclusion: Documentation practice of medication lists and preoperative medication management was suboptimal. Verbal and written guidance should be provided to patients. Staff training on clinical documentation and the introduction of an electronic documentation system could improve practice.

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Poster keywords

medication, safety, preoperative, assessment, documentation

34

RATIONALISING BLOOD TESTS FROM THE POST-ANAESTHESIA CARE UNIT

Michelle Choynowski[1,2], Aideen Callaghan[1,2], Martin McCormick[2]

[1]Northern Ireland Medical and Dental Training Agency, Belfast, United Kingdom. [2]Belfast Health and Social Care Trust, Belfast, United Kingdom

Abstract

The National Health Service (NHS), although comparatively efficient by international standards[1], has a large variation in expenditure amongst pathology laboratories estimated between £2-3 billion per annum (3-4% of the NHS budget)[2]. Phlebotomy is associated with anaemia, infection and increased blood transfusions, length of stay and mortality[3]. Current practices in the post-anaesthesia care unit in our hospital indicate that many laboratory investigations are routinely requested without any consideration for its need. The aim of this study was to review the current practices of laboratory investigations in the PACU unit in our hospital and minimise unnecessary blood investigations.

We retrospectively reviewed laboratory investigations sent on D0 and D1 of PACU admission for 65 consecutive patients in November 2021. Senior anaesthetists and surgeons were contacted regarding standard post-operative laboratory investigations and agreed on FBP and U&E. ICU profile (ICUp), consisting of U&E, extended electrolytes and LFTs, and coagulation screen (coag) were deemed unnecessary in this patient cohort unless clinically indicated. The PACU admission proforma was amended to reflect this consensus and medical and nursing staff were informed of the changes as our first intervention. The second intervention consisted of a poster and re-education session. After each intervention, laboratory investigations of 65 consecutive patients were reviewed (01/02/22-10/03/22 and 20/05/22-21/06/22).

There was a significant number of ICUps (D0=47, D2=58) and coags (D0=53, D2=60) requested in the pre-intervention group. The 541 requests (8.32 requests/patient) sent equated to approximately £2670 (£41/patient). The post-first intervention group had a total of 420 requests (6.46/patient) with a reduction in ICUps (D0=9, D1=4). A similar number of coags were sent (D0=55, D1=51). Costs were approximately £1925 (£30/patient). A total of 282 requests (4.34 requests/patient) were made following the second intervention with costs of £955 (£15/patient). Minimal ICUps (D0=1, D1=1) and coags were sent (D0=6, D1=4).

Laboratory investigations were reduced by 259, saving £1715 (£26/patient), which is approximately £20,580 annually, with potential benefits to patients by minimising venepuncture. Resource stewardship is vital in improving efficiency to ensure financial sustainability and should be embraced in clinical practice.

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3. Fisher et al, Reducing inappropriate blood testing in haematology inpatients, Clinical Medicine 21(2):142-146, 2021.

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peri-operative medicine, post-anaesthesia care unit, investigations, efficiency, stewardship

35

Malnutrition risk assessment in patients attending preoperative assessment clinic; Clinical Audit

Diarmaid Hickey, Mary McKiernan, Michael McKenny
Mater Misericordiae University Hospital, Dublin, Ireland

Abstract

Introduction

Malnutrition is a state in which a deficiency of nutrients such as energy, protein and minerals causes measurable adverse effects on body structure and function, and clinical outcome [1]. Malnutrition in the perioperative period is associated with increased morbidity, mortality, length of stay and healthcare costs [2]. Pre-operative malnutrition is common and is estimated to have a prevalence of up to 65% in patients undergoing surgery for gastrointestinal disease [3]. Identification of those at risk of malnutrition allows for the opportunity to optimise their nutritional status. Optimising nutritional status pre-operatively has been shown to improve outcomes after surgery [4].

Nutritional screening is a rapid, simple and inexpensive procedure. The NICE clinical guideline on Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition (2017) recommends screening for malnutrition risk in all hospital inpatients on admission and all outpatients at their first clinic appointment.

Methods

The Malnutrition Universal Screening Tool (MUST) (see figure 1) was applied to 100 patients attending the Mater Misericordiae University Hospital (MMUH) preoperative assessment clinic (POAC) and a MUST score was calculated.

Results

104 patients were assessed for malnutrition risk using the MUST. 4 patients (3.9%) were at high of risk of malnutrition (MUST score ³ 2). A further 4 patients (3.9%) were found to be at moderate risk of malnutrition (MUST Score 1).

Conclusion

Our audit found that 7.8% of patients attending POAC were at risk of malnutrition. This number is likely higher in specific patient groups or patients undergoing specific surgeries e.g. head and neck or gastrointestinal oncological surgeries.

Malnutrition the perioperative period is associated with increased morbidity, mortality, length of stay and healthcare costs. All patients should be preoperatively assessed for malnutrition risk and intervention undertaken in at risk patients.

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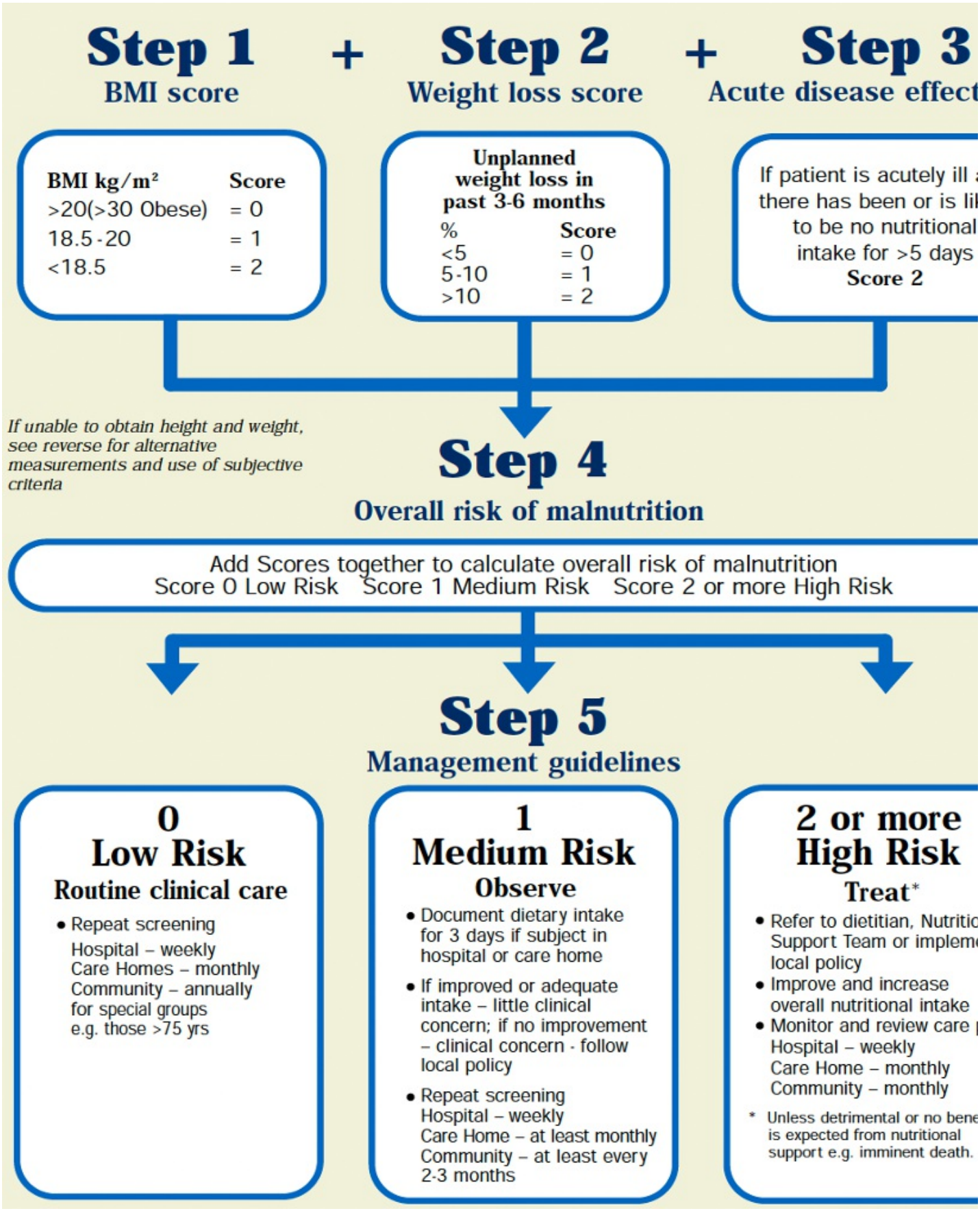

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Poster keywords

Malnutrition , Perioperative Malnutrition Risk

36

A Clinical Audit of Perioperative Thermoregulation and the Monitoring of Patients attending for Elective Day Surgery under General Anaesthesia

Dr Cathriona Murphy[1], Dr Niamh Humphreys[1], Dr Aislinn Sherwin[2]
[1]Department of Anaesthesia, St James's Hospital, Dublin, Ireland. [2]Deaprtment of Anaesthesia St James's Hospital, Dublin, Ireland

Abstract

Introduction

Administration of a general anaesthetic requires continuous monitoring of vital parameters. Body temperature is among one of the classic vital signs, yet, it is consistently under monitored perioperatively. Temperature perturbations are important indicators of disease. Inadvertent peri-operative hypothermia is a common occurrence of general and regional anaesthesia and has a significant impact on patient outcomes.(1) The aim of this study was to evaluate the impact of introducing a heated bag of intravenous (IV) fluids for patients attending elective day surgery combined with increased staff awareness on temperature monitoring.

Methods

This 2-phase prospective audit was conducted from August to September 2022 in the surgical day ward (SDW) in St James's Hospital (SJH). A convenience sample of consecutive patients was chosen over a two-week period before and after our intervention, interrupted by a week to allow for staff education. Using guidelines on perioperative monitoring set out by the National Institute of Health and Care Excellence (NICE) and the Association of Anaesthetists of Great Britain and Ireland (AAGBI), our standards of perioperative temperature monitoring were evaluated.(2) Staff in the day surgical ward (medical and nursing) were educated on the monitoring deficiencies and the importance of introducing and maintaining the use of heated IV fluids to optimise patient care.

Results

In phase-1, a total of 29 patients were examined. The average age of patients attending was 54.5 years, SD 16.45. Temperatures were recorded at 30-minute intervals; in the SDW, pre-induction, intra-operatively and in recovery. The mean temperature pre-induction was 36.7°C, SD=0.22. The average case duration was <30 minutes and the average temperature in recovery was 36.4°C, SD=0.39. 100% of patients received paracetamol and 12.5% of cases used a bair-hugger. In phase-1 of this study, 0 cases used warmed IV fluids.

Phase-2 data collection is ongoing and will be added to abstract following submission.

Conclusions

Perioperative monitoring of vital parameters is crucial for the safety of patients who are undergoing a general anaesthetic. Temperature is a vital sign which is grossly under monitored perioperatively. Peri-operative hypothermia is a common occurrence which can negatively impact patient safety.

It is our hypothesis that the introduction of intraoperative warmed IV fluids combined with increased staff awareness on the importance of perioperative temperature monitoring will aid optimisation of patient care in elective day surgical patients.

References

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Poster keywords

Perioperative, Thermoregulation, temperature, intra-venous fluids, monitoring

37

A Quality Improvement Initiative for the Documentation of Central Venous Catheter Insertion in the Intensive Care Unit

Dr Cathriona Murphy, Dr Freddie Guinness, Dr Aidan Spring
Department of Anaesthesia, Critical Care & Pain Medicine, University Hospital Limerick, Limerick, Ireland

Abstract

Introduction

Proper documentation of central venous catheter (CVC) insertion is the basis for good follow up and quality assurance. [1] We observed deficiencies in the documentation of CVC insertion and introduced a proforma that can be included in patient notes with the purpose of increasing documentation compliance. The aim of this study was to establish the usefulness of this CVC insertion proforma coupled with staff education to improve CVC insertion record keeping.

Methods

A quality improvement study was conducted from August to October 2021 in the intensive care unit (ICU) in University Hospital Limerick (UHL). A convenience sample of consecutive CVC insertions was chosen over a two-week period before and after our intervention, interrupted by 2 weeks to allow for staff education. 19-key documentation markers were evaluated before and after implementing the proforma which was developed from local and international guidelines. ICU staff (medical and nursing) were educated on the documentation deficiencies and the importance of improving our standard of care for patient safety.

Results

In total, 49 CVC-insertions were included. 23 pre-intervention CVC insertions had significant documentation deficiencies. 13% had no recorded documentation and 0 were without any missing data from the 19 pre-defined variables. Of the 26 post-intervention CVC insertions, 15% had no recorded documentation and 58% were without missing data from the 19 pre-defined variables.

Conclusions

The implementation of this CVC insertion proforma was highly effective in increasing the proportion of documented CVC insertions. This measure improved our standards of care and patient safety in the critical care unit.

References

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Poster keywords

Central venous Catheter, Safety, Documentation, Intensive care unit, Insertion

38

Prevalence of Undiagnosed Obstructive Sleep Apnoea in an Elective Surgical Patient Population

Dr Cathriona Murphy[1], Dr Stephen Mannion[2]

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Abstract

Introduction

Obstructive Sleep Apnoea (OSA) may increase the risk of peri-operative adverse events but may be undiagnosed in surgical populations. Pre-operative detection of OSA would allow for appropriate changes to anaesthetic care, in order to improve patient safety. This study aims to determine the prevalence of undiagnosed OSA among surgical patients.

Methods

Patients over eighteen years attending the South Infirmary-Victoria University Hospital undergoing elective surgery without a previous diagnosis of OSA were included in the study. Informed written consent was obtained and the self-administered STOP-BANG Questionnaire (SBQ) was completed. BMI and neck circumference were measured. The presence of certain medical co- morbidities was recorded.

Results

Of the 200 consecutive eligible participants screened, 24% (48/200) were found to be at high-risk (SBQ ≥3) for OSA. The high-risk group were older males ($p<0.001$) with a greater BMI and neck circumference ($p<0.001$). There was a higher prevalence of cardiovascular disease in high-risk OSA patients ($p<0.001$), patients with coronary artery disease were 1.2 times more likely to have a SB≥3 (95%CI: 1.104, 1.104, $p<0.05$). Patients with hypertension were 2.2 times more likely to have a SB≥3 (95%CI: 2.089-2.433, $p<0.01$). There was a higher frequency of respiratory co-morbidities among the high-risk group and these patients were 3.6 times more likely to have a SB≥3 (95%CI: 2.275, 4.415, $p<0.05$). There was a higher prevalence of alcohol consumption and smokers in the high-risk group.

Conclusion

A significant proportion of patients without a history of OSA, who present for elective surgery at an Irish university hospital were high-risk for OSA. The combination of anaesthesia and undiagnosed OSA may place these patients at increased risk for peri-operative complications and post-operative morbidity. The use of a simple screening questionnaire in pre-operative assessment could improve the detection of these patients to allow for appropriate adjustments to anaesthetic care, as part of an effort to reduce risk and improve patient safety.

Key Words Obstructive Sleep Apnoea, undiagnosed, prevalence, surgical population, peri- operative complication

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Poster keywords

Obstructive Sleep Apnoea, Prevalence, Undiagnosed, Perioperative care, Surgery

39

Improving theatre start times through the identification of inefficiencies using process-mapping

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Barking, Havering and Redbridge University Hospitals NHS Trust, Romford, United Kingdom

Abstract

Introduction

Late starts in operating theatres lead to waste of resources including time, human resource, and money. It also leads to reduction in the quality of patient care as patients receive delayed care. In our district general hospital, the Trauma list consisting of urgent and expedited orthopaedic cases, often suffers from late starts and case cancellations. Herein, we performed a closed-loop audit investigating event timings of the Trauma theatre. Through process-mapping, we identified points where inefficiencies existed.

Methods

Data on theatre timings were collected over a two-month period from ‘Bluespier’, a theatre management system. The duration between each event was analysed using Microsoft Excel. All event timings plotted on a graphical timeline to identify inefficiencies. Reasons for delays were also analysed and categorised into sub-categories. Based on findings from the first cycle audit, we implemented a standard operating procedure (SOP) where anaesthetists review patients a day prior to surgery to reduce the burden of reviewing patients on the morning of surgery. A second-cycle audit was completed thereafter.

Results

An average of a 5-minute improvement was seen in the ‘time patient arrived in theatre’, a marker of theatre start-times, compared to the first cycle of the audit. A 26.8% reduction in overall delays and a 34.8% reduction in anaesthetic-related delays was seen after implementation of the SOP. Of the anaesthetic-related delays, 40% were due to staffing issues rather than issues related to the pre-assessment of patients. There was also an 18.2% improvement in investigation-related delays, where only 22% were requested by anaesthetists, and the remainder being mandatory COVID-19 and pregnancy tests.

Conclusion

Process-mapping is the graphical representation of an entire approach leading to holistic understanding of a certain process.1 Process-mapping enabled us to identify inefficiencies in the process of bringing a patient to theatre, which directly affects start times. The first intervention implemented was the creation of a SOP which allowed anaesthetists to review patients a day before surgery. This reduced the number of last-minute investigations requested by anaesthetists on the morning of surgery, such as an electrocardiogram (ECG). This also enabled the early identification of high-risk patients and pre-operative optimisation of patients, leading to reduced cancellations and increased patient safety. Future work will involve the targeting of other inefficiencies that have been identified through process-mapping.

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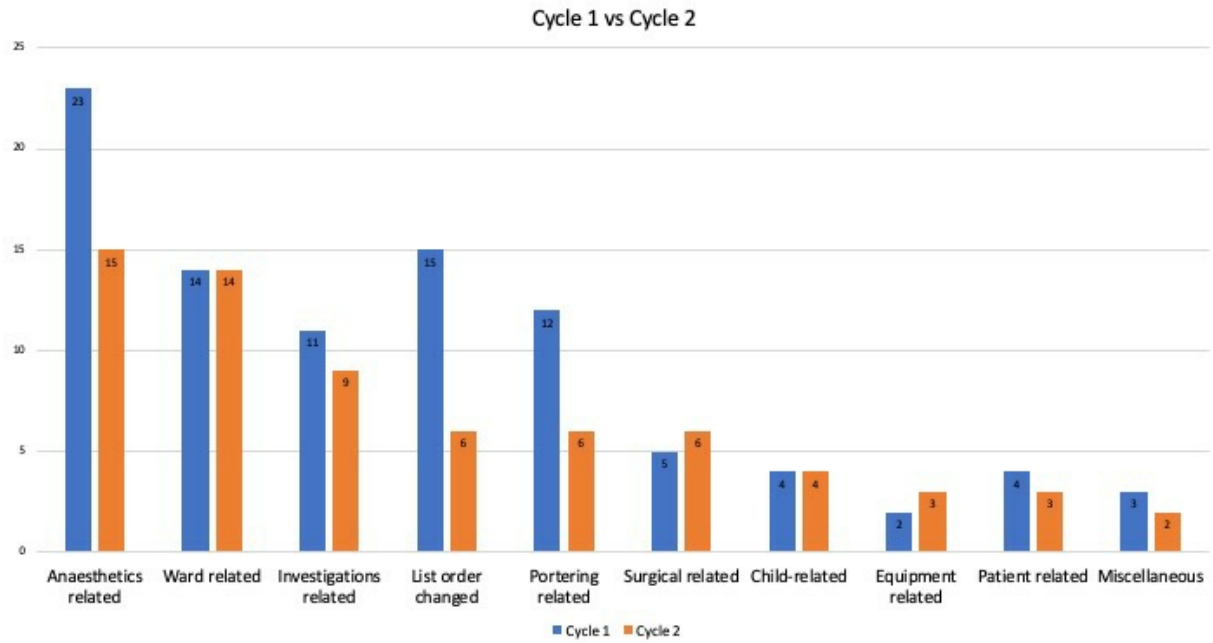

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process-mapping, perioperative , medicine, efficiency, trauma

40

Sterility of cloth headwear compared to disposable headwear in the operating theatre

Kenneth Boon Keat Kuan, Irene Popinceanu, Sarah Kenny, Susan Fitzgerald, Abigail Walsh
St Vincent's University Hospital, Dublin, Ireland

Abstract

Introduction
The surgical headwear is a mandatory part of the uniform in the operating theatre. This audit compares the sterility of disposable against cloth headwear in the setting of the operating theatre.

Method
Theatre staff in St Vincent’s University Hospital were approached to be audited. A petri dish with convex plain agar content would be pressed onto the right temporal region of the headwear. Staff filled in a questionnaire. The petri dishes were cultured in the microbiology lab. Results monitored based on colony count (cfu/ml) and species isolated.

Results
Of 31 participants, 21 wore disposable headwear and 10 wearing cloth. Of the 21 participants in the disposable group, 6(30.0%) had a colony count <10-20 cfu/ml, 13(60.0%) had a colony count of 20-50 cfu/ml and 2(10%) had more than 50 cfu/ml. One disposable headwear cultured MRSA.

Of the 10 cloth headwear samples (Table 2), 4(40.0%) had a colony count of <10-20 cfu/ml, 5 (50.0%) had 20-50 cfu/ml and 1(10.0%) grew >100 cfu/ml. The headwear growing >100 cfu/ml reportedly hadn’t been laundered for weeks.

Discussion
The unequal number of participants in both groups was due mainly to staff reluctance to participate. This could potentially lead to bias.

No official guide/instructions is available regarding the laundering of cloth headwear for theatre.

Conclusion
There is no significant difference between cloth and disposable headwear. There are modifiable factors which could alter findings. The unequal numbers of participants in both groups could introduce bias. Hence, further studies will have to be conducted to confirm findings above.

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Colony Count (cfu/ml)	
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20-50	

>100	

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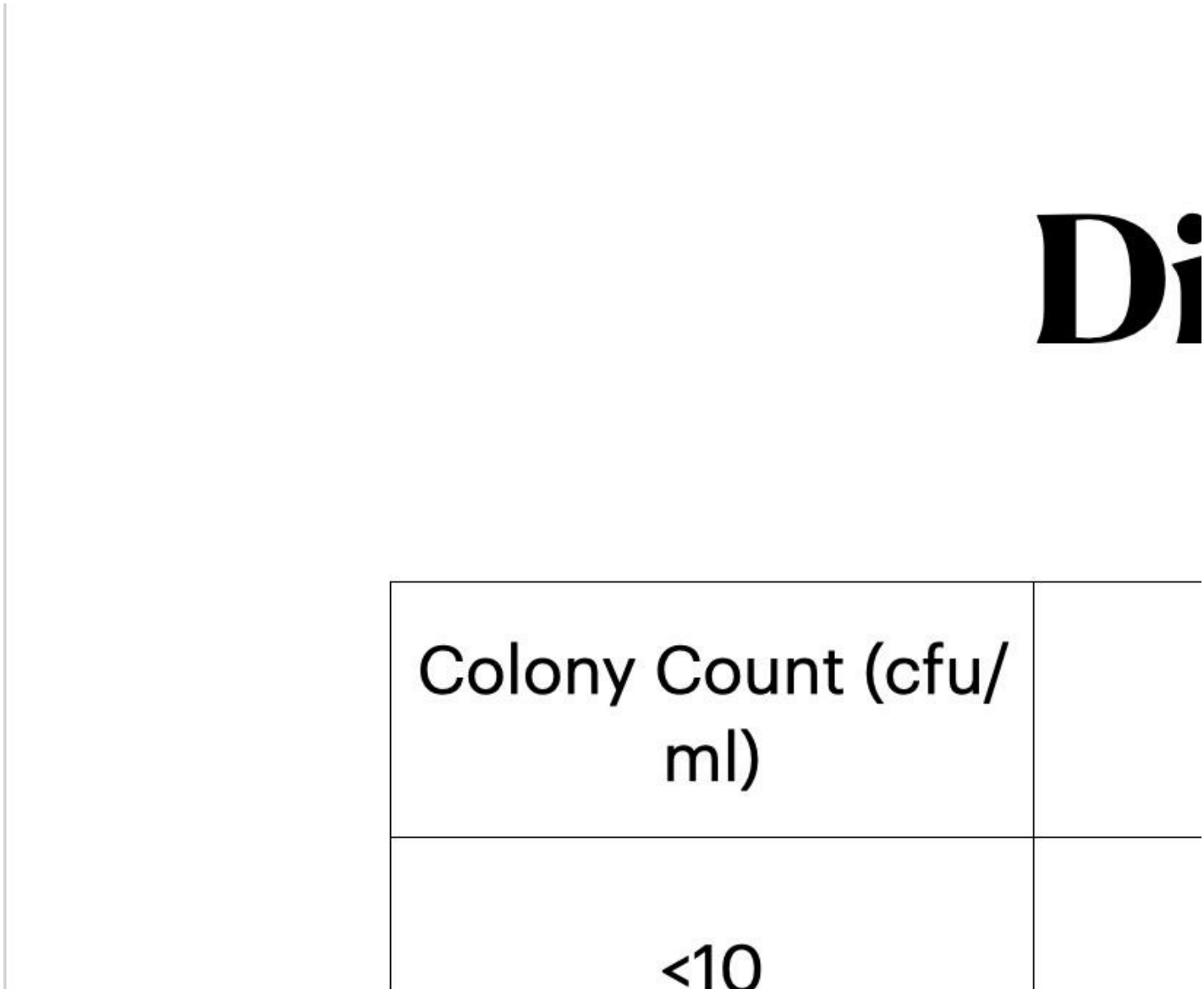

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Poster keywords

Sterility, Headwear, Theatre

41

Standardising Critical Care Difficult Airway Trolleys in an Irish Tertiary Centre- A Clinical Audit

Robert Brodigan, Christopher Read, Peter McAuley, Caroline Larkin
Beaumont Hospital, Dublin, Ireland

Abstract

Introduction:

Airway emergencies in the critical care setting require rapid and well-coordinated management. An airway emergency can promote cognitive overload and poor decision making [1]. The design and layout of the difficult airway trolley should promote adherence to algorithms and reduce human error.[1] The National Audit Project 4 identified higher incidences of airway complications in critical care patient cohort[2].

The aim of this study is to audit the compliance of difficult airway trolleys across three separate critical care units within a tertiary hospital in Ireland with Difficult Airway Society Guidelines 2015 and local guidelines suggested in 2021. Guidelines suggest that all difficult airway trolleys across critical care, theatre, emergency departments should be organised uniformly in Plan A-D format with similar content in drawer 1-4 to reduce user burden in an airway crisis.

Methods:

For the purpose of this study a difficult airway trolley compliance score was constructed from a proforma that was designed using the Difficult Airway Society guidelines and local guidelines. Each critical care difficult airway trolley was audited and given a total score made up from four subsections.

Results:

Difficult airway trolleys varied from each other in both layout and contents. ICU A had a compliance score of 98% scoring well in all four sections. ICU B had a compliance score of 71.25% and ICU C a score of 50%.

Conclusion:

Difficult airway trolleys in the critical care setting are not uniform in layout or in content. The layout of two difficult airway trolleys assessed was not in line with Difficult Airway Society Guidelines or local suggested guidelines. Standardisation of difficult airway trolleys across all clinical areas in tertiary centres needs to be prioritised. We plan to re-audit the difficult airway trolleys once the local protocol has been introduced. Additional areas of research include the use of cognitive aids such as illustrated stickers and preparedness of staff to use equipment on the difficult airway trolley.

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doi: 10.1093/bja/aer059.

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Poster keywords

difficult airway , critical care , human factors, guidelines, intubation

42

Audit of cuff inflation pressure and monitoring of same during general anaesthesia

Mai O'Sullivan, Maria Regan, Elmi Theron, Saud Bajwa
University Hospital Galway, Galway, Ireland

Abstract

Introduction:

Failure to maintain optimal endotracheal tube (ETT) cuff pressure during positive pressure ventilation impacts patient, staff, and environmental safety. Overinflation of ETT cuffs is not benign, with injuries sustained by patients including subglottic stenosis and tracheal ischaemic injury. Underinflation can result in pulmonary aspiration and increase environmental pollution.

While evidence would support the use of cuff pressure manometers (CPMs) and targeting of pressures between 20 and 30cmH201 the University Hospital Galway anaesthesia department have no standardised protocol for inflation and monitoring of cuff pressure during general anaesthesia.

Methods:

Approval was obtained from GUH audit office. A Plan-Act-Study-Do cycle was initiated. Over a two-week period, cuff pressures were measured in thirty patients who were intubated for elective surgical procedures after anaesthesia teams had conducted intubation and cuff inflation as per their usual standard practice.

Following this, brief educational sessions took place for both anaesthetic nurses and anaesthetists were held at morning teaching sessions and the location of CPMs, where present, was changed to the airway trolley.

The cycle was then repeated on 30 patients and data were analysed using excel.

Results:

Pre-intervention 30 patients were assessed, 25 (83.3%) had cuff pressures over 30cmH20. The highest recorded pressure was 90cmH20. No cuff was underinflated, and no cuff pressures had been checked by the anaesthetic team. In the 16 operating theatres assessed, 8 had CPMs present, all were found in the bottom drawer of the anaesthetic machine.

Post intervention, 30 patients were assessed, 6 (20%) had cuff pressures over 30cmH20, highest recorded pressure was 45cmH20. 80% of patients had cuff pressures of 20-30cmH20. No cuff was underinflated, and 17 cuff pressures had been checked by the team.

Conclusion:

Although evidence supports the use of cuff pressure measurement, it is not widely practiced. We demonstrate the variability of cuff pressure measurements identified when “feel” of a pilot balloon following inflation with an air-filled syringe is relied upon to maintain optimal cuff pressures. Physicians cannot estimate endotracheal cuff pressure using standard techniques alone2.
While only 5 pressures measured in cycle 1 were within the optimal range, this improved to 24 during cycle 2. The highest recorded pressure also fell from 90cmH20 to 46cmH20.
CPMs are inexpensive tools that improve patient, staff, and environmental safety. Going forward we plan to add a CPM to every airway trolley and will continue to audit this standard regularly.

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Poster keywords

patient safety, airway, cuff inflation pressure, equipment, quality improvement

43

Radical Nephrectomy and IVC Thrombectomy for Renal Cell Carcinoma and thrombus extension to the Cavo-Atrial Junction: A case report.

Christi Brady, Pádraig Ó Scanaill
Mater Hospital, Dublin, Ireland

Abstract

Introduction:

Renal cancer constitutes about 3% of all malignancies in the adult population (1). Risk factors include smoking, hypertension, obesity and asbestos exposure.

Approximately 40% of RCC's are picked up as incidental findings on imaging, however 25% of RCC's have distant metastases at time of presentation. Tumour extension to the IVC or renal vein occurs in 25% of cases, with less than 10% having thrombus in the IVC and less than 2% with tumour or thrombus extending to the border of right atrium (RA) (2).

Radical surgical resection is the definitive curative treatment approach in patients with IVC thrombus extending to the RA otherwise without metastases. Careful patient selection and Multidisciplinary approach is required for better outcomes as there is significant morbidity and mortality associated with IVC thrombectomy (3).

Methods:

This is a case report documenting the perioperative management of a right RCC with IVC thrombus extension to the cavoatrial junction. A 48-year old male presented to hospital with acute dyspnoea, flank pain, lower limb oedema and haematuria. Imaging revealed a 7.5cm right renal mass with thrombus extension into the IVC up to the border of the RA with concurrent intrahepatic thrombus and a pulmonary embolism.

This case was referred to the Mater Misericordiae University Hospital as a Tertiary Centre with Surgical Specialities including Urology, Hepatobiliary and Cardiothoracic Surgery.

The case was discussed at MDT and consensus was for combined approach with involvement of Urology and Hepatobiliary Surgical service with the Cardiothoracic Team on standby if required intraoperatively

Pre-operative work up included baseline bloods, CT and MRI to facilitate staging together with transthoracic echocardiography for classification and staging.

Results:

The patient underwent an uncomplicated right radical nephrectomy with intrahepatic and IVC thrombectomy. He was stable throughout the procedure. Perioperative anaesthesia management included use of regional anaesthesia, inotropes, vasopressors, blood products and analgesia. Changes in haemodynamics and blood loss was identified and effectively managed intraoperatively.

Conclusion:

A comprehensive perioperative assessment and strategic planning in this complex case highlights the

importance of perioperative medicine, shared decision making and clear communication. This case highlights the challenges for the anaesthetist in the perioperative management of an open nephrectomy and major vessel thrombectomy. Certain key aspects of care need to be addressed with adequate support infrastructure available to provide optimium care for high-risk surgical patients.

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Poster keywords

Major Surgery, Multidisciplinary Team, Anaesthesia - Surgical Collaboration, Perioperative Anaesthesia, Radical Nephrectomy

44

Thyroid lobe laceration: The case of an intriguing rarity in airway compromise

Natalie Lenggenhager
Cork University Hospital, Cork, Ireland

Abstract

A healthy 39-year old female suffered multicompartmental intracranial haemorrhage, with a large right sided subdural hematoma, in a fall while taking part in a triathlon. Radiological imaging also demonstrated a right thyroid lobe laceration and a cervical spine injury.

The thyroid swelling subsequently resulted in external airway compression.

This injury had never been seen before by endocrine surgeons or radiologists at our center, Ireland's only level one trauma facility.

This case demonstrates the importance of a thorough secondary survey in the emergency assessment. The significant airway obstruction that ensued shows the importance of an adequate ear nose and throat examination. Images of a ruptured thyroid gland are presented with speculation on the mechanics of the injury.

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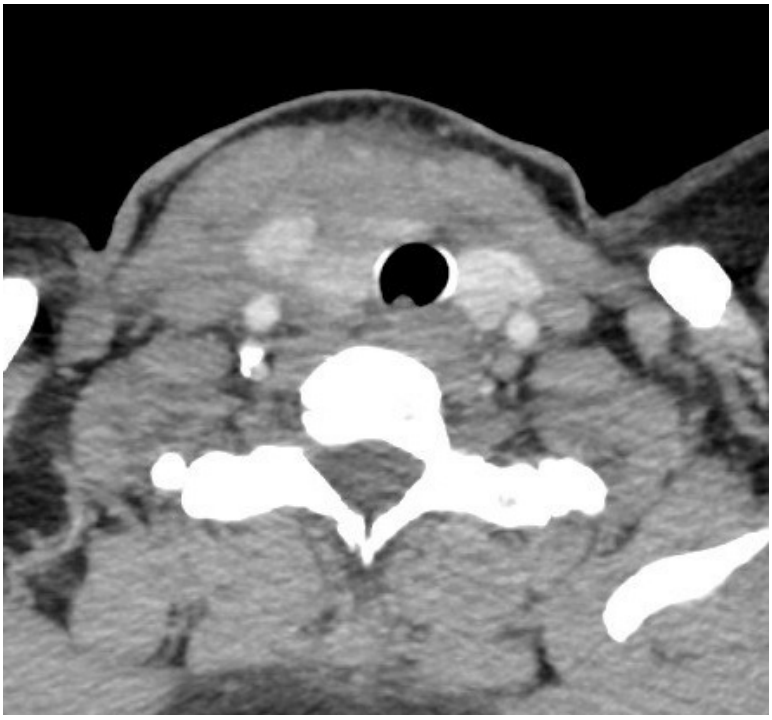

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45

Adherence to analgesia discharge prescribing algorithm among Non-Consultant Hospital Doctors before and after changeover

Niamh Humphreys
St. James's Hospital, Dublin, Ireland

Abstract

Introduction

In 2021, analgesic discharge prescriptions were audited and opioid prescribing guidelines were introduced and placed on St. James' hospital's intranet (accompanied by pain management prescribing education). The re-audit following this intervention showed improvements in pain management prescribing practices.

We conducted an audit in 2022 aiming to quantify changes in analgesia discharge prescribing with the changeover of Non-Consultant Hospital Doctors (NCHD's). This period is associated with increased risk of medical error (2).

Methodology

Review of analgesia discharge prescriptions of patients presenting for surgery from 01/07/22 to 31/07/22. The NCHD changeover took place during this period. NCHD's starting on 11/07/22 did not receive pain management prescribing education discussed above but could access the guidelines discussed above. Pain management prescribing practices before and after change-over were compared. Patients with pre-operative opioid tolerance were excluded. Opioid dosages were compared using morphine milligram equivalents (MME). The main outcome variable was appropriate opioid discharge prescription: short acting opioid whose dose and duration reflects the expected length of recovery for a given surgery(1).

Results

The average MME was 151.6 in the pre-changeover group and was 144.4 in the post-changeover group (figure 1). Appropriate opioid prescriptions occurred in 80% of discharge prescriptions pre-changeover and 60% post-changeover.

Eighty percent of discharge prescriptions pre-changeover included paracetamol and this was 70% post-changeover. Thirty-eight percent of prescriptions included NSAIDs pre-changeover and 40% post-changeover (Figure 2).

Dual opioid prescriptions occurred in 2% of discharge prescriptions pre-changeover and in 10% post-changeover. Co-prescribing laxatives with opioids occurred in 50% of prescriptions pre-changeover and 25% post-changeover (Figure 2).

Conclusion

There was a decrease in appropriate opioid discharge prescriptions following NCHD changeover. There was also a large increase in co-prescribing of opioids. These results indicate the potential importance of education of NCHD's regarding opioid discharge prescriptions.

There were many similarities in prescribing practices between groups. These included average MME prescriptions and rates of simple analgesia prescriptions (paracetamol and NSAIDs). Rates of NSAID prescribing remained low. This audit shows that though the introduction of pain management guidelines can improve practice, education of NCHD's may be necessary to ensure this improvement.

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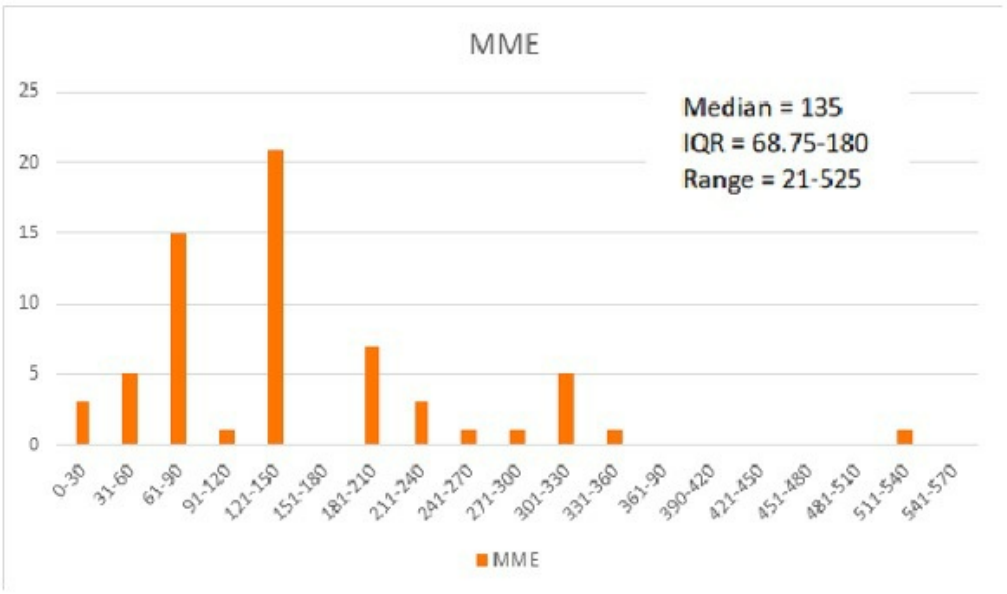

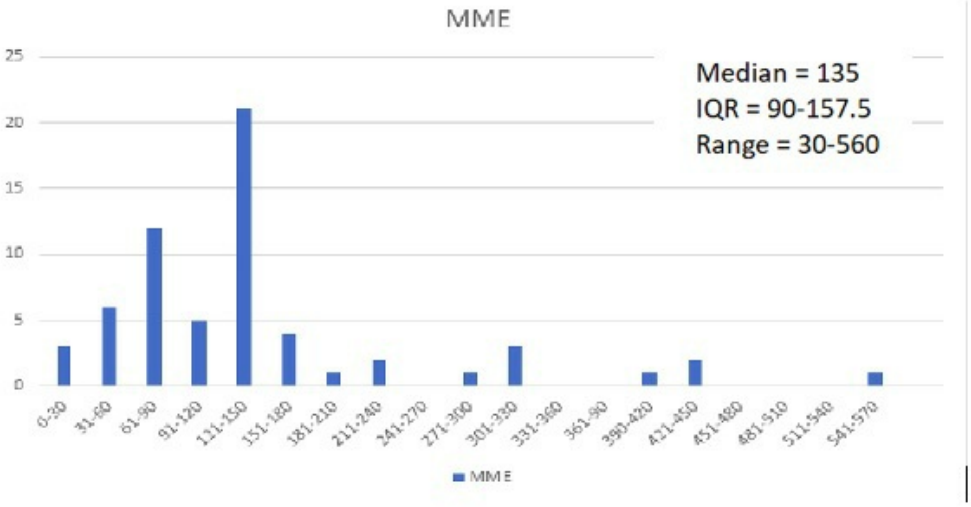

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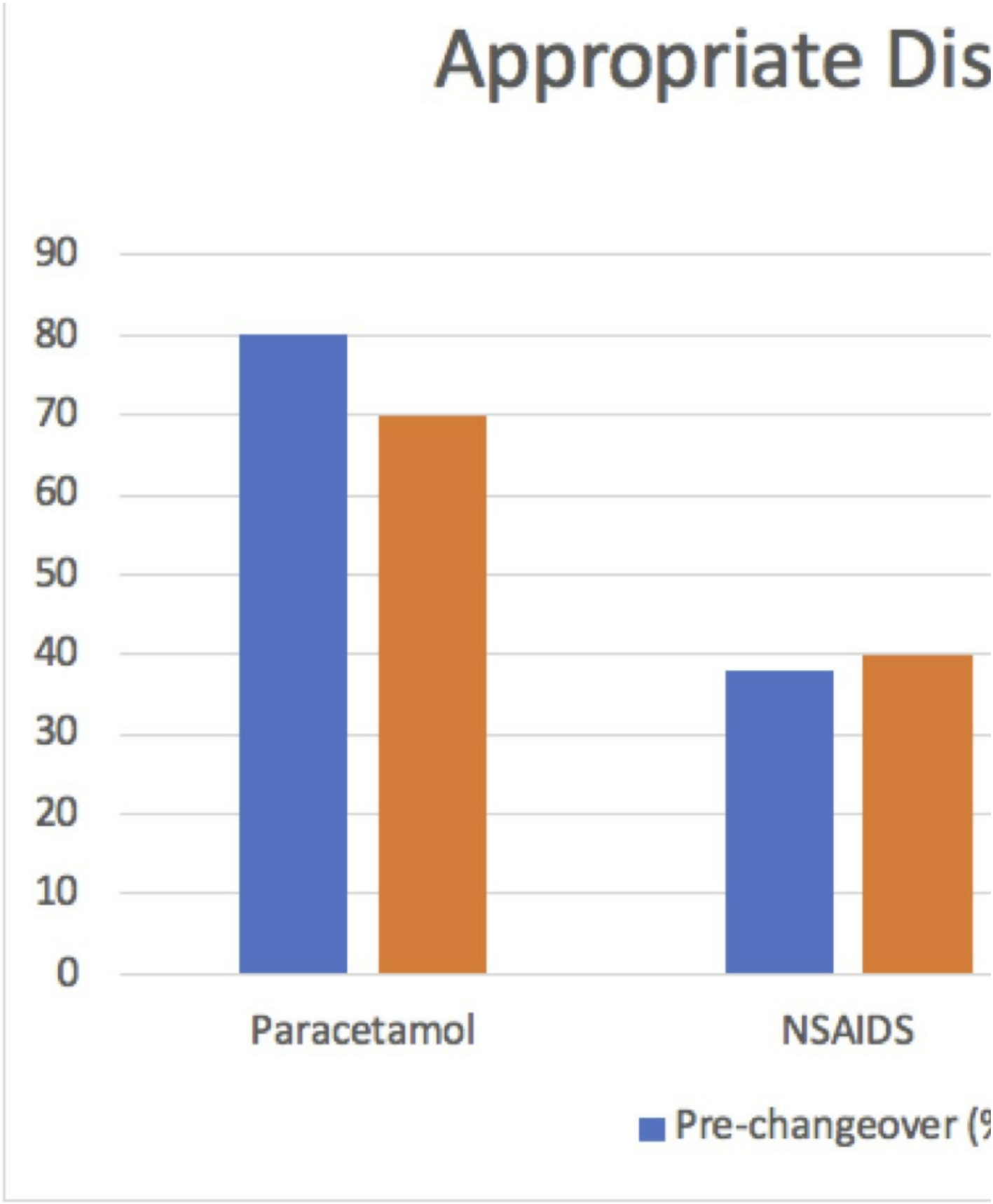
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Poster keywords

Opioids, Analgesia, Discharge , Prescriptions

46

A Quality Improvement Project for Delirium Prevention and Management in the Intensive Care Unit (ICU) of University Hospital Waterford in Ireland

Muhammed Elhady Muhammed Elgasim, Tarek Abdelmaksoud, Kim Caulfield
University Hospital Waterford, Waterford, Ireland

Abstract

Title: A Quality Improvement project for Delirium prevention and management in the Intensive Care Unit (ICU) of University Hospital Waterford in Ireland

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Abdelmaksoud, Tarek MBBS, MSc MCAI

Caulfield, K MB, BCh, BAO, BA, FCAI, JFICMI

Introduction

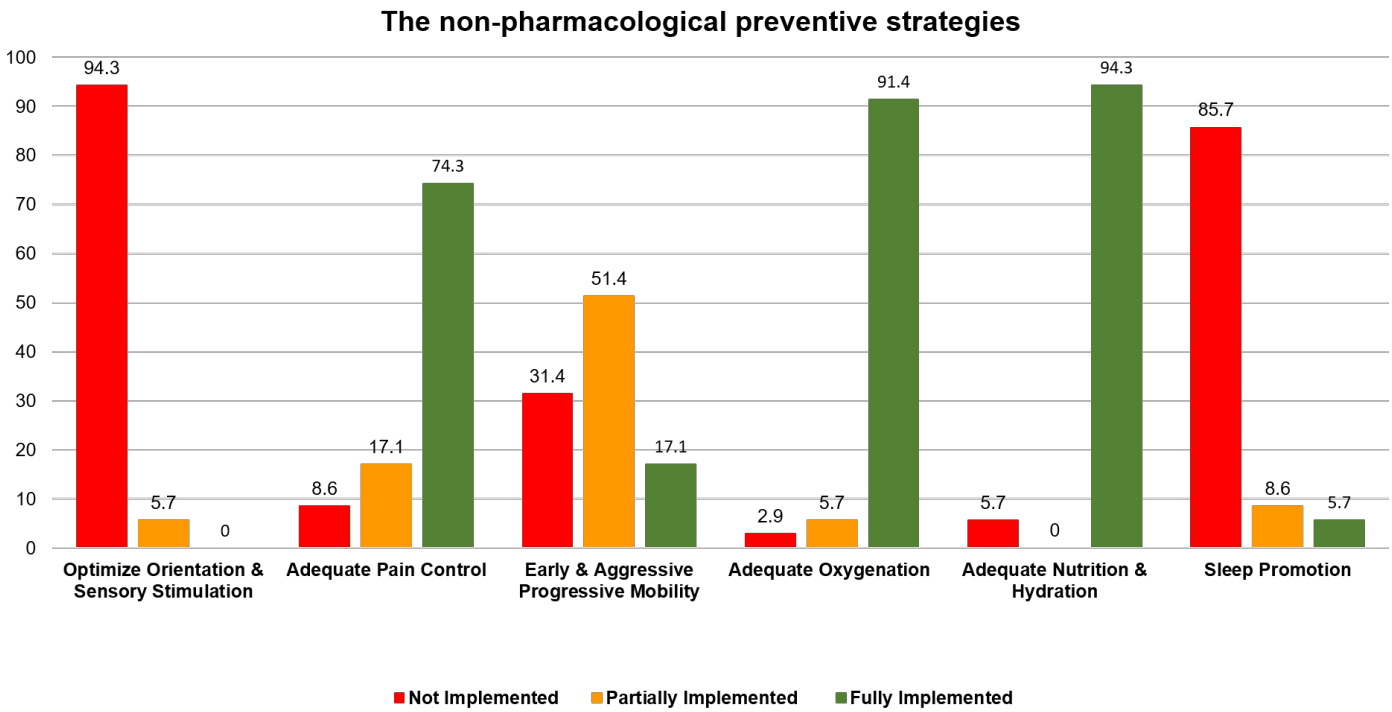
Delirium is a common complication of critical illness. Its diagnosis can have a significant impact on patients' morbidity and mortality. This audit was conducted in a 10-bedded ICU at University Hospital Waterford, Ireland. We wanted to ascertain a baseline analysis of our delirium: prevention, assessment, diagnosis and management and to confirm our compliance with the National Institute for Health and Care Excellence (NICE) guidelines[1]. The results of this audit aim to guide the writing of local guidelines and staff training.

Method

The data collection checklist was designed to include the five-quality standard statement according to the NICE guideline [1, 2]. Retrospective review of the evaluated medical and nursing notes for 35 high-risk patients admitted to the Intensive Care Unit. The implementation of the standards was evaluated by a Likert scale (one: not implemented and documented, two: partially, and three: fully implemented and documented).

Results

Validated assessment for delirium was not done on any admitted patients. 14.3% of those patients experienced delirium. The management was almost entirely confined to drug treatment. There was inconsistency with medications used between Quetiapine, Dexmedetomidine, Lorazepam and Haloperidol. The following non-pharmacological preventive interventions were well implemented, Pain control, progressive mobility, oxygenation, nutrition & hydration. The optimization orientation & sensory stimulation and sleep promotion were not well implemented (figure no 1).



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Discussion

The overall incidence of delirium ranged from 45% to 87%[3, 4]. A formal management guideline for delirium assessment and management has been developed for our institution as a result of this audit. Before now there was no clear guidance on the use of anti-psychotics or escalation with treatment failure in our ICU. The non-pharmacological interventions[2, 5] such as adequate pain control, early mobilization and adequate oxygenation are being implemented, however, optimization of orientation and sensory stimulation and sleep promotion[5] are still required. Post the introduction of our guideline alongside a blended eLearning and face-to-face training approach we hope our re-audit will demonstrate benefited effect of our intervention.

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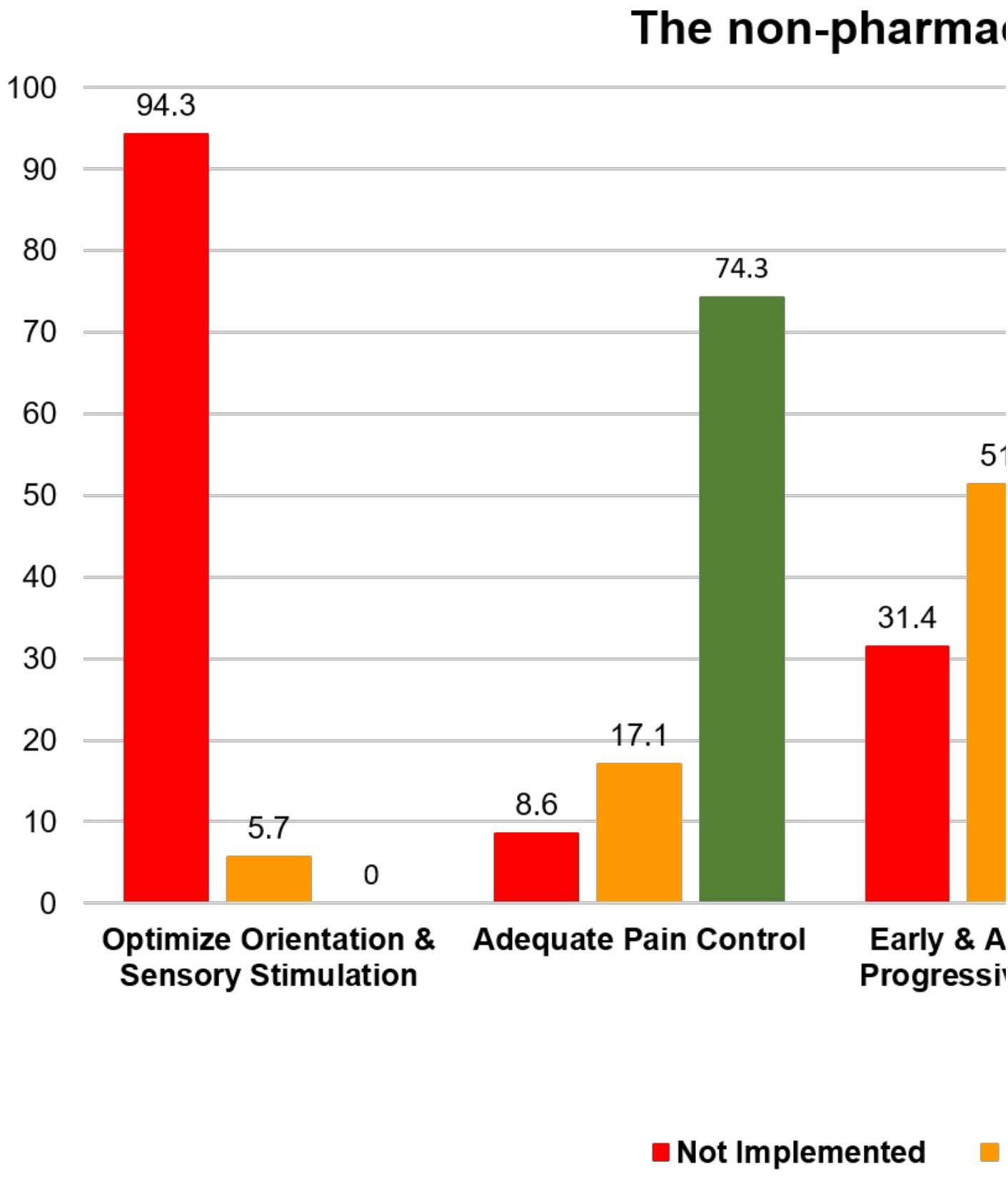

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Quality Improvement project , Delirium , Intensive Care Unit , University Hospital Waterford , ICU