Malaysian Society of Anaesthesiologists &

College of Anaesthesiologists, AMM

ANNUAL SCIENTIFIC CONGRESS 2023

MyAnaesthesia 2023: LEAD – Leadership and Excellence in Anaesthesia Development

ABSTRACT BOOK

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1. Messages

The Organising Chairperson

Professor Dr Ina Ismiarti Shariffuddin
President, Malaysian Society of Anaesthesiologists &Organizing Chaiperson, MSA and CoA Annual Scientific Congress 2023

It is with great pleasure and pride, on behalf of the Organising Committee, I welcome all of you to the Malaysian Society of Anaesthesiologists and College of Anaesthesiologists, Academy of Medicine of Malaysia Annual Scientific Congress, MyAnaesthesia 2023, in

conjunction with the MSA Diamond Jubilee Anniversary. I would like to thank the Premier of Sarawak YAB Datuk Patinggi Tan Sri (Dr) Abang Hauji Saufi Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg, for officiating this congress.

This year's theme, "Leadership and Excellence in Anaesthesia Development (LEAD)", underscores our commitment to exploring new frontiers, empowering visionary leaders, and fostering a culture of excellence in our patient management. We believe Anaesthesiologists play a vital role in healthcare. The provision of Anaesthesia is an intricate intersection of science, technology, and human compassion. It is the cornerstone of patient safety and comfort, particularly in surgery, interventional medical procedures, and critical care management.

With these considerations, this esteemed Congress brings together brilliant minds, internationally and locally, to share the goal of advancing anaesthesia and paving the way for a future marked by exceptional leadership and unwavering effort to uphold patient safety at every level of our care. Our Scientific Committee, chaired by Associate Professor Dr Muhammad Maaya, had arranged an excellent series of lectures apt to the theme of this Congress which includes plenary talks by the President of the World Federation of Societies of Anaaesthesiologists (WFSA), Associate Professor Dr Wayne Morris, on the "Global Priorities for Anaesthesiology in the Post Covid Era" and a presentation by the Chair of the Asian Australasian Regional Section of WFSA, Dr Chris Bowden, on "Leadership in Anaesthesia".

In conjunction with our Diamond Jubilee Anniversary of MSA, we invite our faculty, participants, esteemed life members and our sponsors to celebrate the Gala Dinner with the theme, “Diamonds in the Jungle”. This will be a good opportunity for everyone in the fraternity to renew our acquaintances and bond with colleagues. Last but not least, we would encourage our participants to discover Sarawak, the Land of the Hornbills.

I would like to thank the secretariat and the biomedical industries for your unwavering support. A special thanks to the local organising committee, led by Dr Hasmizy Muhammad, who worked relentlessly to ensure the success of this Congress. To all participants, a huge thanks for participating. We trust the beautiful nature of Sarawak, the hospitality of multiethnicities of Sarawak, and the apt scientific programme will provide you a fruitful, fascinating, and memorable experience.

We welcome you to Kuching, Sarawak, for MyAnaesthesia 2023.

The Deputy Organising Chairperson

Professor Dr Marzida Mansor
President, College of Anaesthesiologists, Academy of Medicine of Malaysia &Deputy Organising Chaiperson, MSA and CoA Annual Scientific Congress 2023

It is with great honour and pleasure that I extend my warmest welcome to each one of event which serves as a platform for sharing knowledge, fostering collaboration, and continuous learning and innovation in the realm of Anaesthesiology.

This year's Congress promises to be an exceptional experience, as the theme will be LEAD: Leadership and Excellence in Anaesthesia Development, where we will witness cutting-edge research, hear from distinguished experts, and engage in fruitful discussions that will shape the future of our specialty. Throughout this Congress, we encourage you to explore the diverse array of topics in Anaesthesiology, from the latest advancements in technology and pharmacology to the ethical considerations that guide our practices.

Additionally, I encourage all attendees to seize this opportunity to network and collaborate with fellow professionals from different corners of the globe. The connections made during this Congress often blossom into lifelong friendships and fruitful collaborations, paving the way for more discoveries in the future.

I extend my heartfelt gratitude to the main and local organising committee, sponsors, and all the individuals whose hard work and dedication have made this event possible. Together, in Kuching, Sarawak, we will create an unforgettable gathering that will make this Congress a resounding success, advancing the frontiers of Anaesthesiology, and shaping a brighter future for our patients and our profession.

The Scientific Chairperson

Associate Professor Dr Muhammad Maaya
Scientific Chairperson, MSA and CoA Annual Scientific Congress 2023

Welcome to the 60th Annual Scientific Congress of the Malaysian Society of Anaesthesiologists and the College of Anaesthesiologists, Academy of Medicine of Malaysia.

Back in June 2013, our Annual Congress, which was still known as Annual Scientific Meeting, was also held in Kuching, Sarawak, in conjunction with the 12th Asian and Oceanic Society of Regional Anaesthesia and Pain Medicine Congress. This wonderful city was lucky to be the host for the auspicious Golden Jubilee Anniversary back then, and again for the Diamond Jubilee Anniversary. I am confident that the event will be just as great. The anaesthesia conduct and equipment may have changed over the last ten years, but the pursuit of medical education and professional development, which is part and parcel of every professional field, remains as strong as ever. I hope you will take advantage of what we have in store.

Every year, our fraternity looks forward to this Annual Scientific Congress, as we have various symposia and speakers lined up which would appeal and be of interest to all, from those new in the specialty to the experienced ones. Our theme MyAnaesthesia LEAD: Leadership and Excellence in Anaesthesia Development will be in tandem with our strong important role in patient care despite providing service to other departments, as well as new changes in our practice of anaesthesia, pain medicine and critical care.

I hope you will take time to experience the symposia and workshops that may guide the direction and future of our profession. To all the speakers and delegates who have joined us near and far, please take this great opportunity to reacquaint with old friends or create brand new networks with each other. To the Organising, Local Organising, and my Scientific Committees, as well as the trade exhibitors and Secretariat who have worked hard to help make this congress a smooth and successful event, I thank you all from the bottom of my heart for your contribution.

Have a stimulating and fruitful congress, everyone!

2. Malaysian Society of Anaesthesiologists

Executive Committee 2022-2023

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3. College of Anaesthesiologists, AMM

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Deputy Organising Chairperson	Professor Dr Marzida Mansor
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Assoc Prof Dr Wan Fadzlina Wan Mohd Shukeri

6. Original Article Abstracts

ID: 8

EQUIPMENT PROBLEMS DURING ANAESTHESIA AND ITS IMPACT ON PATIENT CARE

Nayana Amin[1], Dipannita Mukherjee[1]

[1]Tata Memorial Centre and Homi Bhabha National Institute, Parel, Mumbai, Maharashtra, India

Introduction

Incident reporting during anesthesia is one of the quality indicators and a key factor in achieving the goal of patient safety during anesthesia. We conducted this quality improvement audit on equipment problems to identify the areas of concern and help in taking measures to further improve the quality and safety of patient care. The objectives of the audit were two-fold. Firstly, to identify the frequency, type and severity of equipment problems and its effect on quality of patient care before, during, and after induction of anesthesia. Secondly, to look at the expenses involved in the maintenance and repair of anesthetic equipment.

Methods

This audit was conducted over a period of 1 year in a tertiary cancer referral center in India. The anesthesiologist conducting the case documented all the equipment problems encountered before starting and during the surgery.

Results

Data regarding the equipment problems was available for 69% of major elective surgical procedures. The overall incidence of equipment problems was 13.8%, of which 9.3% were before induction and 4.5% were detected after induction. Most of the problems occurred in the anesthesia machine (53%) followed by the monitors (25%) and warming devices (10%). We had 91% minor, 8.5% major, and 0.5% serious equipment problems. 5.2% of equipment problems had some impact on patient

care. Our incidence of equipment unavailability was 11.6%. Since most equipment were in comprehensive contract, no additional cost was incurred in repair of these equipment.

Conclusion

Our incidence of equipment problems was 13.8% with maximum problems seen in anesthesia machine followed by monitoring equipment. None of the equipment problems resulted in long term morbidity or mortality in the patients. Routine pre procedure safety check list helped in the detection of equipment problems and prompt service by biomedical cell helped in preventing serious problems to the patients.

ID: 9

INCIDENCE OF POST OPERATIVE DELIRIUM IN PATIENTS UNDERGOING ROBOT ASSISTED TRANSABDOMINAL SURGERY WITH STEEP TRENDELENBERG POSITION- AN OBSERVATIONAL STUDY

Madhavi Shetmahajan[1], Neha Sharma[1]

[1] Department of Anaesthesiology, Tata Memorial Centre and Homi Bhabha National Institute, Mumbai, India

Introduction

Robotic surgery in steep Trendelenburg position carries an increased risk of cerebral oedema which may present as delirium or agitation, excessive sedation, or more serious neurological complications in the postoperative period. We conducted this prospective observational study to understand the incidence of such complications and the possible factors contributing to it after approval from the institutional ethics committee. The trial was registered with the national trial registry. (CTRI/2019/01/023358)

Methods

One hundred patients undergoing robot assisted transabdominal surgery in steep Trendelenberg position with carbon dioxide pneumoperitoneum for at least two hours were recruited after written informed consent. Postoperative sensorium, pain score, and chemosis assessment was performed in all recruited patients at 10 minutes, 30 minutes, 2 hours, and 24 hours after extubation. The Richmond Agitation Sedation Scale (RASS) scale was used for the assessment of sensorium.

Results

At 10 minutes, 74% of the participants had an abnormal RASS which reduced to 51% at 30 minutes. At 2 hours, 19% of the patients were still drowsy and one patient was restless. The incidence of delirium was 8% at 10 minutes, 1% at 30 minutes, and 1% at 2 hours. Sedation was much more common than agitation in the postoperative period. Chemosis showed significant correlation at 30 minutes and 2 hours. The duration of Trendelenburg position and net fluid balance showed no correlation with abnormal RASS.

Conclusion

Robotic surgery in steep Trendelenburg position and carbon dioxide pneumoperitoneum had a high incidence of abnormal neurological recovery in the postoperative period. However, most patients had mild disturbances which were of relatively short duration.

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PROSPECTIVE OBSERVATIONAL STUDY TO NOTE INCIDENCE OF CORONARY CALCIFICATION ON STANDARD CHEST CT SCAN IN MAJOR ONCOSURGERY AND PERIOPERATIVE OUTCOME

Vijaya Patil[1], Niyati Mehta[1]

[1]Tata Memorial Centre and Homi Bhabha National Institute, Mumbai, India

Introduction

Coronary artery calcification (CAC) has been shown to be an independent predictor of coronary artery disease compared with traditional risk factors. Our study aimed to recognize the incidence and severity of CAC on standard CT chest by using a visual scale and correlate these scores with perioperative outcomes in patients presenting for major oncosurgeries.

Methods

This was a prospective observational study. After approval from hospital ethics committee, patients above 18 years of age undergoing major oncosurgeries where standard CT thorax was part of metastatic work up were recruited. A trained radiologist evaluated and graded CT thorax for CAC according to the visual scale as none, mild, moderate, and severe. The demographic profile, including the NYHA classification, was recorded. Patients were screened for preoperative risk factors according to the Lee's revised cardiac risk index. Preoperative investigations, optimization and intra and postoperative management were performed according to the institutional practice. Postoperatively, they were followed up until discharge from the hospital. This trial was registered with National Trial Registry (CTRI/2019/02/017838).

Results

We recruited 100 patients over 1 year. The incidence of CAC was 31%, where 19% had mild CAC with no perioperative cardiac event. A total of 9% had moderate CAC, of which 1 patient each developed myocardial infraction (MI) and hypotension with generalised left ventricular (LV) hypokinesia postoperatively. Severe CAC was seen in 3%, where 1 patient developed MI and another had new onset LV dysfunction. No cardiac event was noted in patients without CAC. The incidence of CAC was high in

diabetics (52%). 26% patients with CAC had a positive stress test. All those with severe CAC had positive stress test.

Conclusion

CAC on routine CT scans is highly sensitive for prediction of patients with IHD and patients with moderate or severe CAC score should undergo further cardiac evaluation.

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PROGRESSION OF HYPOXAEMIA IN APNOEIC CHILDREN DURING GENERAL ANAESTHESIA: A COMPUTATIONAL MODELLING ANALYSIS

Sue Yan Lai[1], Clara Daudre-Vignier[2], Marianna Laviola[2], Jonathan G Hardman[2,3]

[1] School of Medicine, University of Nottingham, Nottingham, UK; [2] Anaesthesia and Critical Care, Division of Clinical Neuroscience, School of Medicine, University of Nottingham, Nottingham, UK; [3] Nottingham University Hospitals NHS Trust, Nottingham, UK

Introduction

This study investigated the progression of hypoxaemia in apnoeic children during general anaesthesia and evaluated the effects of preoxygenation, apnoeic oxygenation and airway patency during apnoea.

Methods

The Interdisciplinary Collaboration in Systems Medicine (ICSM) simulation suite, a highly integrated, high-fidelity computational model of the respiratory and cardiovascular systems was used to model four healthy children (2, 4, 6, 8 yr) each with an open and an obstructed upper airway. Before apnoea, subjects were pre-oxygenated by breathing 100% oxygen for 2 minutes, while controls breathed room air. When apnoea commenced, subjects with an open airway were exposed to inspired oxygen fractions (FiO_2) of 21%, 50% and 100%. Arterial oxygen saturation (SaO_2) and arterial partial pressure of oxygen (PaO_2) were recorded at 50 ms intervals.

Results

Pre-oxygenation increased pre-apnoea PaO_2 to ~80 kPa which extended safe apnoea time (SaO_2 > 90%). Those not pre-oxygenated prior to apnoea demonstrated an immediate reduction in arterial oxygenation during apnoea. Pre-oxygenation delayed the reduction of PaO_2 and SaO_2. Increasing FiO_2 applied to the open airway delayed hypoxaemia. The time taken for SaO_2 to fall to 90% following the commencement of apnoea varied between 0.7 and 22.7 minutes. The application of 100% oxygen to the open airway extended safe apnoea time substantially in all subjects (15.3-16.3 minutes).

While pre-oxygenation extended safe apnoea time, apnoeic oxygenation further extended the apnoeic window by slowing de-oxygenation after pre-oxygenation. However, apnoeic oxygenation was less impactful in the absence of pre-oxygenation and should thus be considered an adjunct rather than a replacement for pre-oxygenation since an unobstructed airway cannot be guaranteed.

Conclusion

Pre-oxygenation when combined with provision of FiO_2 100% to apnoeic subjects was most effective in delaying the onset and progression of hypoxaemia, highlighting the importance of maintaining an open airway during the induction of general anaesthesia.

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AN OBSERVATIONAL STUDY ON OPERATING THEATRE TIME UTILIZATION, CAUSES OF CANCELLATION AND OVERSHOOT FOR SCHEDULED ELECTIVE LISTS IN A DISTRICT HOSPITAL WITH SPECIALISTS

Chong Ling Tong[1], Alvis Tian Yee Lee[1], Khalidah Amin Azhar[1]

[1] Hospital Tawau, Sabah, Malaysia

Introduction

The aims of this observational study were to evaluate the Operating Theatre (OT) time utilization and identify the reason of cancellation and overshoot for scheduled elective lists in Hospital Tawau, which is a district hospital with specialist services.

Methods

The timing of each scheduled elective case was collected by OT staff nurses and Anaesthesia Medical Officers (MO). All scheduled elective cases from 21st March to 16th December 2022 were included except for caesarean section and electroconvulsive therapy as both were performed in the emergency OT.

Results

The average OT time utilization was 84% among all 7 operative departments. The orthopaedic list had the highest case cancellation rate (30%) compared to the paediatric dental list (1%). The major causes of case cancellation were due to patient's factor (e.g., patients' conditions unfit for op) and exceeded scheduled elective OT time. The commonest cause of overshooting elective OT time was surgery procedure took longer than estimated. The average OT overshoot time was 80 minutes.

Conclusion

Hospital Tawau had achieved optimum OT time; however, further steps should be taken to minimize the cancellations and overshoots to maximize OT utilization time in the future.

ID: 15

PREGNANCY-RELATED ANXIETY AMONG ELECTIVE CAESAREAN SECTION WOMEN IN A TERTIARY HOSPITAL IN SELANGOR

S Nair [1], MR Zainal Abidin[1], M Perumal[1]

[1] Hospital Tengku Ampuan Rahimah Klang, Selangor, Malaysia

Introduction

Pregnancy-related anxiety has been increasingly associated with negative implications on maternal and child health outcomes and therefore, an important aspect of pregnancy that needs to be looked out when treating a mother's health. The prevalence of anxiety among pregnant women, and anaesthesia related factors contributing to their anxiety were studied.

Methods

This is a descriptive cross-sectional study on 280 patients planned for elective caesarean section in a tertiary hospital in Selangor, Malaysia using the State-Trait Anxiety Inventory (STAI) questionnaire. The results were analysed using IBM SPSS version 26.

Results

Preoperatively, all the mothers were anxious, of which 25% had severe anxiety. The bulk of the anxiety was contributed by the fear of death (34.3%), coma (32.1%), and postoperative pain (30%) if given general anaesthesia, whereas 27.9% were anxious about developing back pain or paralysis proceeding a regional anaesthesia. However, the majority of the mothers' anxiety was significantly reduced postoperatively, where only 9.6% had severe anxiety. The prevalence of severe anxiety was significantly lower among those who had previous caesarean section (21.2%), compared to those with previous vaginal delivery (41.7%).

Conclusion

In conclusion, pregnancy-related anxiety is a significant aspect of mother and baby health that warrants detailed preoperative maternal counselling sessions to allay their anxiety and improve outcomes.

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ANALYTICAL STUDY OF OUTCOME BETWEEN INTRATHECAL MORPHINE AND EPIDURAL ANALGESIA FOR MIDLINE LAPAROTOMY

BK Ting[1], Guna Nesan[2], M Basri[3]

[1] Sarawak General Hospital, Malaysia; [2] Hospital Kuala Lumpur Malaysia; [3] SASMEC, IIUM, Kuantan, Malaysia

Introduction

This research aimed at showing intrathecal morphine (ITM) is an effective postoperative analgesia for midline laparotomy compared to epidural.

Methods

Medical records in Sarawak Genaral Hospital for 2021 from various sources were used. Open statistical software JAMOVI was used for analysis.

Results

A total 176 cases were sampled using universal sampling method. Midline laparotomy consisted mostly with gynaecology surgery (48.3%), followed by colorectal surgery (26.1%). Length of stay from day of surgery to the day of discharge was compared between epidural and ITM. ANOVA test for means of length of stay for patients under different fix factors (mode of analgesia, discipline of surgery, level of incision) and covariance (age) showed that only discipline of surgery is statistically significant $P<0.001$. However, ITM does show a lower mean for pain score. Using ANOVA, the difference in means for mode of analgesia, discipline of surgery, level of incision and gender still show that ITM is statistically significant at producing lower pain score. The complications studied associated with epidural or ITM were sedation, respiratory depression, post operative nausea and vomiting, pruritus, and prolonged motor blockage. Epidural mode had 1% case of sedation score >0 while ITM had 5% cases of sedation score >0. There was no respiratory depression case recorded. ITM analgesia recorded a higher incident of PONV for various discipline of surgery. 16% patients received ITM experienced puritus with none in the epidural group. Prolonged motor block was uncommon and subsequently recovered. The mean difference of acute pain service follow-up days was 0.7 days less for ITM analgesia.

Conclusion

ITM analgesia is a viable choice for post midline laparotomy beside epidural. This study was able to provide information for anaesthetists for a betterinformed decision when choosing mode of central neuraxial analgesia for midline laparotomy in the future.

ID: 21

ANALGESIC EFFECT OF INTRAPERITONEAL LIGNOCAINE IN ADULTS UNDERGOING SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS

Ka Ting Ng[1], Wei En Lim[2], Wan Yi Teoh[3], Mohd Fitry Zainal Abidin[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Glasgow, UK; [3]University of Liverpool, UK

Objectives

Skin instillation of local anesthetics as part of the multi-modal analgesic regimen has effectively reduced postoperative pain. Recent studies demonstrated that the intraperitoneal administration of lidocaine provides excellent analgesic effects with lower postoperative pain score and morphine consumption. Hence, the primary objective of this review was to determine the impact of intraperitoneal lidocaine on postoperative pain score and consumption of analgesia in adults undergoing surgery.

Methods

Databases of MEDLINE, EMBASE, and CENTRAL were searched from their inception date until May 2023. Randomized clinical trials (RCT) comparing intraperitoneal lidocaine and placebo in adults undergoing surgery were included. Trials published as letters to editors, case series, case reports, observational studies, and conference abstracts were excluded.

Results

Our systematic review included 21 RCTs (n=1692) for data analysis. Compared to the placebo group, our pooled analysis showed that the intraperitoneal lidocaine group was significantly associated with lower postoperative pain scores at rest (OR: -1.60, 95% Cl: -1.72 to -1.49, ρ<0.00001) and postoperative pain scores during movement (OR: -3.30, 95% Cl: -3.69 to -2.92, ρ<0.00001). Administration of intraperitoneal lidocaine also significantly reduced the consumption of morphine (OR: -5.35, 95% Cl: -6.11 to -4.59, ρ<0.00001) and lowered the number of patients requiring analgesia (OR: 0.22, 95% Cl: 0.14 to 0.35, ρ<0.00001). Our review demonstrated significantly earlier time to resume regular diet (OR:0.16, 95% Cl: -0.31 to -0.01, ρ=0.04)) in the intraperitoneal lignocaine group as compared to the placebo group.

ID: 22

PARAMEDIAN VERSUS MIDLINE APPROACH OF SPINAL/EPIDURAL ANESTHESIA: A SYSTEMATIC REVIEW AND META-ANALYSIS WITH TRIAL SEQUENTIAL ANALYSIS

Ka Ting Ng[1], Wei En Lim[2], Wan Yi Teoh[3], Lian Kah Ti[4], Ina Ismiarti Shariffuddin[1], Mohd Fitry Zainal Abidin[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Glasgow, Glasgow, UK; [3]University of Liverpool, Liverpool, UK; [4]National University of Singapore, Singapore

Objectives

Midline approach of spinal anesthesia has been widely used for patients undergoing surgical procedures. However, it might not be effective for elderly with degenerative spine changes. The primary objective of this systemic review was to examine the success rate at the first attempt between the paramedian and midline approach in spinal/epidural anesthesia in adults undergoing surgery.

Methods

Databases of MEDLINE, EMBASE, and CENTRAL were searched from their starting date until February 2023. Randomized clinical trials (RCTs) on paramedian versus midline approach of lumbar puncture were included.

Results

Our review included 43 RCTs (n=5,988). Compared to the midline approach, the paramedian approach of lumbar puncture was significantly associated with higher success rate at the first attempt (95% CI: 0.24-0.74, ρ=0.002). It also significantly reduced the incidence of backache in the first 48 hours (95% CI: 1.28-26.98, ρ=0.02) and 7 days (95% CI: 2.27-14.12, ρ=0.0002) after surgery, and the incidence of paresthesia during the procedure (95% CI: 3.15-49.02, ρ=0.0003) and after the procedure (95% CI: 1.03-2.36, ρ=0.04). The paramedian approach of lumbar puncture also significantly reduced the incidence of post-dural puncture headache at 48-hour (95% CI: 1.45-9.38, ρ=0.006) and 7-day after surgery (95% CI: 1.05-2.63, ρ=0.03).

Conclusions

In this meta-analysis of 43 RCTs, the paramedian approach could lead to a higher success rate at the first attempt and lesser adverse events compared to the midline approach. However, these findings should be interpreted with caveat as most included studies were small in sample size and may be underpowered for our primary outcome.

ID: 24

DEXMEDETOMIDINE VERSUS PLACEBO IN RENAL TRANSPLANT: A SYSTEMATIC REVIEW AND META-ANALYSIS

Ka Ting Ng[1], Wei En Lim[2], Wan Yi Teoh[3], Soo Kun Lim[1], Ahmad Nazran Fadzli[1], Pui San Loh[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Glasgow, UK; [3]University of Liverpool, UK

Objectives

Dexmedetomidine is a highly selective alpha-2 adrenoceptor agonist with sedative and analgesia effects. Recent studies suggested that dexmedetomidine has renoprotective properties, which may minimize the incidence of delayed graft function with good pain control after renal transplantation. Thus, the primary objective of this meta-analysis was to examine the incidence of delayed graft functions in adult patients who randomized to dexmedetomidine and placebo following renal transplant.

Methods

Databases of MEDLINE, EMBASE and CENTRAL were searched from their respective starting date until February 2023. All randomized clinical trials (RCT) comparing dexmedetomidine and placebo in adult patients undergoing renal transplant surgery were included. Non-RCTs, observational studies, case series, and case reports were excluded.

Results

Our review included 11 RCTs (n=1508). In comparison to placebo, dexmedetomidine group was significantly associated with lower incidence of delayed graft function (OR: 1.40, 95% CI: 1.03 to 1.92, ρ=0.03). Administration of dexmedetomidine also significantly delayed the time taken to request for first analgesia (MD: -7.81, 95% CI: -10.02 to -5.1, ρ<0.00001) and lower total morphine consumption after renal transplant (MD: 6.84, 95% CI: 3.42 to 10.27, ρ<0.0001). However, no significant differences were observed in the incidence of bradycardia (OR: 1.07, 95% CI: 0.46 to 2.52, ρ=0.87) and hypotension (OR: 0.73, 95% CI: 0.29 to 1.83, ρ=0.51).

Conclusions

This meta-analysis of 11 RCTs demonstrated that dexmedetomidine could potentially minimize delayed graft function and better analgesia profile as compared to placebo in adults who underwent renal transplant. However, the high degree of heterogeneity and inadequate sample size may require future adequately powered trials to affirm these findings.

ID: 28

THE EFFECTS OF TOPICAL LIGNOCAINE SPRAY ON INTUBATING CONDITIONS DURING INDUCTION OF ANAESTHESIA WITH TARGET CONTROLLED INFUSION REMIFENTANIL AND PROPOFOL

Nik Nabihah A[1], Sadia Naim K[1], W Mohd Nazaruddin WH[1], Mohd Zulfakar M[1], Muhamad Hasyizan H[1]

[1]Department of Anaesthesiology and Intensive Care, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan

Background

Neuromuscular blocking agents (NMBAs) are still considered crucial to produce optimal intubating conditions. However, there is an ongoing interest in alternative intubation techniques without NMBAs using target-controlled infusion (TCI) remifentanil with other adjunct drugs. The aim of this study was to evaluate the effect of a combination of topical lignocaine spray and TCI remifentanil and propofol on endotracheal intubating conditions without NMBAs.

Methods

Sixty adult patients, within ASA I and II classification, aged 18-65 years, electively scheduled for general anesthesia using induction with TCI remifentanil 4 ng/ml and propofol 4 µg/ml, were randomised into two groups; Group TL (n=30) received 10 puffs (0.1 ml per spray) of 10% lignocaine spray in the oral cavity, whereas Group NS (n=30) received the same amount of normal saline, 3 minutes prior to induction. The intubating conditions were assessed during laryngoscopy using a C-Mac video-laryngoscope. Post-intubation haemodynamic changes and the percentage of patients who required rescue NMBAs were recorded.

Results

Group TL showed a significantly higher percentage of easy laryngoscopic procedures [96.7% vs. 56.7%; $p< 0.01$] and open vocal cord position [86.7% vs. 56.7%; $p=0.028$] than Group NS. However, there were no significant differences in overall intubating conditions, requirement for rescue NMBAs, and haemodynamic changes between the two groups.

Conclusion

We found topical lignocaine spray improved laryngoscopic procedures and open vocal cord position during intubation using TCI remifentanil and propofol without NMBAs. Topical lignocaine spray improved laryngoscopic procedure and open vocal cord position during intubation using TCI remifentanil and propofol without NMBAs.

ID: 32

EFFECT OF EPIDURAL ANALGESIA ON LABOUR AND DELIVERY IN A TERTIARY HOSPITAL IN MALAYSIA

Khor Chiang Wei[1], Wan Rahiza Wan Mat[1], Maryam Budiman[1], Tan Kok Wang[1], Siti Nidzwani Mohamad Mahdi[1], Muhammad Maaya[1]

[1]Department of Anaesthesiology and Intensive Care, Hospital Counselor Tuanku Muhriz, Faculty of Medicine, Malaysia

Introduction

Labour epidural analgesia (LEA) is the most effective form of pain relief during labour and is widely used in reducing labour pain. However, it is unclear whether it affects the mode of delivery. Therefore, the aim of the study was to establish if LEA is associated with increased rate of caesarean delivery (CD) and vaginal assisted delivery (VAD) compared to labour without LEA.

Methods

This retrospective cohort study analysed the birth and LEA records consecutively from January until April 2021. Elective CDs were excluded. Paturients were divided into LEA and non-labour epidural analgesia (NLEA) group. Outcomes measured were mode of deliveries stated as CD, VAD, or spontaneous vaginal delivery (SVD). For comparison between the two study groups (LEA vs. NLEA) the Student's t-test was used for continuous variables and the Chi-square test for categorical variables.

Results

Two hundred and sixty-two deliveries met the inclusion criteria. Spontaneous vaginal deliveries (SVD) were significantly observed more in NLEA group (LEA 2 (1.5%) vs NLEA 79 (60.3%), $p<0.001$) in contrast to those who did that had significantly more VADs and CDs (LEA VAD 60 (45.8%) vs NLEA VAD 4 (3.1%), $p<0.001$; LEA CD 69 (52.7%) vs NLEA CD 48 (36.6%), $p=0.013$ respectively). Parturients in LEA group were significantly younger (mean age LEA 30.1±4.4 vs NLEA 33.9±5.2, $p<0.001$) and were in their first pregnancies [LEA 65 (64.7%) vs NLEA 41 (31.3%), $p<0.001$] when compared to those in the NLEA. Parturients diagnosed with advanced maternal age (≥35 years) significantly did not opt for LEA [LEA 6 (4.6%) vs NLEA 41 (31.3%), $p<0.001$] whereas

obese parturients (BMI>30kg/m2) significantly did [LEA 30 (22.9%) vs NLEA 11 (8.4%), p<0.001]. Parturients in LEA group had almost twice the risk to have CDs [adjusted odds ratio 1.973 (1.116-3.486), p=0.047].

Conclusion

LEA is associated with increased rate of CDs and VADs.

ID: 33

A TWO-YEAR RETROSPECTIVE COHORT STUDY ON THE ROLE OF CENTRAL NEURAXIAL BLOCKADE FOR PARTURIENTS IN LABOUR AND ITS ASSOCIATION WITH MATERNAL AND NEWBORN OUTCOMES

Cyena Chaza Kutiang[1], Choong Yu Joe[1], Siti Rukhmaniah Abdul Razak[1], Azza Nur Azreen Ahmad Ryzal[1], Muhammad Danial Fitri Hamzah[1], Dayana Nazira Abdul Razak[1], Wan Rahiza Wan Mat[2], Jaafar Md. Zain[2]

[1]Faculty of Medicine, Kuala Lumpur, Malaysia; [2]Department of Anaesthesiology and Intensive Care, Hospital Canselor Tuanku Muhriz, Faculty of Medicine, Kuala Lumpur, Malaysia

Introduction

The types of labour central neuraxial blockade (CNB) used among parturients may affect maternal and newborn outcomes. This study aimed to determine the prevalence of CNB used and its effect on the maternal mode of delivery (MOD) and neonatal APGAR score.

Methods

This study included 1378 parturients who received labour analgesia via CNB from 1 January 2020 to 31 December 2021, aged 18 years old and above with singleton pregnancy at term (≥ 37 and ≤ 42 weeks' gestation). Their medical records in the labour analgesia service registry were retrospectively reviewed with data including the parturients' demographics, types of CNB performed, maternal MOD, neonatal APGAR score, and duration of epidural analgesia following CNB collected. Results were analysed using statistical tests with significance taken at $p<0.05$ via SPSS Version 26.0.

Results

The prevalence of CNB was 19.36% which was mostly epidural only (16.76%). The types of CNB used significantly affected the maternal MOD ($p<0.038$). Parturients who had combined-spinal epidural (CSE) have an increased likelihood of 2.04 for instrumental deliveries when compared to those who had epidural only ($p<0.01$). The duration of epidural infusion after CNB significantly affected the maternal MOD ($p<0.001$). Parturients who underwent emergency caesarean sections and received

epidural only had significantly longer mean duration of epidural infusions (327±149 mins) compared to those who had CSE (274±169 mins, p = 0.04). The types of CNB did not affect the neonatal APGAR scores (p>0.05).

Conclusion

Analgesia provided by CNB during the parturients' labour affected the maternal MOD but not the neonatal APGAR score.

ID: 36

ORTHO-GERIATRIC SERVICE IN SARAWAK GENERAL HOSPITAL

VKY Lim[1], KL Law[2], SC Teo[2]

[1] Hospital Umum Sarawak, Kuching, Malaysia

Introduction

The elderly population is more prone to hip fractures and often suffer from pain and delayed surgery, which increases morbidity and mortality. In Sarawak General Hospital (SGH), we implemented the ortho-geriatric pathway, a comprehensive multidisciplinary collaboration which integrates acute pain service (APS), orthopaedics, geriatrics, pharmacists, and allied health professionals to address the medical, surgical and rehabilitation needs of patients. This service is more established and widely used worldwide than in Malaysia, where initiation is challenging. The main objectives of this survey were to evaluate the effect of the ortho-geriatric pathway on patient outcomes, time to surgery, and the length of hospital stay. The long-term objectives were to assess the number of re-fractures and the cost-effectiveness of this service.

Methods

This retrospective study compared data from patients 60 years old and above who sustained hip fragility fracture, admitted to SGH from September 2022 to February 2023 against data from January 2017 to December 2020, which were before the implementation of the pathway.

Results

Out of a total of 70 patients, average age was 77-78 years old with 65% being female. All patients were referred to APS, however 50% were not given regional analgesia due to patient or caregiver refusal. 77% underwent either arthroplasty surgery (37%) or others (63%) which were mainly proximal femur nail insertion. The average time from trauma to surgery was 11.15 days for arthroplasty surgery (19.8 days pre-implementation) and 6 days for the remaining. Average length of stay in hospital was 16.3 days for arthroplasty (16.9 days pre-implementation) and 12 days for others.

Conclusion

As this is a novel multidisciplinary collaboration in our centre, we are still in the process of ironing out differences. As we gradually improve interdisciplinary dynamics and cooperatione, we hope to achieve improvement in time to surgery and better outcome.

ID: 46

FACTORS ASSOCIATED WITH ACUTE LOW BACK PAIN AMONGST PATIENTS UNDERGOING SPINAL ANAESTHESIA IN HOSPITAL KUALA LUMPUR

Fatin Hazirah Mohamed[1], Chong Kok Wah[2], Lim Thiam Aun[2], Nik Rowina NM[2]

[1]Hospital Kuala Lumpur, Malaysia; [2]Universiti Putra Malaysia (UPM), Malaysia

Introduction

A post-spinal anaesthesia backache is postulated to occur secondary to a localized inflammatory response, often associated with a degree of muscle spasm. Post-spinal backache is one of the complications causing discomfort in patients, leading to patient refusal of its usage in subsequent operations. The aim of this study was to identify the prevalence and the risk factors associated with acute lower back pain in patients undergoing spinal anaesthesia.

Methods

This was a prospective cohort study. A total of 120 patients who underwent spinal anaesthesia were enrolled in the study. The severity of back pain was assessed over 7 days based on a numerical rating scale. Factors that were associated with back pain post spinal anaesthesia were recorded and analysed.

Results

The study showed the number of attempts at lumbar puncture, needle size and history of back pain were significant factors associated with back pain post spinal anaesthesia. However, other factors such as age, gender, body mass index (BMI), duration, position, and needle type were not significantly associated with the occurrence of back pain post spinal anaesthesia.

Conclusion

There is a significant association between acute back pain post spinal anaesthesia with history of back pain, size of the needle, and number of attempts at lumbar puncture. Therefore, proper training to identify interspinal space and prudent selection of patients for spinal anaesthesia should be emphasised to reduce the occurrence of back pain post spinal anaesthesia. Besides, using a smaller size needle is encouraged during spinal anaesthesia unless it is not warranted.

ID: 47

DERIVATION OF A MULTI-BIOMARKER MODEL FOR PREDICTING MORTALITY IN HOSPITALISED COVID-19 PATIENTS

Wan Fadzlina Wan Muhd Shukeri, Nur Izyan Izzati Sathari, Laila Ab Mukmin

Department of Anaesthesiology and Intensive Care, Universiti Sains Malaysia, Kelantan, Malaysia

Introduction

This study aimed to derive and assess the performance of a multi-biomarker model from the combination of basic laboratory biomarkers in predicting mortality of hospitalised COVID-19 patients.

Methods

This was a cross-sectional study conducted in a university-affiliated hospital in Malaysia. Data of confirmed COVID-19 patients who were admitted from 8th January 2020 to 18th August 2021 were retrieved including their admission C-reactive protein (CRP), lactate dehydrogenase (LDH) and neutrophil-lymphocyte ratio (NLR). Patients were classified as non-survivors or survivors according to their hospital mortality status. The multi-variable logistic regression analysis was used to derive the multi-biomarker model; the performance of which was assessed with analysis of area under the curve (AUC).

Results

A total of 188 confirmed COVID-19 patients were analysed. Their mean age was 52 ± 17) years, 104 (52%) were males, 114 (57%) were of severe COVID-19 pneumonia, with mean APACHE II score of 14 ± 10. The outcome of in-hospital mortality was reached in 46 (23%) of the patients. On admission, those who went on to die in the hospital had higher median levels of CRP 96.0 (IQR 39.8 – 182.0) vs 23.0 (IQR 0-67.0) mg/L, p <0.001, of LDH 973.0 (IQR 706.5- 1520.0) vs 515.1 (408.8 - 738.8 IU/L, p <0.001) and of NLR 10.1 (IQR 5.5- 23.6) vs 2.8 (IQR 1.5- 5.9, p <0.001). A multi-biomarker model consisting of these biomarkers had a higher AUC (0.866, 95% CI 807- 0.925) compared to its constituent individual biomarker. At its optimal cut off point, this model had 78.9% sensitivity and 76.5% specificity for mortality prediction.

Conclusion

A multi-biomarker model using a combination of CRP, LDH and NLR predicted in-hospital mortality with a very good performance in our hospitalised COVID-19 patients.

ID: 49

SURVEY OF MENTAL STRESS AMONG DOCTORS IN ANAESTHESIOLOGY DEPARTMENT IN HOSPITAL SELAYANG DURING COVID-19 PANDEMIC

Naifah binti Sheikh Omar[1], Chong Kok Wah[2], Lim Thiam Aun[2], Nik Rowina NM[2]

[1]Hospital Selayang, Malaysia; [2]Universiti Putra Malaysia (UPM), Malaysia

Introduction

The World Health Organization announced COVID-19 as a global pandemic. Healthcare professions experience higher levels of work stress than the general population, even under normal circumstances, and stress in doctors is associated with both physical and mental health problems. The aim of this study was to evaluate the levels of mental stress among tanaesthesiology doctors working in Hospital Selayang during COVID-19 pandemic. This study also intended to identify association of sociodemographic factor with mental stress.

Methods

This was a cross-sectional study conducted among doctors in Department of Anaesthesiology and Intensive Care in Hospital Selayang. An online questionnaire consisted of social demographic data and Perceived Stress Scale-10 (PSS-10) was disseminated to all the doctors by administrative officers.

Results

A total of 103 doctors participated in this survey. The mean age of doctors who responded to the survey was 34.5 ± 4.60 years old, with the majority of them being 31 to 40 years of age (77.7%). Females were the majority and married with a percentage of 72.8% and 64.1%, respectively. From all the responses, 24.3% of participants indicated low stress, 64.1% had moderate stress, and 11.7% had a high level of stress. An independent t-test was performed. Female doctors were one of the significant risk factors associated with the stress. No significant association with stress was found for age, marital status, or working experience.

Conclusion

The prevalence of moderate-to-stress was high among anaesthesiology doctors in Hospital Selayang during the COVID-19 pandemic, with female gender being one of the significant risk factors.

ID: 56

RETROSPECTIVE AUDIT ON HSAJB INTRAVENOUS IRON PROTOCOL COMPLIANCE AND PATIENT CLINICAL OUTCOMES

SP Ong[1], ZM Lee[1], NM Omar[1], O Sulaiman[1], MH Senin[1], N Sham[1], MM Gusari[1], R Hamzah[1]

[1] Hospital Sultanah Aminah Johor Bahru, Johor Bahru, Malaysia

Introduction

Anaemia, defined as a haemoglobin level of <13 g/dl in males and <12 g/dl in females, is a prevalent problem in surgical patients. Morbidity, mortality, and economic costs for anaemic patients are higher. Problems hindering preoperative haemoglobin optimisation in Hospital Sultanah Aminah, Johor Bahru (HSAJB) include limited time before surgery and tight financial resources. Recognising this, an outpatient intravenous (IV) iron clinic was set up with protocol based on the National Blood Authority of Australia Patient Blood Management guidelines.

Methods

The HSAJB IV iron protocol was introduced in stages to various surgical sub-specialities from September 2022. Patients were screened in the Pre-Anaesthetic Clinic (PAC) and referred for IV iron if the following criteria were met: haemoglobin ≤10 g/dl, timing of surgery ≥2 weeks after PAC review and major surgery planned. Six months post-protocol implementation, the patients' anaesthetic forms were reviewed to determine if appropriate referrals were made or missed. For clinical outcomes, patients were followed up 24 hours after iron administration and then peri-operatively from admission until 3 days post-operatively.

Results

A total of 385 patients were screened from September 2022 to March 2023. 3 patients were excluded as their anaesthetic forms were unaccountable at the time of audit. Compliance to protocol was 90%. Nine patients received IV iron. The mean time from iron administration to surgery was 14.6 days. The change in haemoglobin ranged from -12.6% to +33%. Two patients were lost to follow-up. One patient had static

fatigue scores whereas the rest showed improvement in fatigue levels. No adverse reactions to IV iron were recorded.

Conclusion

The current IV iron protocol is feasible and adaptable as the number of iron recipients increases. Larger numbers of patients are needed to demonstrate long-term benefits of IV iron.

ID: 57

EFFECT OF SCALP BLOCK ON INCIDENCE OF PERSISTENT POST CRANIOTOMY HEADACHE IN UNIVERSITY MALAYA MEDICAL CENTRE

Phang Tih Shyang[1], Yeap Chun Hong [1], Jeyaganesh S. Veerakumaran[1], Vairavan Narayanan[1], Retnagowri Rajandram[1], Tan Wei Keang[1]

[1]University Malaya Medical Centre (UMMC), Kuala Lumpur, Malaysia

Introduction

Persistent post-craniotomy headache has been reported to have a high incidence. Craniotonomy is recognised as a cause of headache since 2004 by The International Headache Society in International Classification of Headache Disorders, (ICHD). An ICHD-3 is defined as a headache more than 3 months caused by craniotomy. There is no locally reported incidence in Malaysia for post craniotomy headache till date. This study aimed to investigate the incidence of chronic post-craniotomy headache in University Malaya Medical Centre and if scalp block reduced the incidence. The study also aimed to identify other possible factors that might affect its incidence.

Methods

The operation registry was searched for craniotomy done from June 2018 till June 2022. A total of 171 patients who fulfilled the criteria have been successfully contacted and their responses obtained. Patients were interviewed via phone regarding the presence of chronic headache post craniotomy and its severity.

Results

A total of 29% patients had chronic post-craniotomy headache. According to HIT-6 scores, it has substantial impact in six patients and severe impact in another six. Patients with preceding headache before surgery have a higher incidence of 58% (OR = 4.7, p-value =0.0003). Scalp block is associated with lesser incidence (13%) of chronic post craniotomy headache (OR = 3.13, p-value 0.045). Female also has higher incidence 41.7% (p-value=0.128, the OR is 1.684). Infratentorial craniotomy has higher incidence (40.7 %) but is statistically not significant.

Conclusion

This retrospective study shows that incidence of persistent post craniotomy headache is high, especially those with preceding headache. Female gender and infratentorial craniotomy are also shown to have higher incidence. Scalp block appears to reduce the incidence of persistent post craniotomy headache. However, a larger sample size is needed to draw conclusion in regard to scalp block and infratentorial craniotomy's association with persistent post craniotomy headache.

ID: 64

THE PREVALENCE OF LOW BACK PAIN IN OPERATING ROOM PERSONNEL IN A TERTIARY HOSPITAL IN SARAWAK

TP Phang[1], M Abdul Hadi[1]

[1]International Islamic University Malaysia, Pahang, Malaysia

Introduction

Low back pain (LBP) is one of the common musculoskeletal disorders and has a high impact to the economy. We aimed to identify the prevalence of LBP among the operating room personnel, associated risk factors besides their occupation-relation and psychological stress.

Methods

The BACKS tool was distributed via Google form and hardcopy to the operating room personnel in Sarawak General Hospital (SGH). In this cross-sectional study, 92 responses were received. The sociodemographic data, the prevalence of LBP with chronic LBP, the associated risk factors and their occupation-relation on top of the psychological stress were analysed.

Results

The prevalence of LBP and chronic LBP were 71.7% and 53.3%, respectively. There were no association between LBP with age, gender, and occupation category with the p values of 0.279, 0.748, and 0.311, respectively. It was also found that the LBP was not statistically related to lifting heavy loads, long working hours, and improper body posture with the p values of 0.185, 0.599 and 0.789, respectively. The psychological stress was reported to be high but not statistically significant in relation to the LBP ($p = 0.270$).

Conclusion

In this study, it was found that the prevalence of LBP and chronic LBP were high in the operating personnel who work in the SGH. However, there was no statistically significant association with the risk factors such as lifting heavy loads, body twisting and long working hours. Despite so, we could not disregard the fact that more than 50% of the participants suffered from psychological stress due to the high requirements at work and most of them has LBP.

ID: 66

IDENTIFICATION OF CLINICAL FACTORS FOR SUCCESS OF AWAKE SELF PRONING IN HYPOXEMIC RESPIRATORY FAILURE IN COVID-19 PNEUMONIA

Yan Qian Au[1], Syarifah Noor Nazihah Sayed Masri[1], Saw Kian Cheah[1], Azarinah Izaham[1], Siti Nidzwani Mohammad Mahdi[1], Mohd Khazrul Nizar Abd Kader[1] and Aliza Mohamad Yusof[1]

[1]Department of Anaesthesiology and Intensive Care, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Introduction

The awake prone position (APP) is increasingly used to improve lung oxygenation in COVID-19 pneumonia patients, but there is limited guidance in predicting its success.

Methods

This was a single-centre, convenient sampling, retrospective cohort study designed to identify and predict the clinical factors for success in APP therapy, involving data collection on patients admitted to the COVID-19 ICU and Medical Intensive Care Unit (MICU) of a tertiary university hospital in Malaysia.

Results

One hundred and five patients were included; 53 patients had succeeded in APP, while 52 patients required intubation. The mean SOFA score was 3 in the successful intervention group, and the mean of 8 hours of APP was found to significantly reduce the risk of intubation. Patients who completed the APP had a significantly higher mean ROX index during both supine (7.55 ± 0.97) and prone (9.99 ± 1.28) positions, with a *p-value* <0.001 for both positions. The PF ratio in both supine and prone positions recorded was also significantly higher in the successful intervention group. The multivariate risk factors that were associated with successful APP intervention were SOFA score (AOR 0.113, 95% CI 0.034–0.378, *p-value*<0.001) and mean duration of prone (AOR 3.614, 95% CI 1.264–10.330, p-value = 0.017).

Conclusion

Critically ill COVID-19 patients with a SOFA score < 3 may benefit from APP. A longer prone duration could help optimise oxygenation and reduce the intubation rate.

ID: 72

MALAYSIAN REGISTRY OF REGIONAL ANESTHESIA: INCIDENCE OF MAJOR COMPLICATIONS OVER THE PAST 10 YEARS

Guna Nesan, YF Wong, Azrin Mohd Azidin

Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Introduction

Peripheral nerve blockade is associated with excellent patient outcomes after surgery; however neurologic and other complications can be devastating to patient. This article reports the development and results of a multicentre audit describing the quality and safety of peripheral nerve blockade.

Methods

From January 2014 to May 2023, data relating to efficacy and major complications of patients who received peripheral nerve blocks are retrieved from the Malaysian Registry of Regional Anaesthesia. All patients who received nerve blocks performed in all Ministry of Health hospitals were included.

Results

A total of 10840 patients received 14164 peripheral nerve blocks recorded from Jan 2014 to May 2023. There were two incidences for each local anaesthesia toxicity and pneumothorax (1.4 in 10000 cases). Forty-seven cases (3.3 in 1000) reported to have persistent numbness in the ward while nine cases (6.4 in 10000) had persistent weakness. There were two cases (1.4 in 10000) of each persistent numbness and persistent weakness after one month.

Conclusions

The incidences of major complications post peripheral nerve block for the past 10 years were 4.2 in 1000 cases. Thus, peripheral nerve blocks should be more encouraged in current practice for multimodal analgesia. It improves postoperative pain, with reductions of opioid use and average length of hospital stay.

ID: 76

REGIONAL ANAESTHESIA SERVICE IN KAPIT HOSPITAL – A CLINICAL AUDIT

Aimi Amran[1], Zhixin Chan[2], M. Faeez[1], Mark Fitchell[1], Johnny T.S Kiu[1]

[1]Hospital Kapit, Sarawak, Malaysia; [2]Hospital Sibu Sarawak, Malaysia

Introduction

Kapit Hospital is a minor district specialist hospital, catering to orthopaedics, general surgery, obstetrics, and gynaecology. In terms of anaesthesia, regional anaesthesia, provided by specialist and trained anaesthetic medical officers, remains as mainstay whenever possible.

Methods

We conducted a clinical audit on regional anaesthesia service of 20 months, from October 2021 to May 2023, to evaluate the post operative pain outcomes and complications in patients who underwent surgeries under regional anaesthesia.

Result

A total of 108 blocks for 85 cases (43 orthopaedics, 27 general surgery and 15 plastic surgeries) were performed during the period. Ten cases (11%) were performed by specialist and the remaining 75 cases (89%) were performed by trained medical officers, where the specialist supervised 27 cases (31%). 29 cases (34%) are for analgesics (2 ESP (2%), 4 Ilioinguinal block (4%), 4 Rectus sheath block (4%), 19 TAP block (18%); while 56 cases (66%) are for anaesthesia (36 upper limbs blocks (33%), 36 lower limbs blocks (33%), 6 PECS blocks (5%)). 23 cases (27%) require 2 or more blocks, all for anaesthesia. 2 cases by landmark technique, 83 cases by ultrasound technique. 5 partial blocks and 1 failed block requiring conversion to GA or supplemented with TIVA. Patients age varies from 1 year old to 84 years old (7 cases are below age of 12 years old), median age was 49 years old. Majority are male patients (56%) and ASA I (36%), ASA II (32%), ASA III (32%). On post-operation day 1, pain score at rest 0 (82%), 1-3 (18%). No complications were reported during that interval.

Conclusion

Regional anaesthesia offers great post-operative outcome, reducing the dependence on opioid usage. Services provided by trained anaesthetic medical officers are equally effective and safe.

ID: 77

A SURVEY OF CHOICE OF GENERAL ANAESTHETIC AGENTS AMONG CERTIFIED ANAESTHETISTS IN MALAYSIA

Ili Syazana J A[1], I I Shariffuddin[1], McGain, F.[2]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]The University of Melbourne, Melbourne, Australia

Background

Environmental and financial impact imposed by anaesthetic agents are of major concern and is of hot discussion recently. Strategies to reduce these adverse environmental costs include the choice of agent and fresh gas flows. The current preferences of Malaysian anaesthetists are unknown. The objective of this study was to determine the most preferred anaesthetic agent and reason behind it.

Method

After local ethics approval, we conducted a survey using SurveyMonkey, which comprises of a questionnaire containing 11 questions. Questionnaires were distributed via e-mail with the aid of the Malaysian Society of Anaesthesiologist Association.

Results

The survey was answered by 238/787 (30%) anaesthetists. Sevoflurane was preferred by 121/227 (53%, 95% confidence interval (CI) 47%–60%), followed by desflurane, 69/227 (30%, 95% CI 21%–39%) and propofol 37/227 (16%, 95% CI 14%–18%). None chose isoflurane as their primary anaesthetic agent. When asked regarding all anaesthetics, lower cost of agent per unit was the most common reason given for using sevoflurane (109/232 (47%, 95% CI 41%–53%)), lower postoperative nausea and vomiting for propofol (179/234 (76%, 95% CI 71%–82%)) and faster induction/awakening times for desflurane (193/230 (84%, 95% CI 82%–86%)). About 95/234 (40%) chose environmental considerations as one of their reasons of choice. Two-third of the respondents hardly use nitrous oxide (149/236 (63%, 95% CI 57%–69%)). Low fresh gas flow rates for sevoflurane were used by 222/234 (95%, 95% CI 92%–98%) and for 194/206 (98%, 94% CI 91%–97%) for desflurane. Automated end- tidal control was used by 221/235 (94%, 95% CI 91%–97%).

Conclusion

Environmental consideration may not be one of the main reasons for the choice of anaesthetic agent in Malaysia. However, the awareness is there. In contrast, financial impact seems to be more considered when choosing an anaesthetic agent.

ID: 82

THE EFFECTIVENESS OF BIOBASE BIOLOGICAL ISOLATION CHAMBER IN CONTAINING AND EVACUATING AEROSOLIZED PARTICLES DURING TRANSPORT OF COVID-19 PATIENTS: A SIMULATION STUDY

Huzaifah A Wahab[1], S Nidzwani M Mahdi[1], Murnira Othman[2], M Ikram A Wahab[3], Azarinah Izaham[1], Rufinah Teo[1], CN Yeoh[1]

[1]Hospital Canselor Tuanku Muhriz Universiti Kebangsaan Malaysia, Kuala Lumpur,

Malaysia; [2]Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia, Bangi Selangor, Malaysia; [3]Center for Toxicology and Health Risk Studies, Faculty of Health Science, Universiti Kebangsaan Malaysia

Introduction

Biobase Biological Isolation Chamber (BBIC) is an isolation chamber used to limit spread of SARS-CoV-2 droplet transmission. During static transport, risk of droplet nuclei transmission is higher as the environment is constrained within a closed space, such as an ambulance or elevator. We aim to study the effectiveness of BBIC in limiting spread of aerosol during simulation of static transport of COVID-19 patient in the hopes of improving SARS-CoV-2 transmission rates amongst healthcare workers.

Methods

Control, closed ports, and open ports models were developed to assess the effectiveness of the BBIC in containing and evacuating aerosolised particles. Particulate matter (PM) PM10 and PM2.5 concentrations were measured with two AS-LUNG sensors at set time intervals placed inside (Cin) and outside (Cout) the BBIC. Outcome variable, Fiso (mathematically expressed as: Fiso = Cin/Cout) was derived.

Results

Comparing PM10 at time 15 minutes, Fiso differences between closed and open ports groups and control were significant ($p < 0.001$, < 0.001 respectively) while Fiso differences between closed and open ports groups were significant ($p < 0.001$). Comparing PM10 and PM2.5, Fiso differences between closed and open ports groups were also significant ($p < 0.001$ and < 0.001, respectively). Fiso negatively correlated with time

for both open ports (r= -0.79, p= 0.035) and closed ports groups (r= - 0.79, p= 0.035) for PM10.

Conclusion

The utility of BBIC effectively contains and evacuates PM10 aerosolized particles during simulation of static transport of COVID-19 patients. When access ports were opened, the BBIC effectively contains and evacuates PM10 aerosolised particles but not as effective as when access ports were closed. The BBIC also contains and evacuates PM10 aerosolised particles more effectively than PM2.5 aerosolised particles.

ID: 88

A COMPARISON OF HAEMATOCRIT VALUES AFTER CELL SALVAGE REINFUSION IN ON-PUMP AND OFF-PUMP CARDIAC SURGERY

Hasmizy M[1], Hanafi S[1], YL Wong[1], SK Khaw[2]

[1] Sarawak Heart Centre, Sarawak, Malaysia; [2] Royal Papworth Hospital, Cambridge, UK

Background

Cell salvage is a blood conservation technique used in cardiac surgery. On-pump cardiac surgery means a cardiopulmonary bypass machine is used, while off-pump surgery does not. This research aims to determine haemoglobin levels post-operatively between on-pump and off-pump cardiac surgery after cell salvage reinfusion and assess the amount of allogenic blood transfusion between them.

Methods

From 315 patients who underwent cardiac surgery at Sarawak Heart Centre from 2019 to 2021, 28 were dropped due to incomplete data. A total of 133 and 154 patients were in the on-pump group and off-pump group, respectively. Intraoperative blood lost was collected by cell salvage and reinfused before the end of the surgery. Haematocrit was assessed from arterial blood gases during pre-induction and post-operatively on days 0, 1 and 2.

Results

There were statistically significant differences in the mean age (on-pump = 55.2 ± 11.5 years vs. off-pump = 58.2 ± 7.9 years, p = 0.011), mean cell salvage reinfusion (on-pump = 795.3 ± 224.2 ml vs. off-pump = 406.1 ± 250.2 ml, p<0.001) and mean allogeneic blood transfusion (on-pump = 0.52 ± 1.0 pint vs. off-pump = 0.23 ± 0.6 pint, p = 0.006). There were no difference in the mean pre-operative haematocrit (on-pump = 41.6 ± 4.7% vs. off-pump = 41.2 ± 4.5%, p = 0.379), mean post-operative haematocrit Day 0 (on-pump = 36.1 ± 6.3% vs. off-pump = 35.1 ± 4.7%, p = 0.132), mean post-operative haematocrit Day 1 (on-pump = 32.9 ± 6.1% vs. off-pump = 33.0 ± 5.2%, p =

0.847), and mean post-operative haematocrit Day 2 (on-pump = 31.9 ± 4.6% vs. off-pump = 31.6 ± 5.0%, p = 0.581).

Conclusion

Both on-pump and off-pump groups showed no difference in haematocrit values pre- and post-operatively, although the former had more cell salvage reinfusion and allogeneic blood transfusion.

ID: 93

POSTOPERATIVE PAIN TRAJECTORIES FOR HIP AND KNEE ARTHROPLASTIES: A TWO-YEAR AUDIT STUDY

ZY Beh[1], RS Suppiah[1], KY Chan[1], BP Lim[1], CM Lee[1], CS Chew[1], GN Solayar[1], CC Tai[1]

[1]OSC Orthopaedic Specialist Centre, Subang Jaya, Selangor, Malaysia

Introduction

Orthopaedic Specialist Centre is a leading private hospital in Malaysia dedicated exclusively to orthopaedic care. The team comprises of highly experienced consultant orthopaedic surgeons. Patients would receive multimodal analgesia with regional anaesthesia and analgesia as the mainstay technique. Our current study aimed to explore postoperative pain trajectories to define the role of regional analgesia in personalised pain medicine.

Methods

We conducted a two-year audit study from 1st December 2020 until 30th November 2022 to evaluate the post-operative pain trajectories in all patients who underwent hip and knee arthroplasty surgeries at our centre. This audit received approval from the National Medical Research Centre (NMRR ID-22-01097-470). Pain score was evaluated by documented 5th vital signs (numerical rating scale, NRS) in the electronic medical records. We identified the minimum and maximum pain score of the day.

Results

A total of 204 cases were performed. All patients received PNB. There were 30 primary THR and 2 revision THR. Seventy-nine patients underwent bilateral knee and 93 had single knee surgeries. The median age of our patients was 69.0 years old [IQR,64.0-74.0]. Majority were female (72.5%), ASA II (52.5%) and the mean BMI 26.33 kg/m2 (SD±4.37). For hip arthroplasty surgeries, 84.4% had GA with PNB. For knee arthroplasty, 64% received neuraxial anaesthesia with PNB. The median (IQR) and mean (SD) pain score for POD0 (same day after surgery), POD1 (day 1 after surgery), POD2 (day 2 after surgery) and POD3 (day 3 after surgery) remained minimum.

Conclusions

This audit demonstrated excellent post-operative pain control with utilization of multimodal analgesia spearhead by regional anaesthesia and analgesia for joint arthroplasty surgeries.

ID: 96

NOVICE REGIONAL ANAESTHESIA PRACTITIONERS SIMULATED TRAINING: WHICH IS BETTER – AUGMENTED REALITY OR TISSUE SIMULATION MODEL?

MN Mokhtar[1], A Samsudin[2], A Azizeh[2], CW Ken[3], V Varma[2], I Khalid[3], KW Tan[3], A Lim[3], M Budiman[3], CK Hor[4], AF Abdul Shokri[3], KP Xuan[5], A Izaham[1]

[1] Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Malaysia; [2]Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Teknologi MARA, Malaysia; [3]Department of Anaesthesiology and Intensive Care, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia, Malaysia; [4]Mawar Medical Centre, Seremban, Malaysia; [5]Digital Health Research and Innovation Unit, Institute for Clinical Research (ICR), Malaysia

Introduction

Immersive technology, such as augmented and virtual reality, is gaining momentum in regional anaesthesia (RA) training and practice. However, it is essential for trainees to provide validation and feedback to evaluate its effectiveness in medical education. Our study compared the practical aspects and training values of two simulation models, the NeedleTrainer™ (a newly developed immersive technology simulator) and the Blue Phantom™ (an existing ultrasound tissue simulation model), for novice RA practitioners.

Methods

Thirty-six anaesthesiology-based practitioners were recruited during an RA workshop for novice RA practitioners. They were divided into two groups, where they performed ultrasound-guided needling on either the NeedleTrainer™ (NT) first, followed by the Blue Phantom™ (BP), or vice versa. Time-to-target (time taken from the needle insertion to the simulated nerve site) and first-pass success rate were assessed. Participants' evaluation of learning and confidence were rated using a 5-point Likert scale.

Results

The NT has a lower first-pass success rate (75% vs 100%) but shorter time-to-target (TTT) (8[5.00-11.25] vs 15.5[8.00-24.75] sec, p=0.02) compared to BP. Subgroup analysis revealed a significantly shorter TTT in NT compared to BP among medical officers (8[5.0-12.0] vs 21.5[13.0-26.0] sec, p=0.006), but no difference was seen among specialists (p=0.068) and anaesthesiology trainees (p=0.286). BP has higher overall scores compared to NT in both learning experience (24.17±4.78 vs 26.56±3.18, p=0.004) and confidence level (11.75±2.30 vs 12.94±2.01, p=0.003) as rated by participants.

Conclusion

Our study found that the use of NT compared to BP as a simulation model resulted in shorter TTT in a subgroup of participants but had lower first-pass success rates and overall scores in terms of participant-rated learning experience and confidence level. Further validation and feedback from trainees, as well as larger sample size studies, are necessary to evaluate the effectiveness of immersive technology in medical education.

7. Oral Presentation Abstracts

ID: 16

EVALUATION OF PROGNOSTIC PERFORMANCE OF THE BATTERY OF LIFE (BOL) IN COMPARISON TO THE NATIONAL EARLY WARNING SYSTEMS (NEWS) SCORING SYSTEM AMONG PATIENTS IN GENERAL MEDICAL WARD

Ronny Ikmal, Ahmad Kamil[1], Yoo Kuen Chan[2], Hsui Yang Wong[3]

[1]University Malaya Medical Centre, Kuala Lumpur, Malaysia; [2]University of Malaya, Kuala Lumpur, Malaysia; [3]The Prince Charles Hospital, Chermside, Brisbane, Australia

Introduction

The Battery of Life (BOL) score is a simplified and intuitive tool that assesses core oxygen and energy delivery based on airway, breathing, circulation, and blood parameters in acutely ill patients. This study aimed to compare the performance of a new scoring system, BOL score, with the established National Early Warning System (NEWS) in predicting mortality risk, ICU admission, length of hospital stays, and other parameters.

Methods

In this prospective study, we enrolled 280 medical patients aged 18 and above who met the entry criteria in the general medical ward. The score of the 280 patients on the BOL and NEWS systems were correlated with the outcome to determine if the score predicts as well with the new scoring system against the more established NEWS scoring system. The BOL and NEWS scores were compared in terms of predicting various outcome parameters. Fisher's exact Chi-square test, Student's t-test, or analysis of variance, logistic regression analysis, and linear regression analysis were used to evaluate the association of each scoring system with various outcome parameters. The discrimination of each scoring system was assessed using the receiver operating characteristics (ROC) area under curve (AUC) value.

Results

Both scores had similar ROC AUC values for ICU admission, intubation, vasopressor use, and oxygen support. The BOL score was significant for length of stay, risk of intubation, ventilation duration, ICU admission, vasopressor use, and oxygen support. The BOL score outperformed NEWS in predicting mortality, ICU admission, oxygen therapy, intubation, ventilation duration, and vasopressor use using adjusted proportion score.

Conclusion

The BOL scoring system is equally effective in predicting clinical deterioration and mortality risk compared to NEWS, while being simpler and more intuitive in improving patient care, clinician decision-making hence leading to a better outcome.

ID: 23

THE USE OF NALBUPHINE IN EMERGENCE DELIRIUM AMONG CHILDREN: A SYSTEMATIC REVIEW AND META-ANALYSIS

Ka Ting Ng[1], Wei En Lim[2], Wan Yi Teoh[3], Mohd Fitry Zainal Abidin[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Glasgow, Glasgow, UK; [3]University of Liverpool, Liverpool, UK

Introduction

Emergence delirium remains a major postoperative concern for children undergoing surgery. Nalbuphine is a synthetic mixed agonist-antagonist opioid, which is believed to reduce the incidence of postoperative emergence delirium in children. The primary objective of this systematic review and meta-analysis was to examine the use of nalbuphine in the reduction of emergence delirium in surgical children.

Methods

Databases of MEDLINE, EMBASE and CENTRAL were searched from their starting date until April 2023. All randomized clinical trials (RCT) and observational studies comparing nalbuphine and control in surgical children were included. Trials published as letters to editors, case series, case reports, and conference abstracts were excluded.

Results

Nine studies (n=1,466 patients) were eligible for the inclusion of data analysis. Compared to the control, our pooled data showed that the nalbuphine group was associated with a lower incidence of emergence delirium (OR: 0.28, 95% Cl: 0.21 to 0.38, $\rho<0.00001$). Administration of nalbuphine to children also significantly reduced the postoperative pain scores (MD: -1.54, 95%Cl: -2.42 to -0.66, $\rho=0.0006$). However, no statistical differences were observed in the incidence of nausea and vomiting and the incidence of desaturation between the nalbuphine and control groups.

Conclusions

In summary, this meta-analysis demonstrated that nalbuphine reduced the incidence of emergence delirium and reduced pain scores in children.

ID: 53

AN EXPLORATORY STUDY ON THE PREFERENCE OF THE TYPE OF TEACHER FOR MASTER TRAINEES IN ANAESTHESIOLOGY AT DIFFERENT TRAINING LEVELS

WK Tan[1], YH Lee[2], SH Chaw[1], II Shariffudin[1], NH Md Hashim[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Aberdeen, Aberdeen, Scotland

Introduction

Students are a valuable source of feedback for teachers to acknowledge their quality and methods of teaching. The purpose of this study was to explore the preference of the type of teacher for master trainees at different training levels. We hypothesised that trainees from various training years may expect different characteristics from a clinical teacher to meet their learning needs.

Methods

Surveys in the form of questionnaires were conducted with all 158 registered students for the Master of Anaesthesiology (Universiti Malaya) programme, across the four training years. The Maastricht Clinical Teaching Questionnaire (MCTQ) with its seven domains capturing various aspects of cognitive apprenticeship, was used as a template for the survey. The investigators contacted the Master trainees via email and Whatsapp text messaging application. Digital informed consent and participant data collection were performed via Google software. Respondents score each item on the questionnaire using a 5-point Likert scale.

Results

A total of 158 invites were sent to all University Malaya Master trainees in Anaesthesiology. One hundred and one respondents participated in the survey, yielding a response rate of 63.92%. Items “Created a safe learning environment”, “Helped student understand which aspects he needed to improve” and “Showed student respect” received high scores of >4.5 from the respondents. “General learning climate” and “Scaffolding” domains were deemed important by most trainees as they receive mean scores of >4.2 across all four training years. The domain “stimulating explora-

tion" was considered important for second and third year-trainees but not among the exam year-trainees, namely, first and fourth-year trainees.

Conclusion

Creating a safe, non-toxic, learning environment for trainees to become gradually proficient in anaesthesiology is crucial from the master trainees' perspective.

ID: 67

ASSESSMENT OF RISK FACTORS AND CORRELATION OF CHARLSON COMORBIDITY INDEX WITH PERIOPERATIVE BLOOD TRANSFUSION IN MAJOR HEPATOBILIARY AND COLORECTAL SURGERY USING A NOMOGRAM IN UKMMC: A RETROSPECTIVE STUDY

Mohamed Zahir Anverdeen[1], Mohd Faizal Ramli[2], Nadia Mohd Nor[1], Siti Nidzwani Mohd Mahdi[1], Tan Tse Siang[1], Syarifah Noor Nazihah Sayed Masri[1]

[1]Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia; [2]Institut Jantung Negara, Kuala Lumpur, Malaysia

Introduction

Major hepatobiliary and colorectal surgery are associated with risk of blood transfusion**.** However, risk assessment tools for predicting blood transfusion have not been studied extensively among patients undergoing major hepatobiliary and colorectal surgery.

Methods

In this study, we incorporated preoperative variables associated with blood transfusion in major hepatobiliary and colorectal surgery in UKM Medical Centre into a nomogram. Medical records for patients who underwent elective major hepatobiliary and colorectal surgery over a 6-year period (2015-2020) were collected. A nomogram to predict transfusion risk was developed and the discriminatory ability of the nomogram was tested using area under the receiver operating characteristics (ROC) curve.

Results

Data from 293 patients (61.1% male with average age of 59.7 ± SD 14.5) were analysed. The prevalence of anaemia was 61.1% among these patients. They underwent either a hepatobiliary (49.5 %) or colorectal (50.5 %) procedure. A total of 127 patients received at least 1 unit of packed red cells, giving a perioperative transfusion rate of 43.3% with average of 2 .0 (IQR 1,3) units transfused among those who received blood transfusion. On multivariate analysis, gender (odds ratio (OR) 1.646), preoperative haemoglobin of 8.0 g/dl or less versus over 12.0 g/dl (OR 0.777), Charlson Comorbidity Index score (OR 1.14) and procedure types;, major hepatectomy,

(OR 6.094), other pancreatomy (OR 1.487), Whipple's procedure (OR 9.667), anterior resection (OR 3.569) were associated with significantly higher risk of transfusion and went into the making of a nomogram. Nomogram's discrimination and calibration results showed good prediction abilities with an area under ROC curve of 0.754.

Conclusion

Gender, Charlson comorbidity index, type of procedure and preoperative Hb were associated with higher risk of transfusion and incorporated into a nomogram. The nomogram predicted blood transfusion in major colorectal and hepatobiliary surgery with good discrimination with an area under ROC curve of 0.754.

ID: 79

THE EFFECT OF INTRAVENOUS LIGNOCAINE INFUSION ON DESFLURANE REQUIREMENT: A RANDOMISED CONTROLLED TRIAL

W Matthew[1], SNN Sayed Masri[2], A Masdar[2], AM Yusof[2], CN Yeoh[2]

[1] Hospital Sibu, Sarawak, Malaysia; [2] Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Objective

Perioperative intravenous (IV) lignocaine infusion has a minimum alveolar concentration (MAC) sparing effect. This study was designed to investigate the impact of IV lignocaine infusion on the intraoperative end-tidal desflurane (Et-Des) concentration required to maintain the Bispectral Index (BIS) values between 40 and 60.

Methods

Forty-eight patients were recruited for laparoscopic cholecystectomy, appendicectomy or ovarian cystectomy. They were randomised to either Group A, receiving a bolus of 1.5 mg/kg of 2% lignocaine HCl over 3 minutes, followed by an IV infusion of 1 mg/kg/hr until skin closure or Group B, receiving an equal volume of normal saline. Baseline BIS values, heart rate and mean arterial pressure were recorded before induction of anaesthesia and subsequently every 10 min until skin closure. The Et-Des concentration, haemodynamic changes, BIS, MAC, the dose of fentanyl administered, amount and cost of desflurane used between the two groups were analysed.

Results

The Et-Des concentration in group A (4.3% ± 0.45%) was significantly lower than Group B (5.3% ± 0.56%, $p < 0.001$). The cost of desflurane per hour was significantly reduced in Group A than in Group B (RM 35.79 ± 7.43 vs RM 46.37 ± 9.75, $p < 0.001$). Both groups' heart rate and mean arterial pressure showed no significant differences ($p = 0.484$ and 0.619 respectively).

Conclusion

Intravenous lignocaine infusion reduces the Et-Des concentration, amount and cost required to maintain the BIS value at 40–60 without significant haemodynamic changes or side effects in laparoscopic abdominal surgery.

ID: 84

HIGH FLOW NASAL OXYGEN THERAPY IN PREVENTING POST EXTUBATION HYPOXAEMIA AND POSTOPERATIVE PULMONARY COMPLICATIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Jamie Tan Wen Yen[1], Azarinah Izaham[1], Raha Abd Rahman[1], Azrina Md. Ralib[2], Chin Kok Yong [1], Rufinah Teo [1], Muhammad Maaya[1], Aliza Muhammad Yusof [1]

[1]Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; [2]International Islamic University Malaysia, Kuantan, Pahang, Malaysia

Background

High flow nasal oxygen therapy (HFNOT) has gained popularity in recent years in the treatment of respiratory failure in post-extubation of non-surgical and surgical patients. This systematic review and meta-analysis investigated the role of HFNOT in reducing the incidence of postoperative pulmonary complications (PPC) and post-extubation hypoxaemia.

Methods

A comprehensive search of PubMed, Scopus, EBSCOHost, ProQuest, Ovid MEDLINE and Web of Science was performed. Randomised controlled trials (RCTs) that compared HFNOT to conventional oxygen therapy (COT) during the postoperative period were identified. Data were pooled and estimates of effect were reported using odds ratio for dichotomous outcomes and mean difference for continuous outcomes, with 95% confidence intervals.

Results

Seventeen RCTs (n = 1761 patients) were included. Compared to COT, HFNOT reduced the incidence of PPC (OR 0.66, 95% CI 0.47 – 0.91, p = 0.01), hospital length of stay (MD = -0.31, 95% CI -0.53 – -0.1, p = 0.004) and mortality rates (OR 0.3, 95% CI 0.11 – 0.82, p = 0.02). HFNOT also resulted in significantly higher PF ratio (MD 18.17, 95% CI 9.76 – 26.57, p < 0.0001). In the subgroup analysis, the incidence of PPC was significantly lower in patients who had HFNOT applied for more than 24 hours (OR 0.5, 0.28 – 0.88 95% CI) and in non-cardiothoracic surgeries (OR 0.57, 0.38 – 0.85 95% CI). PF ratio was also significantly higher in non-cardiothoracic surgeries (MD 32.36,

19.88 – 44.84 95% CI). However, PF ratio was found to be better in the HFNOT group when applied for 24 hours or less (MD 33.96, 19.25 – 48.67 95% CI).

Conclusion

This meta-analysis suggests that HFNOT reduces the incidence of PPC and improves PF ratio, resulting in less post-extubation hypoxaemia. It was associated with lower mortality rates and shorter length of stay in the hospital. Larger trials should be conducted to validate these findings.

ID: 92

EVALUATING BREAKING BAD NEWS SKILLS OF ANAESTHESIOLOGY TRAINEES IN CRITICAL CARE, AFTER A COMMUNICATION SKILLS COURSE

SFA Lop Ahmad[1], M Budiman[1], A Mohamad Yusof[1], SK Cheah[1], WR Wan Mat[1], A Izaham[1], R Abdul Rahman[1]

[1] Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Background

Effective breaking bad news (BBN) skills are crucial for clinicians, including anaesthesiologists. We assessed the effect of a communication skill course among Year II to IV anaesthesiology and critical care trainees on their skill in BBN in a tertiary teaching hospital.

Methods

Participants underwent pre- and post-course assessments (a month after the course) of their skills in BBN. The communication skill course was an online program that included a series of talks and interactive small group discussions that covered important topics related to effective communication in critical care. During both assessments, they were evaluated while communicating with a simulated patient. The communications were video recorded and assessed by expert assessors that consisted of consultant anaesthesiologists, intensivists, and a communication expert. The assessors utilized the Breaking Bad News Assessment Schedule (BAS) that included of 23 validated questions, which were categorized into five sections: setting the scene, breaking the news, eliciting concerns, information giving, and general considerations. The questions were scored using a five-point Likert-type scale, ranging from 1 to 5. Additionally, after each assessment, participants were required to complete a self-evaluation form. The BAS scores from the pre- and post-course assessments were compared.

Results

Forty-four trainees with a mean duration of service of 7.05 years participated in the study. Trainees' demographic factors such as age, gender, years in service, and prior attendance to previous communication skill courses did not affect the pre-course BAS scores. The study revealed statistically significant improvements in all 23 variables of the BAS. The mean total BAS score significantly improved from 82.50 ± 12.91 to 99.93 ± 9.45, $p<0.001$ after the course. Furthermore, trainees' self-evaluation scores significantly improved following the course ($p<0.001$).

Conclusion

The communication skill course that was provided improved BBN skills among our trainees in the critical care setting of our institution.

8. Case Report Abstracts

ID: 4

DIFFUSE ALVEOLAR HAEMORRHAGE: DANGER OF HYALURONIC ACID BREAST FILLER AUGMENTATION

Ning Hui Chong[1], Muhammad Bakar[1], Mohamad Helmi Mohamad Yusof[1], Jegadeesh Kumar Borah[1], Kai Lun Tan[1], Christine Swee Zhu Koay[1], Ying Yi Kim[1], Jin Chew Chin[1], Amelia Mohamed Ain[1], Khadijah Zulkifli[1]

[1]Hospital Sultan Abdul Halim, Sungai Petani, Malaysia

Introduction

Hyaluronic acid (HA), used for intra-articular injections, is also a popular cosmetic dermal filler. Although regarded as safe as the common adverse effects usually involve local reactions, inadvertent systemic HA have been reported to cause potentially life-threatening diffuse alveolar haemorrhage (DAH).

Case Description

A 31-year-old female visited our Emergency Department with haemoptysis and dyspnoea for 3 days. On presentation, her SpO2 on presentation was 60-75% under room air, respiratory rate was 25-30/min, ABG showed type I respiratory failure and bilateral ground-glass opacities with consolidations on the CXR. Subsequently, she was intubated for respiratory distress and admitted to ICU. Further history revealed patient had HA breast filler injection 5 days prior. A CT pulmonary angiogram ruled out pulmonary embolism but showed diffuse air space consolidation bilaterally, suggestive of DAH which would correlate with her clinical presentation. Bronchoscopy for alveolar lavage was not performed due to high ventilator settings. After ruling out other aetiologies of DAH, including leptospirosis, pulmonary tuberculosis, coagulopathy, and autoimmune disorders, we identified the cause as the cosmetic HA injection. She was given IV methylprednisolone for 6 days. Her ICU stay was complicated with superimposed nosocomial infection and anuric acute kidney injury. She failed to be extubated twice and required tracheostomy. Eventually, she was successfully weaned and discharged from ICU after 50 days and discharged home well 6 days

later. A high-resolution thoracic CT performed 2 months later showed resolving consolidation.

Learning Points

Only a few cases of pulmonary complications related to HA injection were reported. The pathophysiology is unclear, but the most common postulated mechanisms are dysregulation of haemostasis and vascular leakage.

Conclusion

Our case highlights the dangers of HA injections which should be performed with caution. Detailed history, early identification of HA-related DAH and appropriate treatment could improve patient outcome as seen in our case.

ID: 7

PERI-OPERATIVE MANAGEMENT OF CONGENITAL HEART BLOCK WITH VENTRICULAR SEPTAL DEFECT IN PAEDIATRIC NON-CARDIAC SURGERY: A CASE REPORT

Siaw Ling Then[1], Sanah M[1]

[1] Sarawak General Hospital, Kuching, Sarawak

Introduction

Medical advancement has improved the survival rates in paediatrics with congenital heart disease (CHD) and increases the prevalence of non-cardiac-related surgeries in children.

Case Description

A day-72-of-life infant with underlying CHB, ventricular septal defect and patent ductus aretiosus diagnosed at birth, was referred for prolonged jaundice. At birth, she was bradycardic with a heart rate (HR) of 50-60 bpm and the ECG showed a 2:1 heart block. Otherwise, hemodynamically she was stable. As ultrasound abdomen was suggestive of biliary atresia, laparotomy KIV Kasai Procedure was planned. At induction, iv ketamine 1mg/kg and iv fentanyl 1 mcg/kg were administered, and anaesthesia was maintained using sevoflurane with the MAC kept at 0.5-0.6 plus EEG monitoring. The child became more bradycardic after induction with a HR of 40 bpm and isoprenaline infusion of 0.1-0.2 mg/kg/min was commenced. However, this led to a reflex bradycardia. The decision to insert a temporary transvenous pacemaker was made with a paediatric cardiologist. With a stable HR paced at 100-120 bpm, a caudal epidural was inserted and continued with infusion as analgesia. Intra-operatively, she was hemodynamically stable. Given the intraoperative finding of biliary atresia with polysplenia and malrotation with an overall poor prognosis, Kasai Portoenterostomy was not done and only LADD's Procedure was performed. Post-operatively, the infant was extubated well to nasal prong 2 L/min and monitored in NICU. The epidural and pacemaker were removed on postoperative day-3. The child was subsequently discharged home for comfort and palliative care.

Learning Points

This case report highlights the peri-operative management of a rare case of congenital heart block. Early placement of pacemaker in these groups significantly reduces the related-cardiac morbidities during the perioperative period.

Conclusion

In summary, an early comprehensive peri-operative evaluation, planning as well as preparations are crucial in managing this case.

ID: 13

AWAKE MULTIPLE DEEP SEATED RIGHT BASAL GANGLIA ABSCESS BURRHOLE AND DRAINAGE UNDER SCALP BLOCK AND MAC – A CASE REPORT

WP Kang[1], S Najibah[1], SA Kesut[1], A Alias[1]

[1]Hospital Tuanku Ja'afar, Seremban, Malaysia

Introduction

Scalp block is a novel technique providing regional anaesthesia targeting the nerves innervate the scalp. This helps in blunt painful response especially during head pinning, scalp incision and drilling. It reduces opioids requirement, early emergence and for neurology assessment intra-operatively.

Case Description

We reported a 64-year-old presented with sign of meningitis with pneumonic changes who underwent a successful drainage of multiple right basal ganglia abscess with extensive perilesional edema and midline shift. Technique of the blocked were explained and informed consent was obtained. Patient was placed in the supine position, head was tilted and turned for scalp block infiltration. Under aseptic technique, chlorhexidine 2% was used. Long-acting bupivacaine 0.25% was used.

Each injection site was 2-5 ml respectively. Scalp block was performed as below:

1. Supraorbital nerve was identified via palpating the supraorbital notch.
2. Supratrochlear nerve runs parallel 1 finger breath medial to the supraorbital nerve.
3. Zygomaticotemporal nerve outer most lateral margin of orbital rim.
4. Auriculotemporal nerve 1 cm anterior to the tragus ear above the temporomandibular point.
5. Great auricular aerve 1 cm posterior to the ear at the level of tragus.
6. Greater occipital nerve midway between occipital protuberance and mastoid process.
7. Lesser occipital nerve 2 cm lateral from greater occipital nerve.

Intraoperatively, patient was given TCI remifentanil plasma 1-2ng/ml. Head pinning was done. Patient neurological assessment was done by neurosurgeon. Patient was kept at Ramsay and Sedation score (RASS) of 0. No additional analgesic was required and intra-operative was uneventful. Post-operative day 2 patient was discharged well.

Learning Points

Scalp block combined with MAC can be an alternative anaesthesia technique for many types of head surgeries. This technique may provide benefits to patients with multiple comorbidities with ASA class III and above.

Conclusion

Scalp block combined with MAC may serve as adequate regional anaesthesia technique for multiple brain abscesses drainage.

ID: 14

SPLIT LIVER TRANSPLANT– PAVING THE WAY TO REDUCED WAITING TIME ON THE TRANSPLANT LIST

Sharini Pillai Vegadharan Pillai[1], Ahmad Suhaimi Amir[1], Nas Shazli Amri Nasruddin[1]

[1]Hospital Selayang, Selangor, Malaysia

Introduction

Liver transplant is the treatment of choice in patients with acute liver failure, end stage liver disease and patients with hepatocellular carcinoma. Unfortunately, the rate of living-related liver transplant remains low in Malaysia and many patients rely on the cadaveric donor pool which remains inadequate to cope with the increasing number of liver transplant recipients. A split liver transplant, where the liver is split into two hemisegments, gives the opportunity for two recipients to be transplanted with one cadaveric donor liver.

Case Description

We present the case of Malaysia's first split liver transplant which was performed on the 18th of October 2021. Procurement commenced in Hospital Melaka at 3am and the liver was brought whole to Hospital Selayang where an ex-vivo split was performed. The right hemihepatectomy was transplanted into a 32 kg 12-year-old boy in Hospital Selayang while the left hemihepatectomy was transplanted into a child in Hospital Tuanku Azizah (HTA). Back table preparation and the splitting of the liver took almost 4 hours and by the time the liver was reperfused in Hospital Selayang, the cold ischemic time was 8.5 hours. For the recipient in HTA, the cold ischemic time was more prolonged, almost 12 hours.

Learning Points

Since this case was done, 3 other split liver transplants were performed in Malaysia; 2 were split in vivo and 1 was split ex-vivo. Based on the first split that took place, some changes were made in the logistical management, hence the cold ischemic time was shorter in all these cases.

Conclusion

As the experience with split liver transplant continues to expand, we are optimistic that the waiting time in the liver transplant list can be shortened which would translate into an improved quality of life for patients with liver failure.

ID: 17

CAUGHT OFF GUARD: A CASE REPORT OF INTRA-OPERATIVE ACUTE PULMONARY THROMBOEMBOLISM IN A SURPRISING PATIENT

Ronny Ikmal[1], Ahmad Kamil[1], Tan Chuan Hsin[1]

[1] University Malaya Medical Centre, Kuala Lumpur, Malaysia

Introduction

Surgery, particularly major orthopaedic and abdominal procedures, increases the risk of pulmonary embolism (PE), especially in patients with clinically relevant risk factors for venous thromboembolism (VTE). Prompt diagnosis and management are crucial for improving outcomes, even though most cases occur postoperatively.

Case Description

A 75-year-old man underwent laparotomy adhesiolysis and diverting stoma for low rectal carcinoma. Despite his recent cardiovascular accident (CVA), he was asymptomatic for VTE pre-operatively. While the induction of anaesthesia went smoothly, his recent CVA necessitated additional monitoring which were invasive blood pressure and cerebral oximetry. Nevertheless, during positioning into lithotomy, the patient suffered a pulseless electrical activity. Cardio-pulmonary resuscitation (CPR) was commenced and resulted in return of spontaneous circulation after 3 minutes of CPR. Bedside echocardiography showed right ventricular strain and 3-points compression test revealed left femoral vein thrombosis. Surgery was aborted, and the patient was stabilized in the ICU and commenced the treatment dose of heparin for PE. The diagnosis of PE was confirmed by a computed tomography pulmonary angiography which showed bilateral lower lobe pulmonary embolism, together with large left common femoral vein thrombosis seen in computed tomography venography. He eventually made a full recovery.

Learning Points

The case highlights the importance of having a high index of suspicion, promptly recognizing and treating PE to achieve better clinical outcomes. Additional monitoring and vigilance during surgery are particularly important for patients at high risk of VTE. While the evidence does not support routine preoperative screening for VTE in asymptomatic patients, clinical judgment remains critical in making decisions for these patients.

Conclusion

This case demonstrates that surgery, including abdominal procedures, carries a risk of VTE that cannot be neglected. Clinicians should be vigilant in monitoring patients during and after surgery and promptly evaluate any symptoms that suggest PE to improve outcomes.

ID: 19

ANAESTHETIC MANAGEMENT OF A CHILD WITH CORNELIA DE LANGE SYNDROME UNDERGOING LAPAROSCOPIC AND LAPAROTOMY PROCEDURE

IJ Ong[1], EC Guok, JK Looi[1], S.R Syed Othman[1], SP Ng[1]

[1] Penang General Hospital, Malaysia

Introduction

Cornelia de Lange syndrome (CdLS) is a relatively rare, congenital multisystemic genetic disorder, affecting neurosensory, craniofacial, musculoskeletal, cardiopulmonary, and gastrointestinal, presenting anaesthetic challenges. We hereby present the perioperative management of a child with CdLS undergoing elective laparoscopic and laparotomy procedure utilising total intravenous anaesthesia (TIVA).

Case Description

A 5-year-old, 11kg boy with CdLS, presented with difficulty in swallowing since birth which required long term nasogastric tube feeding. He was scheduled electively for laparoscopic-assisted gastrostomy insertion and localization of testis with orchidopexy under the same setting for impalpable testis. During pre-anaesthetic assessment, the child was anticipated to have difficult airway with high risk of aspiration. Following induction with TIVA, a caudal block was performed. Intraoperatively, there was an incidental finding of a Meckel's diverticulum with some fibrous tissue, which complicated the laparoscopic procedure, and thus mini laparotomy was done for excision of Meckel's diverticulum with ileo-ileal anastomosis. The procedure took around 4 hours. The child was successfully extubated post-operatively and transferred to PICU for close monitoring. He was discharged home on day 6 post-surgery without any complications.

Learning Points

Airway management for a child with CdLS and successful utilisation of TIVA is of particular interest, in view of high risk of difficult airway and aspiration. Perioperative care and concerns in term of drugs of choice is equally important in view of multisystem involvement.

Conclusion

The anaesthetic care of patient with CdLS is challenging and meticulous planning of perioperative anaesthetics management can potentially improve their outcome and reduce morbidity and mortality.

ID: 20

ANAESTHETIC MANAGEMENT OF DRAVET SYNDROME ON KETOGENIC DIET THERAPY FOR RETRIEVAL OF ENDOBRONCHIAL FOREIGN BODY

LS Ong[1], JK Looi[1], R Usha S. Rajah[1]

[1] Hospital Pulau Pinang, Pulau Pinang, Malaysia

Introduction

Ketogenic diet therapy (KDT) is an effective therapy for drug-resistant epilepsy. It requires maintenance of ketosis to reduce the seizure burden. Meanwhile, tracheobronchial foreign body (FB) retrieval is a shared airway procedure with its anaesthetic challenges. Herewith, we describe the anaesthetic management of a Dravet syndrome patient on KDT requiring removal of FB under general anaesthesia (GA).

Case Description

A 2-year-old boy with Dravet syndrome on KDT and multiple anti-epileptics presented with a delayed diagnosis of FB aspiration. He presented twice within 9 days to a private hospital for persistent whistling sounds after allegedly choking on nuts, where he underwent examination under anaesthesia (EUA) which showed normal findings of the upper airway. Subsequent contrast-enhanced CT thorax revealed a small soft tissue density in the left main bronchus with air trapping of the left lung. He was then transferred to our hospital and posted for EUA and FB removal under GA. Due to his co-morbidaity and KDT, a multidisciplinary planning was undertaken. The operation was done under GA with relaxant while avoiding the usage of propofol. Temperature and blood sugars were closely monitored. The difficult procedure took 3.5 hours with consequent airway oedema. Nasogastric tube was inserted to allow the continuation of oral anti-epileptics. The next day he was extubated to NIV and was discharged on day 3 post-surgery.

Learning Points

GA with relaxant is a safe technique for retrieval of tracheobronchial FB as it provides good operating conditions for surgeons. Dexamethasone is required to counter airway oedema from prolonged airway manipulation. Special attention to fluids and drugs is required in patients on KDT.

Conclusion

Multidisciplinary discussion with special attention on maintaining the airway and sustaining ketosis while avoiding carbohydrate-rich medications are the cornerstone of successful perioperative management of this case.

ID: 25

ACUTE SUBDURAL BLEED FOLLOWING SPINAL ANAESTHESIA IN OBSTETRIC PATIENT: A CASE REPORT

Nur Syafiqah Ab Samat[1], Nor Farhana Hamzah[1], Ngazraini Abdul Maei[1], Wan Siti Sarah Wan Kairuddin[1], Eng Siew Ching[1]

[1]Department of Anaesthesiology and Intensive Care Hospital Enche' Besar Hajjah Khalsom, Kluang, Johor, Malaysia

Introduction

Subdural haemorrhages following spinal anaesthesia are rare. Due to the overlapping symptoms of a post-dural puncture headache and subdural haemorrhage, the diagnosis of this condition can be misconstrued, leading to a catastrophic outcome. This report aims to highlight this unusual complication following spinal anaesthesia.

Case Description

A 29-year-old primigravida underwent elective lower segment caesarean section under spinal anaesthesia for foetal growth restriction with oligohydramnios. Antenatally, she had a history of resolved hyperthyroidism, appendicectomy, and rhinoplasty. The spinal anaesthesia with intrathecal morphine was administered in a single attempt and was uneventful. Post-operatively, she was followed-up under acute pain service for post-operative pain management. On postoperative day two, she complained of persistent headache, nausea, vomiting, and tinnitus. She was treated for post-dural puncture headache. Due to unresolved symptoms, an urgent CT brain was done, which revealed an acute subdural bleed. A subsequent venography CT brain showed stable subdural bleed and no cerebral venous thrombosis. Following a multidisciplinary meeting, an MRI of the brain and lumbar spine was performed to allow better identification of thrombosis and intracranial hypotension. However, the MRI was reported as late subacute subdural and subarachnoid bleed with no evidence of dural sinus thrombosis, intracranial hypotension, or cerebrospinal fluid leakage. She was monitored closely in the high-dependency unit until her symptoms resolved. Subsequently, she requested at own risk discharge on postoperative day 14. After the initial follow-up, the patient showed an uneventful recovery.

Learning Point

We experienced a case of subdural haemorrhage following spinal anaesthesia in an obstetric patient.

Conclusion

Despite the occurrence's rarity, unresolved headaches raise a high index of suspicion of intracranial pathology.

ID: 26

CONVULSIONS AND SEVERE BRADYCARDIA DURING LUMBAR EPIDURAL PROCEDURE: THE EXTENT OF VASOVAGAL RESPONSE

RA Rahman[1], MRA Ghani[1], NA Bahruddin[1], NI Supaat[1], FSA Sukur[2]

[1]Department of Anesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Pahang, Malaysia [2] KPJ Damansara, Wilayah Persekutuan, Kuala Lumpur, Malaysia

Introduction

Vasovagal response (VVR) precipitated by an epidural procedure is uncommon but may lead to severe adverse effects with possible significant morbidities.

Case Description

A 41-year-old lady was planned for an open sigmoid colectomy for sigmoid colon tumour without distant metastases. Clinically, she was ASA 1, well and her investigations were normal. During pre-anaesthetic assessment, she consented to combined epidural and general anaesthesia. After sitting her upright on the operating table, pre-procedural vital signs were continuously recorded and within normal range. During Touhy needle advancement, she felt severe pain despite local anesthesia infiltration given adequately at the insertion site. Hence, the needle was withdrawn, more local anaesthesia infiltration was added, and Touhy needle siting was re-attempted. However, during the advancement of the epidural needle, she complained of giddiness, which was immediately followed by severe bradycardia down to 10 beats per minute. The needle was removed, she was repositioned to supine, given assisted ventilation with 100% oxygen, and administered boluses of IV ephedrine. She developed a brief fitting episode characterized by upper limb tonicity, uprolling of eyeballs, and tongue biting, which spontaneously aborted within seconds. She regained full consciousness postictal with normal hemodynamics. Inter-disciplinary discussion opted for postponement of the operation for further investigations. CT brain, serial ECG, cardiac biomarkers, echocardiogram, and Holter test were all normal. She most likely suffered a severe cardioinhibitory VVR, possibly triggered by the pain and anxiety caused by the needle insertion and advancement.

Learning Points:

The seizure was likely the result of a sudden drop in cerebral perfusion, exacerbated by an upright sitting posture.

Conclusion:

Continuous vital sign monitoring during central neuraxial procedures is essential to facilitate early clinical recognition of VVR and prompt immediate management.

ID: 27

THORACIC PARAVERTEBRAL BLOCK FOR MASTECTOMY: A PROMISING ALTERNATIVE AS SOLE ANAESTHESIA FOR HIGH-RISK PATIENTS

Fauziah A[1], NH Zainol[1]

[1]Universiti Teknologi MARA (UiTM), Shah Alam, Malaysia

Introduction

Thoracic paravertebral block (TPVB) is reported to provide unilateral somatic and sympathetic nerve blockade for mastectomy. In this case report, we present a patient who underwent successful unilateral mastectomy for stage IIb breast cancer under sole ultrasound-guided multiple injection technique TPVB with intravenous sedation.

Case Description

A 76-year-old female patient (86 kg and 153 cm) presented with right breast lump measuring 5x5 cm for 1 year. She has underlying fixed airway disease treated as eosinophilic chronic obstructive lung disease with pulmonary hypertension for the past 35 years, and currently under regular respiratory clinic follow up Hospital Al-Sultan Abdullah, UiTM. The spirometry result showed severe restrictive lung disease with FEV1 0.7 (37%) and FEV1/FVC ratio of 0.64. Contrast-enhanced computed tomography thorax reported the presence of collapsed left upper lobe with compensatory hyperinflation of left lower lobe in the background of chronic lung changes. She was treated with inhaled corticosteroid, long-acting beta agonist and long-acting anti muscarinic combo which improved the symptoms but failed to improve the spirometry parameters. In lateral position, the needle insertion sites were marked with ultrasound at each level from T2 to T7 for a right sided TPVB. Each vertebral level was injected with 3 mL of 0.5% isobaric ropivacaine. Intra-operatively, remifentanil infusion (1-3 ug/kg/h effect dose using Minto model) and intravenous ketamine boluses were used as supplementary analgesia. The surgery was successful with stable hemodynamics throughout the surgery.

Conclusion

We believe that ultrasound-guided TPVB has shown a promising option for mastectomy in providing sole effective anaesthesia for patients with high-risk perioperative complications under general anaesthesia.

ID: 29

EXPERIENCE WITH OXIRIS HEMOFILTER FOR RESOLUTION OF SEPTIC SHOCK SECONDARY TO ACALCULOUS CHOLECYSTITIS

ZY Kam[1], Abdul Majid Ghazali[1], Mohd Basri Mat Nor[1]

[1]International Islamic University of Malaysia, Kuantan, Pahang, Malaysia

Introduction

Acute acalculous cholecystitis (AAC) is an acute necroinflammatory disease of the gallbladder with a multifactorial pathogenesis. It accounts for approximately 10% of all cases of acute cholecystitis and is associated with high morbidity and mortality. Its symptoms may not be obvious, but it should be considered when a patient rapidly deteriorates. An AAC can cause multi-organ failure due to the release of pro-inflammatory and anti-inflammatory cytokines. In order to manage sepsis-associated acute kidney injury (AKI) that requires renal replacement therapy, the Oxiris® hemofilter is used.

Case Description

We describe a case of a 56-year-old woman in the ICU with AAC who developed septic shock and AKI as part of multi-organ involvement. She was treated with continuous veno-venous hemodiafiltration with Oxiris® hemofilter for 67 hours, which resulted in a decrease in vasopressor requirement and lactate levels.

Learning Points

Our case highlights the usefulness of Oxiris® hemofilter in managing septic shock-associated AKI in AAC patients.

Conclusion

It is a safe and feasible treatment that can improve organ dysfunction quickly in severe cases. Further randomized clinical trials are needed to confirm the clinical benefits of this treatment.

ID: 30

CASE REPORT: INTRATHECAL OPIOIDS AND NYSTAGMUS

CL Lau[1], YZ Chin[2], Jamorek J[3]

[1]Sarawak General Hospital, Sarawak, Malaysia

Introduction

Nystagmus is a rare complication of intrathecal opioids.

Case Description

A primigravid 23 years-old, at 39 weeks of gestation was electively admitted for Caesarean section for a breech presentation. Antenatally, she had gestational diabetes mellitus on diet control and maternal obesity with a body mass index of 34 kg/m^2. Spinal anaesthesia was performed using heavy bupivacaine 0.5% 9.5 mg (1.9 ml), fentanyl 15 mcg (0.3 ml), morphine 0.1 mg (0.1 ml) intrathecally. The operation was uneventful, and she was discharged to maternity ward. Post-operatively 5 hours, the patient had generalised stiffness with up-rolling of eyeball and appeared to be cyanosed. Cardiopulmonary resuscitation was performed by attending nurse and reverted after 5 minutes. She was hemodynamically stable. Subsequently, IV naloxone 0.1 mg was given twice in view of drowsiness, and she regained full consciousness. Upon examination, there was horizontal nystagmus with no other neurological finding. Computed tomography of brain and pulmonary angiogram were normal. In the intensive care unit, she appeared to be sedated and hypopneic with respiratory rate (RR) ranging from 8 to 10 breaths/min, thus IV naloxone 0.1 mg was given twice. The patient became more alert, and her RR increased to 14 breaths/min. Intravenous naloxone infusion 2.5 mcg/kg/hr was started up to 24 hours post intrathecal morphine. Her clinical condition improved after the naloxone infusion. She was discharged well on post operation day 4.

Learning Points

Among the case reported, IV Naloxone was given in some of the cases while others resolved spontaneously.

Conclusion

The exact mechanism on how intrathecal opioids cause nystagmus is not known although there is proposed hypothesis that opiate-mediated inhibition of binding sites in cerebellum and vestibular nuclei.

ID: 31

ANAESTHESIA-INDUCED RHABDOMYOLYSIS IN A POST-COVID VACCINE ADULT WITH MUSCULAR DISORDER: A CASE REPORT

Mohd Nabil Halim[1], Abdul Majid Ghazali[1], Nur Fariza Ramly[1]

[1]International Islamic University Malaysia, Kuantan, Pahang, Malaysia

Introduction

Anaesthesia-induced rhabdomyolysis can pose a life-threatening crisis, particularly in individuals with underlying muscle pathology. Exposure to volatile anaesthesia agents or depolarizing neuromuscular blocking agents during general anaesthesia can predispose this susceptible group to severe rhabdomyolysis, leading to hyperkalaemia and potentially resulting in cardiac arrest.

Case Description

In this exceptional case report, we present a case of a 17-year-old male with a muscle disorder who underwent tissue biopsy to investigate possible autoimmune myositis and muscular dystrophy. The patient initially underwent the muscle biopsy under monitored anaesthesia care with TCI propofol and boluses of fentanyl; however, the procedure required conversion to general anaesthesia with IPPV and exposure to halogenated agents. Intraoperatively, the procedure was successfully completed without any complications. Following extubation, the patient experienced sudden onset shortness of breath and chest pain, ultimately progressing to asystole due to severe hyperkalaemia and cardiac arrest. Cardiopulmonary resuscitation (CPR) was initiated and continued for a total of 80 minutes. Medical interventions were employed to treat hyperkalaemia, including the administration of calcium gluconate and insulin to temporarily shift potassium intracellularly. After 80 minutes, spontaneous circulation was restored, and the patient was admitted to the intensive care unit (ICU), where severe rhabdomyolysis was observed. Aggressive fluid therapy, alkaline diuresis, and renal replacement therapy were initiated to manage the severe hyperkalaemia and acidosis. After 35 days of intensive treatment, the patient was successfully discharged from the ICU and transferred to the general ward under the care of the neurology team. Ongoing investigations for possible muscular dystrophy are being conducted, and the patient's management continues within the neurology department.

Conclusion

Anaesthesia-induced rhabdomyolysis is a rare condition, and its prevalence remains unknown. Nevertheless, the impact of the disease is severe. This case report underscores the critical importance of recognizing potential features that may indicate the progression of the disease into anaesthesia-induced rhabdomyolysis. Early identification and appropriate management of rhabdomyolysis are essential to mitigate the risk of life-threatening complications.

ID: 34

A CASE REPORT: TENSION PNEUMOTHORAX AND MASSIVE SUBCUTANEOUS EMPHYSEMA FOLLOWING LAPAROSCOPIC CHOLECYSTECTOMY

Siti Aznida AK[1], M Fikri Johari[2], Rusnaini MK[1]

[1] Universiti Teknologi MARA, Sg Buloh, Malaysia;[2]Hospital UiTM Sg Buloh, Sg Buloh, Malaysia

Introduction

A 36-year-old female with obstructive choledocholithiasis and mild bronchial asthma presented for laparoscopic cholecystectomy. This case report is to highlight the rare intraoperative complication of tension pneumothorax in laparoscopic surgery.

Case Description

Induction of anaesthesia was uneventful, with adequate ventilation under normal airway pressures. However, 45 minutes after surgery commencement, several alarming signs occurred, which were low tidal volume, high peak airway pressure, and arterial oxygen desaturated to 45%, with a silent chest on the left side. Additionally, her mean arterial pressure dropped to 30 mmHg, and heart rate decreased to 40 beats per minute. Her chest and abdomen became significantly bloated. The diagnosis of tension pneumothorax was made, and the surgery was immediately abandoned for resuscitation. Bilateral needle thoracocentesis confirmed the presence of air in the left lung, followed by insertion of a left-sided chest tube. The patient haemodynamically improved and was sent to the intensive care unit (ICU). In the ICU, the patient exhibited right-sided reduced air entry with massive subcutaneous emphysema noted. Due to high airway pressure, another chest tube was inserted at the right side. A CT scan showed extensive subcutaneous emphysema, pneumomediastinum, massive pneumoperitoneum, pneumoretroperitoneum, and residual left pneumothorax. After the patient was stable, a completion laparotomy was performed, which revealed a small perforated common bile duct with minimal contamination. The remnant of the gallbladder was removed, and the distal common bile duct was sealed. Possible causes include high intraperitoneal pressure, with a possible injury during blind trocar insertion.

Conclusion and Learning Points

This case highlights the critical importance of anaesthesiologists being vigilant in their monitoring and aware of the complexity of the surgery. They should be knowledgeable about the complication of high intra-abdominal pressure from gas insufflation and competent in managing tension pneumothorax intraoperatively.

ID: 35

LAPAROTOMY UNDER COMBINED SPINAL-EPIDURAL ANAESTHESIA IN TWO PATIENTS WITH SEVERE CO-MORBIDITIES- A CASE REPORT

BJ Ng[1], Anthony BA[1], Khan MHHK[1], SC Teo[1]

[1]Sarawak General Hospital

Background

Thoracic spinal anaesthesia is emerging as a viable technique for abdominal surgeries. We present two case reports, whereby laparotomy was successfully performed under thoracic combined spinal-epidural anaesthesia (TCSEA).

Case Description

Mr A, an 82-year-old, had diabetes mellitus, hypertension, chronic kidney disease stage 3, ischaemic heart disease with cardiomyopathy (ejection fraction 40%) and Child-Pugh A liver cirrhosis with ascites and portal hypertension. He was diagnosed with strangulated paraumbilical hernia with a reducible right inguinal hernia and planned for exploratory laparotomy and repair of both hernias. Mr B, an 86-year-old with hypertension, infrarenal abdominal aortic aneurysm and acute-on-chronic bronchitis, was diagnosed with obstructive ascending colon tumour with liver metastasis. He was planned for exploratory laparotomy and loop ileostomy. Both patients received TCSEA. The epidural catheters were inserted following spinal anaesthesia (SAB). Mr A's SAB was performed at T7/T8, with 1 ml ropivacaine 0.75% whilst Mr B's was at T9/T10, with 1 ml levobupivacaine 0.5%. Mr A attained a block distribution of T3-L1 while Mr B's was T3-L3. Mr A received 3 epidural boluses of 2 ml ropivacaine 0.75% via at 55 minutes post-SAB. Mr B received one epidural bolus at 80 minutes post-SAB. Intraoperatively, Mr A and Mr B required low-dose IV infusion noradrenaline and adrenaline, respectively, which were weaned off postoperatively. Their Bromage score at recovery was 0.

Learning Points

The sympathetic block of thoracic spinal anaesthesia is limited to fewer dermatomes, with a smaller preload reduction, producing less hypotension. The sparing of lower limb blockade facilitates early ambulation. In TCSEA, either intermittent boluses or infusion can be considered for the maintenance of intraoperative blockade.

Conclusion

The TCSEA is a worthwhile consideration for abdominal surgeries, enabling faster recovery, while avoiding risks associated with general anaesthesia, particularly in patients whose comorbidities may necessitate post-operative critical care.

ID: 37

COMBINED TRANSVERSUS ABDOMINIS PLANE AND FEMORAL NERVE BLOCK FOR LOWER LIMB EMBOLECTOMY AND FASCIOTOMY – A CASE REPORT

WP KANG[1], S Najibah[1], SA Kesut[1], A Alias[1]

[1] Hospital Tuanku Ja'afar, Seremban, Malaysia

Introduction

Femoral nerve block targets the femoral nerve which innervates the anterior thigh. Transversus Abdominis Plane (TAP) block targets the lateral cutaneous nerve (T6-12) with ilioinguinal and iliohypogastric nerves, which innervate the inguinal region. Regional anaesthesia helps to reduces painful stress response, early emergence and for neurology acute ischaemic limb assessment intra-operatively.

Case Description

We reported a 60-year-old ASA 4 patient with history of recent cardiopulmonary arrest, who presented with acute right ischaemic limb, planned for right femoral embolectomy and fasciotomy. The block technique was explained and informed consent was obtained. The blocks were performed under aseptic conditions, with the patient in the supine position. Ultrasound was used for both blocks. The right femoral nerve was identified lateral to femoral artery. A total of 15 ml levobupivacaine 0.25% was delivered using the in-plane technique. Next, the triangle of Petit was located for the TAP block. The same volume and concentration of levobupivacaine was given at the fascial plane between internal oblique and transverse abdominis muscle. Intraoperatively, patient was closely monitoring. Patient neurological acute ischemic limb assessment was done by Vascular surgeon. The patient was kept at Ramsay and Sedation score (RASS) of 0. No additional analgesic was required, and the procedure was uneventful. Post-operatively, the patient was discharged well to the ward.

Learning Points

The combination of TAP and femoral nerve block can be an alternative anaesthesia technique for acute ischaemic limb planned for embolectomy and fasciotomy. This technique may provide benefits to patients with ASA III and above or multiple comorbidities.

Conclusion

The combination of TAP and femoral nerve block is a novel anaesthesia technique for acute ischemic limb who planned for embolectomy and fasciotomy.

ID: 38

OBSTACLES IN WEANING PROCESS: ATYPICAL PRESENTATION OF GUILLAIN-BARRÉ SYNDROME

YL Oh[1], AM Ghazali[1], NA Bahruddin[1]

[1] Department of Anaesthesiology and Intensive Care, Kulliyah of Medicine, International Islamic University of Malaysia, Kuantan, Malaysia

Introduction

Guillain-Barré syndrome (GBS), a common cause of acute flaccid paralysis, is an acute immune-mediated polyneuropathy which is often provoked by an antecedent illness. Multiple variants have been identified based on the distinct clinical and pathological features, resulting in difficulty in the diagnosis due to its heterogenous presentation based on the disease subtype. We present an atypical case of GBS mimicking a presentation of secondary meningoencephalitis and urosepsis in critical care.

Case Description

A 67-year-old, morbidly obese lady with moderate clinical frailty score, on long-term use of traditional medication containing steroid, presented with a 2-day history of altered sensorium, fever, lethargy, and poor oral intake. She developed worsening consciousness in the ward which necessitated intubation and resuscitation due to septic shock secondary to urosepsis and was subsequently admitted to the intensive care unit (ICU). On the fourth day in the ICU, she recovered from septic shock and the Glasgow Coma Scale score was full. However, we noticed there was difficulty in weaning, with symmetrical upper and lower limb weakness and areflexia from physical examination, which required further investigations. Lumbar puncture was initially done to rule out meningoencephalitis and the cerebrospinal fluid analysis showed albumin cytological dissociation. Subsequently, a nerve conduction study was done, confirming a diagnosis of GBS (AMSAN variant). She received intravenous immunoglobulin for 5 days. Her muscle power gradually improved during the treatment course, and she is currently managed with supportive care and neurological rehabilitation in the ICU.

Learning Point

The diagnosis of GBS is often delayed in patients with atypical presentation.

Conclusion

The purpose of this case report is to highlight GBS clinical heterogeneity to promote timely accurate diagnosis and ensure appropriate treatment.

ID: 39

ECG: MORE TROUBLE THAN IT'S WORTH

Shahmini Ganesh[1], LH Ooi[1]

[1]University Putra Malaysia, Serdang, Malaysia

Introduction

Preoperative clinical evaluation, performed to detect the clinical circumstances, can result in worsened outcomes. The National Institute for Health and Care Excellence recommend that electrocardiogram (ECG) should not be routinely done for low risk, non-cardiac elective surgery as more than half of preoperative ECGs are abnormal and rarely require intervention or correlates with outcomes in low-risk patients.

Case Description

A 45-year-old gentleman was electively admitted for left medial meniscus tear and planned for arthroscopic left medial meniscus root repair. He had no medical illness with metabolic equivalent score >6. During preoperative assessment in the ward, ECG showed sinus rhythm, left ventricular hypertrophy pattern, and T wave inversion in the anterolateral as well as inferior leads. He was otherwise asymptomatic and never had chest discomfort, failure symptoms, palpitation, or syncope. Physical examinations were unremarkable. Chest X-Ray was normal with a cardiothoracic ratio of 0.5. Subsequent cardiology review was unable to rule out the possibility of non-obstructive hypertrophic cardiomyopathy. An inpatient echocardiogram (ECHO) revealed thickened intraventricular septum, dilated left and right atrium, left ventricle hypertrophy with diastolic function abnormal filling. The surgery was postponed, and the patient was referred to a cardiac centre for further evaluation and optimization. However, a repeated ECHO by a consultant cardiologist was unremarkable.

Learning Points

Preoperative resting ECG should not be routinely done in an asymptomatic healthy patient undergoing low-risk non-cardiac elective surgery. This is because routine preoperative investigations are expensive, labour intensive, leads to unnecessary referral for further investigations or treatment, delay in surgery and may cause anxiety for patients.

Conclusion

A structured clinical evaluation should be performed prior to surgery. Relevant preoperative investigations should be tailored to clinical evaluation or may also be taken according to locally developed protocols.

ID: 40

TARGET CONTROLLED PROPOFOL INFUSION FOR NON-INVASIVE VENTILATION IN A MENTALLY CHALLENGED PATIENT – A HUMANE APPROACH

Johnny TS Kiu, Zhixin Chan[1], M. Faeez[1], Aimi Amran[1]

[1]Hospital Kapit, Sarawak, Malaysia

Background

Non-invasive ventilation (NIV) in mentally challenged patients, are always associated with non-compliance which leads to high failure rates. We often face difficulty when communicating with these group of patients who are often agitated. Conventional sedation might lead to under sedation or over sedation leading to failure of NIV. An anaesthetic technique known as Target Controlled Infusion (TCI) might play a role in awake sedation which can improve the tolerance of NIV mask in this special group of patients and reduce risk of progression to invasive ventilation.

Case Description

The NIV remain the main mode of ventilation therapy for critical ill patients in Kapit Hospital ICU. A mentally challenged 19-year-old boy with chronic kidney disease (CKD) presented with acute pulmonary oedema secondary to hypertensive emergency, fitting episode and aspiration pneumonia. The NIV was started in the Emergency Department in view of respiratory distress secondary to the APO. However, he was non-compliant with the application of the NIV mask. He was then admitted to ICU for NIV, TCI propofol was initiated and dose ranged from 0.2 mcg/ml to 0.8 mcg/ml for 18 hours, titrated according to desired Richmond Agitation and Sedation Scale of -2 to 0. Respiratory work and ABG improved with concurrent diuresis and blood pressure control during TCI propofol. He was weaned off NIV and subsequently discharged from ICU.

Learning Points

Morphine was not considered in this case in view of underlying CKD. The TCI propofol selected over dexmedetomidine infusion for its greater antiepileptic and respiratory depression properties.

Conclusion

TCI propofol can be used as alternative for anxiolysis in ICU especially in limited resources hospital.

ID: 41

BEAUTY IN PAIN

Mohd Khazrul Nizar Abd Kader [1], Wan Rahiza Wan Mat[1], Kanesh Kumar Doraisamy[1], Low Hsueh Jing[1], Mohammad Nizam Mokhtar[1]

[1]Department of Anaesthesiology and Intensive Care, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Introduction

Adolescent undernutrition is a global health problem. There are four sub-categories of undernutrition: wasting, stunting, underweight and deficiencies in vitamins and minerals. Severe undernutrition affects the health, development, and life of the adolescent.

Case Description

A 14-year-old Chinese girl was brought to our hospital with significant weight loss and reduced appetite over three months after a concerned relative commented that she looked abnormally thin and wasted. She attained menarche at age 11 and had normal menstrual cycle. She moved to Kebangsaan high school from Chinese primary school and find it difficult to adjust. At presentation, she appeared emaciated with a BMI of 10 kg/m^2 and truncal ecchymoses. Her vital signs were within normal ranges. Blood investigations revealed iron deficiency anaemia and thrombocytopaenia, severe hypocalcaemia, hypomagnesemia, hypokalaemia and hypophosphatemia, and liver dysfunction with coagulopathy. Screening for autoimmune diseases and viral infections, inflammatory and tumour markers, thyroid hormone, and infection cultures were unremarkable. She was referred to the ICU team with severe weakness and clouded mentation. In anticipation of large volume administration after 2 weeks of hospital stay, a triple lumen was inserted in the femoral vein under ultrasound guide and following weight-based transfusion of blood products. Her condition improved with multiple courses of intravenous electrolyte repletion, blood product transfusion, N-acetylcysteine infusion, supplementation of vitamin and establishment of protocolize enteral feeding while watching out for refeeding syndrome.

Learning Points

Diagnosis of anorexia nervosa based on ICD 10 criteria was made. Meticulous and strategic electrolyte repletion infusions were administered prior to initiating regimented enteral feeding yet refeeding syndrome occurred. The use of traditional medicine to improve appetite resulted in liver dysfunction. Sequalae of this organ damage complicates the acute management of anorexia nervosa.

Conclusion

The precise care required for life-threatening severe undernutrition with organ dysfunction includes intensive care to administer electrolyte repletion and nutrition.

ID: 42

POST COVID-19 TRACHEITIS CONTRIBUTING TO TRACHEAL WALL TEAR: THE MISSED AND UNDERDIAGNOSED

NA Bahruddin[1], SA Abdul Rahim[1], R Abdul Rahman[1], YL Oh[1], MB Mat Nor[1]

[1]Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University of Malaysia, Kuantan, Malaysia

Introduction

Iatrogenic tracheal wall tear is a rare but devastating complication post-tracheostomy which contributes to significant morbidity and mortality. This case report aims is to help clinicians to recognize patients who are at risk and enforce the appropriate prevention steps to reduce this complication.

Case Description

A 38-year-old ASA 1 lady with recurrent COVID-19 infection presented with progressive respiratory muscle weakness following Guillain-Barre syndrome. She was electively intubated with no difficulties in the ICU. Surgical tracheostomy was performed on day 25 of ventilation after resolution of hospital-acquired pneumonia and catheter-associated urinary tract infection. Endoscopic guidance was used to insert the tracheostomy tube after multiple failed insertion attempts due to false tracts. Postoperatively, she developed massive subcutaneous emphysema. CT neck and thorax revealed a left posterolateral trachea wall defect associated with left pneumothorax, extensive pneumomediastinum, pneumoperitoneum, and extensive subcutaneous emphysema which required multiple chest tubes. Examination under anaesthesia confirmed a trachealis muscle tear with unhealthy and malacic posterior tracheal mucosa. After re-intubation, the tracheostomy tube was removed and packed, and the tip of endotracheal tube positioned beyond the defect. Intraoperative tracheal wall tissue cultures grew *Pseudomonas aeruginosa*, confirming the diagnosis of infectious tracheitis. Reinsertion of tracheostomy tube was performed after the infection had resolved and tracheal wall tear had healed.

Learning Points

The risk factors of iatrogenic tracheal wall tear here are multiple attempts at tracheostomy insertion, female gender and infectious tracheitis. Unfortunately, infectious tracheitis is always underdiagnosed because of concomitant pneumonia or hospital acquired infection, the non-specific clinical signs, and the need of endoscopic examination for diagnosis confirmation.

Conclusion

High index of clinical suspicion and risk reduction strategies must be advocated to minimize complications in patients with the above risk factors.

ID: 43

POSSIBLE RELATION BETWEEN DELAYED RESPIRATORY DEPRESSION AND SHORT STATURE FOLLOWING INTRATHECAL MORPHINE.

R Siti Sarah[1], AR Rahimah[1,2], OK Cheah[2], ZA Mohd Rohisham[2]

[1]Hospital Tunku Azizah, Kuala Lumpur, Malaysia; [2]Hospital Tengku Ampuan Rahimah, Selangor, Malaysia

Introduction

Delayed respiratory depression is a dangerous side effect of neuraxial opioid but short stature is not known to be one of the risk factors.

Case Description

We presented a case of a 29-year-old lady gravida 3 para 2 at term presented for emergency caesarean section due to suspected macrosomia in labour. She has underlying gestational diabetes mellitus, chronic hypertension with persistent proteinuria and maternal obesity with BMI of 32 kg/m^2. She was noted to be short with height of 139 cm. Spinal anaesthesia consisting of 8 mg of hyperbaric bupivacaine, 15 mcg of fentanyl and 100 mcg of morphine was given in the sitting position using Pencan 27 G needle, which was inserted at the L3/L4 level. The surgery was uneventful, and she was monitored for 1 hour at the recovery bay before send to the ward. She was found to be unresponsive 8 hours post spinal anaesthesia. She was hypopneic, desaturated and the pupils were pinpoint. She was immediately administered oxygen and was given intravenous naloxone 0.4 mg in titrated dose. Her conscious level and oxygenation improved. She was transferred to the intensive care unit for close monitoring. She was discharged well from the intensive care unit after 24 hours and was discharged home 2 days later.

Learning Points

Mini dose of intrathecal morphine does not lead to respiratory depression, but caution is still essential when administering intrathecal morphine. Proper monitoring is important post intrathecal opioid administration.

Conclusion

Short stature is not a recognized risk factor to develop delayed respiratory depression; however, caution needs to be practice when administering intrathecal opioid in this group of parturients.

ID: 44

POST TONSILLECTOMY BLEED SECONDARY TO OROPHARYNX HEMANGIOMA

Nik Rowina NM1, Aliah Ilham2

[1]Universiti Putra Malaysia (UPM), Selangor, Malaysia; [2]Hospital Sultan Haji Ahmad Shah (HSAAS), Selangor, Malaysia

Introduction

Hemangioma is one of the most prevalent soft tissue tumors in the region of the head and neck. It is a benign tumor of blood vessels which usually occurs during childhood but the finding in the oral cavity is extremely rare.

Case Description

A 21-year-old female with a BMI > 40 kg/m^2 was referred from a private hospital secondary to 1.5 litres of post-tonsillectomy bleed with failed homeostasis intraoperatively. She is a known to have a left-sided hemangioma on the oropharynx, tongue, and neck. She remained sedated and intubated for the transfer to Hospital Sultan Haji Ahmad Shah for embolization under interventional radiology (IR). However, during examination in the radiology suite, the IR team was not able to locate the source of the bleeding. She was kept intubated for 48 hours with throat pack in situ and was later brought into the operating theatre for examination under anesthesia. She was successfully extubated the next day with Cook's airway exchanger and transferred back to the ward 5 days after being extubated.

Learning points

Post tonsillectomy bleed secondary to oropharynx hemangioma is relatively uncommon. However, it can be devastating especially when the bleeding could not be secured immediately. Morbidity arises from airway obstruction and hypovolemic shock secondary to uncontrolled bleeding.

Conclusion

Tonsillectomy in a patient with oropharynx hemangioma posts a great challenge to both the surgeon and anesthetist. Multidisciplinary team discussion is essential to prevent any major complications. Appropriate planning and proper management could improve the patient's outcome.

ID: 45

PERSISTENT LEFT SUPERIOR VENA CAVA IN A PATIENT WITH BILATERAL CONGENITAL TALIPES EQUINOVARUS

Nik Rowina NM[1], Nur Nabila Farhana Roslan[2]

[1]University Putra Malaysia (UPM), Selangor, Malaysia; [2] Hospital Sultan Abdul Aziz Shah, Selangor, Malaysia

Introduction

Persistent left superior vena cava (PLSVC) is a rare congenital vascular anomaly. It results from failure of the left superior cardinal vein caudal to the innominate vein to regress. It commonly occurs in isolation but has been associated with other cardiovascular abnormalities.

Case Description

A 22-month-old child with underlying VACTERL syndrome presented for an elective bilateral ankle posterior release for bilateral congenital talipes equinovarus. He had large bilateral superior vena cavae with PLSVC to the left atrium via unroofed coronary sinus, atrial septal defect and large primum atrial septal defect in mild failure. Surgery was done under general anesthesia with the patient put under prone position prior to surgery. Intravenous morphine and local anesthetic infiltration were given as analgesics intraoperatively. Surgery was uneventful and patient was stable throughout the procedure. Patient was extubated well post-operatively and sent to PACU for close observation. She was discharged to the ward on the same day.

Learning Points

Diagnosis of PLSVC is not easy as it is often discovered accidentally during imaging or invasive cardiac procedure. To date, there is limited case reports in patients with PLSVC undergoing non-cardiac surgery. Information regarding the anatomy and physiology of the cardiac abnormalities would guide the anesthetist in the conduct of anesthesia. Patients with PLSVC are often asymptomatic. However, the condition can lead to significant problems such as arrhythmias and cyanosis. Clinical significance of PLSVC depends on the drainage site and the accompanying cardiac abnormalities.

Conclusion

A thorough assessment of the patient and cardiac functional status is essential in managing a patient with PLSVC perioperatively.

ID: 48

A RARE CASE OF *MICROCOCCUS LUTEUS* PNEUMONIA COMPLICATED WITH HOSPITAL-ACQUIRED INFECTION IN A SEVERELY IMMUNOCOMPROMISED HOST

BH Loh[1], S Saadan[1]

[1]Hospital Sarikei, Sarawak, Malaysia

Introduction

Micrococcus luteus pneumonia is a rare infection and there are limited cases being reported thus far. The microorganism is a common flora of human skin and oro-pharynx; however, it can cause opportunistic infection in an immunocompromised host.

Case Description

Here, we describe a case of a 33-year-old lady with underlying seronegative Neuromyelitis Optica Spectrum Disorder (NMOSD) who was on immunosuppressive therapy with rituxumab and steroids. She initially presented with fever, cough, and shortness of breath for the past four days prior to admission. She subsequently developed severe acute respiratory distress syndrome for which she required intubation, mechanical ventilation with a high ventilator setting, and prone position in the ICU. Broncho-alveolar lavage and serial endotracheal tube culture and sensitivity came back as *Micrococcus luteus* and resistant-strain *Klebsiella pneumoniae*. She was successfully treated with combinations of antibiotics using vancomycin, clindamycin, and rifampicin for three weeks in addition to supportive therapy in the ICU after which she was extubated well.

Learning Point

Currently, there is a lack of evidence or guidelines to treat this microorganism and treatment resistance usually ensues despite correct antibiotic coverage from sensitivity studies.

Conclusion

We concluded that antibiotics regime of vancomycin, clindamycin and rifampicin can be used to treat resistant-strained *Micrococcus luteus* pneumonia in immuno-suppressed hosts.

ID: 50

SEGMENTAL THORACIC SPINAL ANESTHESIA FOR ABDOMINAL SURGERY: THREE CASE REPORTS

Mohamad Azlan Awang[1], Mohd Firdaus bin Mohd Yusof[2], Mohd Hafiz bin Abd Razak[3]

[1]Faculty of Medicine and Health Science, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia; [2]Department of Anaesthesiology and Intensive Care, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Malaysia; [3]Unit Anestesiologi and ICU, Hospital Besut, Terengganu, Malaysia

Background

Segmental thoracic spinal anaesthesia is not a common procedure. Although there are concerns about its potential complications, particularly spinal cord injury and respiratory impairment, this alternative method to general anaesthesia may benefit a subset of patients to undergo surgery.

Case Description

Three patients were operated on using the segmental thoracic spinal anaesthesia technique. An elderly male with activity of daily living dependent status planned for diversion colostomy, an elderly female posted for Tenckhoff catheter readjustment, and a middle-aged patient scheduled for open pyelolithotomy. The first two were emergency procedures, whereas the last was an elective. Anatomical landmark technique with median or paramedian approaches at the level of 8^{th} or 11^{th} thoracic interspace were selected to administer combination of 0.5% levobupivacaine and intrathecal fentanyl for the spinal anaesthesia. One required light sedation near the end of the procedure, but none required general anaesthesia or intensive care support. All patients recovered completely without complications and were discharged two days post-operatively.

Learning Point

Segmental thoracic spinal anaesthesia may be a safe and helpful alternative to general anaesthesia in certain patients.

Conclusion

Segmental thoracic spinal anaesthesia should be considered by anaesthesiologists as an additional technique in their practise. To demonstrate its potential benefit, risk, and use as a routine technique, a further adequately powered randomised, controlled clinical trials are required.

ID: 54

RECURRENT PNEUMONIA IN A PATIENT WITH BRONCHIAL PAPILLOMA: DELAYED TREATMENT AND ASSOCIATED COMPLICATIONS

Farah Hanim Abdullah[1,2], Izzuddin Azaharuddin[1,2], Mohammad Nizam Mokhtar[1,2], Saw Kian Cheah[1,2], Wan Rahiza Wan Mat[1,2], Hsueh Jing Low[1,2], Azarinah Izaham[1,2], Raha Abdul Rahman[1,2]

[1]Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; [2]Hospital Canselor Tuanku Mukhriz, Jalan Yaacob Latif, Bandar Tun Razak, Kuala Lumpur, Malaysia

Introduction

Bronchial papillomas are rare benign tumors originating from the respiratory mucosal epithelium that can cause central airway obstruction.

Case Description

Our case report describes a 64-year-old male with a background history of diabetes mellitus, hypertension, ischemic heart disease, and cervical spondylolisthesis with instrumentation and fusion. During the initial presentation of the illness, the patient experienced recurrent community-acquired pneumonia and a persistent collapse of the left lower lobe. Upon bronchoscopic evaluation, a solitary bronchial papilloma was identified in the bronchus of the left lower lobe, causing near-total airway obstruction. The intervention was delayed due to malfunctioning of excisional equipment during the COVID-19 pandemic, which led to severe sepsis secondary to pneumonia requiring ventilatory support. Non-invasive ventilation was initially attempted but proved unsuccessful, necessitating endotracheal intubation. Ventilation challenges ensued, resulting in hypercapnia and respiratory acidosis. A subsequent intensive care unit bronchoscopy revealed a bronchial papilloma causing airway obstruction. Bronchoalveolar lavage cultures showed active pneumonia and sepsis primarily caused by Klebsiella pneumoniae. Antimicrobial therapy was initiated with meropenem and later escalated to high-dose of ampicillin-sulbactam due to the emergence of multi-drug resistant Acinetobacter pneumonia. Throughout the treatment course, the patient experienced a deterioration in kidney function, necessitating continuous venovenous hemofiltration and dialysis. Unfortunately, the

patient suffered from massive pulmonary hemorrhage during dialysis, leading to hypoxic cardiac arrest.

Learning Points

This unusual presentation highlights the importance of considering bronchial papillomas as a potential aetiology for persistent respiratory symptoms, particularly in patients with multiple comorbidities. Bronchial papillomas are potentially life-threatening and considered challenging entities and pose both a diagnostic and therapeutic dilemma while requiring a timely intervention.

Conclusion

Early recognition and prompt interventional bronchoscopy or early surgical intervention of such cases can lead to improved outcomes and alleviate significant airway compromise.

ID: 55

EPIDURAL ANAESTHESIA FOR C-SECTION PHEOCHROMOCYTOMA IN PREGNANCY – IS EPIDURAL ANAESTHESIA IS THE ANSWER IN THIS SAVAGE CONDITION?

AB Khaironissa[1], M Sabariah[1], K Haziq[1], H Hifa Farah[1]

[1] Hospital Putrajaya, Putrajaya, Malaysia

Introduction

Pheochromocytoma is a rare tumor arising from chromaffin cells of the adrenal medulla. The symptoms result from excessive release of catecholamines. It is usually associated with familial syndrome like neurofibromatosis type 1, multiple endocrine neoplasia type 2 and Von-Hippel Lindau disease. Pheochromocytoma in pregnancy is uncommon with the prevalence of 1 in 54000 pregnancies. It is one of the most life-threatening conditions for both the mother and fetus. Diagnosing pheochromocytoma during pregnancy is challenging as it can masquerade other hypertensive disorder in pregnancy like pre-eclampsia. Therefore, a careful perianaesthetic discussion and management are needed to minimise perioperative complications caused by the disease.

Case Description

At our centre, we had a case of 31-weeks pregnant women with pheochromocytoma during pregnancy which was initially treated for pregnancy-induced hypertension. After the diagnosis for pheochromocytoma was established, a multidisciplinary discussion was done and decided for tumour resection after caesarean section. We reported a successful case of caesarean section under epidural anaesthesia with IV infusion of remifentanil after delivery of the baby. Multimodal analgesia was administered, and she recovered well in ICU with an epidural infusion.

Learning Point

A conscientious anaesthetic plan is a key to providing the best outcome of patient.

Conclusion

Epidural anaesthesia with multimodal approach exhibited as one of the most fruitful methods to provide perioperative analgesia.

ID: 58

SUPER-REFRACTORY STATUS EPILEPTICUS DUE TO MT-TF-RELATED MITOCHONDRIAL DISORDER

Farah Hanim Abdullah[1,2], Chin Ang Ng[1,3], Mohd Khazrul Nizar Abd Kader[1,2], Syarifah Noor Nazihah Sayed Masri[1,2], Aliza Mohamad Yusof[1,2], Saw Kian Cheah[1,2], Wan Rahiza Wan Mat[1,2], Azarinah Izaham[1,2], Raha Abdul Rahman[1,2]

[1]Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; [2]Hospital Canselor Tuanku Mukhriz, Jalan Yaacob Latif, Bandar Tun Razak, Kuala Lumpur, Malaysia; [3]Hospital Tunku Ampuan Besar Tuanku Aishah Rohani, Hospital Pakar Kanak-kanak Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, Kuala Lumpur, Malaysia

Introduction

We present a case of super-refractory status epilepticus in a 23-year-old female with underlying mitochondrial epilepsy and a homoplastic pathogenic variant (m.616T>C) in the *MT-TF* gene. At age 5 years old, she was diagnosed with mitochondrial disease and epilepsy via genetic testing. Prior to this presentation, she had successfully tapered off multiple anti-epileptic drugs (AEDs) and remained seizure-free for three years.

Case Description

Following a recent long-haul flight, the patient experienced a breakthrough seizure that initially responded to oral levetiracetam and clonazepam, but subsequently developed status epilepticus, necessitating intubation, ventilation, and initiation of multiple AEDs.

Multiple CT scans of the brain and cerebrospinal fluid (CSF) biochemistry including the level of lactate, pyruvate and NMDA antibodies were unremarkable. She was empirically treated for urinary tract infection. Her seizures remained refractory and thiopentone infusion was initiated, achieving burst suppression. Complementary treatments such as a ketogenic diet, thiamine, coenzyme Q10, magnesium, steroid, levocarnitine, and Transcranial Magnetic Stimulation (TMS) sessions were utilised. The TMS resulted in intermittent seizure-free intervals with corresponding abnormal electroencephalogram (EEG) waveforms. The patient was transferred to our inten-

sive care unit (ICU), where her super-refractory status epilepticus persisted despite receiving levetiracetam, perampanel, lacosamide, and escalating doses of midazolam, propofol and fentanyl infusions. Her AEDs were adjusted by adding clonazepam, clobazam and lamotrigine. Electroconvulsive therapies (ECT) were administered with subsequent EEG showing absent epileptiform activity. Nevertheless, orofacial dyskinesia was noted following ECT. The patient underwent tracheostomy to facilitate weaning from mechanical ventilation and was eventually discharged from ICU.

Learning Points

This case highlights the challenges encountered in managing super-refractory status epilepticus associated with mitochondrial epilepsy. The utilisation of a multiple modalities, including AEDs, Thiopentone infusion, TMS, ECT, and supportive care, was necessary to achieve seizure control.

Conclusion

Further research and treatment strategies are needed to optimize outcomes in patients with mitochondrial epilepsy and refractory seizures.

ID: 59

NOT SO ATRIAL MYXOMA

T. K. G. Chan[1], F. N. Razali[1]

[1]University of Malaya, Kuala Lumpur, Malaysia

Case Description

We present a case of a young gentlemen with transfusion-dependent HbE/Beta-thalassemia major and on lifelong penicillin following splenectomy in 2014. He has a chemoport to aid his transfusion. He was diagnosed with a right atrial myxoma incidentally and was confirmed on transoesophageal echo (TOE). Induction was uneventful. Cefuroxime 1.5 g was given upon induction.

However, after heparin 40,000 unit was given through IJV catheter, patient developed hemodynamic instability requiring high dose of vasopressor and inotropes. TOE prior to heparin bolus showed right atrial pedunculated mass with stalk, attached to right atrial wall (3 x 1cm). No other abnormalities detected. Upon opening right atrium, surgeon was unable to locate the mass. Right ventricle explored was unable to detect any mass as well. After discussion between cardiac anesthetist and surgeon, the heart was closed and repeat TOE was done but was failed to locate the previous mass. A decision was made to explore pulmonary artery, despite on TOE not seeing any abnormality. Upon exploration, we found a pale mass with wrinkled surface, measuring approximately 3 x 1 cm. Mass culture and sensitivity no growth and HPE shows features of vegetation. Posteoperative investigation show markedly elevated white cell count and high CRP. Subsequently we were able to wean off inotropes and extubated patient well. He's currently on a course of antibiotics for 6 weeks.

Learning Points

1. If intraoperative finding doesn't correlate with TOE, to have close loop discussion with surgeon and suggest for further exploration. In this case, decision of exploring PA as a result of joined discussion.

2. Sudden vasoplegic event intraoperatively warrant investigation to rule out possibility of immune reaction, anaphylaxis and disseminated sepsis.

3. Retrospectively, blood culture and sensitivity should be acquired during intra-operative period from bypass pump. In this case, we were unable to identify the organism, despite multiple blood culture and sensitivity samples were sent.

ID: 60

A METHOD TO BYPASS VALLECULAR MASS THAT CAUSES POSTERIOR DISPLACEMENT OF EPIGLOTTIS (CL 4 VIEW)

T. K. G. Chan[1], R. Ikmal[1], PS Loh[1]

[1] University of Malaya, Kuala Lumpur, Malaysia

Case Description

We are reporting a case of elderly Chinese gentleman with known case of hypertension and dyslipidemia under polyclinic follow up. He's on amlodipine 10mg OD and atorvastatin 20mg. He had history of rectal carcinoma in 2001, done anterior resection and completed adjuvant chemotherapy. Currently he is in remission and under regular surveillance follow-up. He presented to outpatient Otorhinolaryngology (ORL) clinic with progressive worsening symptom of discomfort during swallowing, no hoarseness of voice, no stridor or stertor, no chocking sensation or aspiration event. During assessment in ORL clinic, 2 masses were noticed at surface of vallecula, right one larger than left, pushing epiglottis posteriorly. His other structures such as nasopharynx, fossa of Rosenmüller arytenoids and posterior cricoid are all normal. Bilateral vocal cords mobile with no mass or suspicious lesion. He was then arranged for examination under anaesthesia, direct laryngoscopy, and excision of vallecular mass. Preoperative assessment shows no gross abnormality on airway assessment. His is of Mallampati 1 with thyromental distance 5 cm. No limitation in neck movement. All teeth present. No features of mask ventilation difficulty. We proceeded with induction and asleep fiberoptic for the patient. During fiberoptic intubation, we noticed that fiberoptic scope was unable to pass through the mass and facing difficulties at the posterior pharynx area. By rotating clockwise 90 degrees, retroflex, push in and anteroflex our fiberoptic scope, we managed to bypass the mass and the displaced epiglottis. We were able to visualize the vocal cord and successfully intubated the patient.

Learning Points

We would like to share this method on manipulating fiberoptic scope with the community.

ID: 61

HARMLESS ELEVATION OF AMYLASE IN GENERALIZED TONIC CLONIC SEIZURE PATIENT

T. K. G. Chan[1], R. Ikmal[1], PS Loh[1]

[1] University of Malaya, Kuala Lumpur, Malaysia

Introduction

We are reporting a case 43-year-old Indian gentleman, known case of hypertension and dyslipidemia, history of right middle cerebral artery (MCA) infarct with incomplete right distal MCA thrombosis in 2017 with left residual weakness. 2 years post stroke, he had 1 episode of post stroke seizure and since then was started on valproic acid.

Case Description

He had generalized tonic clonic seizure for several minutes with bladder and bowel incontinence witnessed by family member. It was spontaneously aborted before paramedics arrived at his home. Subsequently was brought to emergency trauma department (ETD) by ambulance. Upon attended by ETD team, patient developed another episode of generalized tonic clonic seizure, lasted for 5 min which was aborted with diazepam. He was then admitted to intensive care unit (ICU) for further management. Valproic acid level was taken and showed under therapeutic dose. He was diagnosed to have breakthrough seizure due to under-dosing. Subsequently we managed to extubate patient after optimizing antiepileptic. Incidentally, amylase was sent and noticed it was elevated (713U/L). In view of history of alcohol usage and elevated liver enzyme, we further investigated for pancreatitis. Ultrasound and CT scan shows no evidence of pancreatitis. Pancreas is not bulky and appears homogeneous. There is no focal collection or free fluid around the pancreas. Post ICU period, patient has no abdominal symptom and amylase normalized.

Conclusion

A brief literature research shows an association with elevated amylase in post generalized tonic clonic seizure patient. Mechanism proposed includes oxidative radical injuries to the pancreas post seizure. In conclusion, our team suggest conservative management and serial monitoring of amylase if patient has a less than 1000 U/L with low IMRIE score and clinically stable with no symptoms.

ID: 62

REMIFENTANIL-INDUCED MASSETER SPASM DURING INTUBATION

T. K. G. Chan[1], R. Ikmal[1], PS Loh[1]

[1]University of Malaya, Kuala Lumpur, Malaysia

Introduction

Remifentanil is a synthetic opioid with context insensitive half time and potent properties, which favours usage in intubation without muscle relaxant. Masseter spasm is a rare occurrence in the usage of remifentanil, especially in higher doses. Literature suggests stopping remifentanil infusion if this occurs.

Case Description

We report a case of elderly gentleman, known case of hypertension and type 2 diabetes mellitus. He presented with a 4-year history of neck pain with worsening radiating pain and burning sensation. He was planned for C5/C6 anterior disc fusion and C6/C7 arthroplasty. Preoperative assessment showed no obvious stigmata of difficult airway. On induction, the patient was preoxygenated and started on target-controlled infusion with remifentanil ranging 2-3 ng/ml and propofol 2-4 mcg/ml. At three minutes of induction, we noticed that the patient's mouth could not be opened. Remifentanil and propofol infusions were increased to 5 ng/ml and 6 mcg/ml, respectively. Despite the increased dose, patient's mouth was still unable to be opened. His haemodynamic status was maintained with multiple doses of phenylephrine. The infusion of remifentanil was reduced back to 3 ng/ml. Three minutes later, the patient's jaw spontaneously relaxed despite no discontinuation of remifentanil. Videolaryngoscopy showed a view of percentage glottic opening 100% but the vocal cords were adducted. The vocal cords were sprayed with lignocaine 1% 3 cc, and we waited for another two minutes, when he was successfully intubated.

Learning Points

We propose that remifentanil should not be discontinued, as masseter spasm will abort spontaneously. We also suggest the usage of atomizer spray lignocaine, in the event the vocal cords remain adducted upon laryngoscopy.

Conclusion

We conclude that it is not necessarily to halt remifentanil in the event of masseter spasm as it will resolve spontaneously.

ID: 63

SPHENOPALATINE GANGLION BLOCK: A MINIMALLY INVASIVE TREATMENT APPROACH FOR POST DURAL PUNCTURE HEADACHE

Stephanie XY Chuen[1], GH Siew[1], MR Zainal Abidin[1], M Perumal[1]

[1]Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Introduction

This report discusses sphenopalatine ganglion block (SPG) as a non-invasive pain intervention for patients with post dural puncture headache (PDPH) as an alternative to epidural blood patch.

Case Description

A 38-year-old primigravida presented for emergency c-section and had consented for spinal anesthesia. An inadvertent dural puncture was noted during insertion of introducer of pencil point needle and was withdrawn until no sign of CSF leakage. Then, spinal anesthesia was proceeded with Pencan 25G. The emergency c-section was uneventful. However, on post-operative day 2, the patient complained of severe headache, with a pain visual analogue score (VAS) of 8, mainly localized occipital and neck region. Standard management with oral analgesics, adequate fluid intake and bed rest was ordered. The conservative management did not resolve the PDPH symptoms. Patient consented for SPG. Patient was assessed for any contraindication (coagulopathy, nasal anatomy, infection). To access the SPG, patient was placed in supine position with neck extended. Cotton tipped applicators were placed into the nostrils, parallel to floor of nose and directed towards tragus of ears till resistance was felt. The sphenopalatine ganglions were blocked with 2% aqueous lignocaine and 2 cc of levobupivacaine 0.5%. She rested for 20 minutes post procedure. Upon upright position, patient had immediate pain relief up of VAS 8 reduced to 2. Patient was symptoms free throughout our review till day 11.

Learning Points

SPG block is a simple, safe, and effective pain management technique in selected PDPH patients. This result is also supported by many published case reports.

Conclusion

SPG block may be recommended as standard operative procedure for PDPH, prior to epidural blood patch.

ID: 65

CASE STUDY: INTRAOPERATIVE MATERNAL CARDIAC ARREST

Ammar Sahrim[1], Mohd Rohisham Zainal Abidin[1], Hamsathvani Chandrakanthan[1], Deepa Lakshmi Dorai Rajoo[1], Thiyagu Ramachendren[1]

[1]Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Introduction

Pulmonary embolism (PE) is the principal cause of maternal death. Embolic syndromes contribute to high mortality and morbidity. Maternal cardiac arrest (MCA) can be lethal and challenging due to overlapping embolic syndromes.

Case Description

A 30-year-old pseudoprimigravida term mother presented with signs of labour and underwent Caesarean section for poor progress. Post subarachnoid block, the haemodynamics was stable until immediately post-delivery, when she arrested. Spontaneous circulation was achieved after six minutes of Advanced Life Support. Immediate bedside echocardiogram showed a hyperkinetic heart with a thrombus along the inferior vena cava (IVC) up to the right atrium. She responded to fluid resuscitation and single inotrope and was transferred to the ICU. Twelve hours later, she developed uterine atony with disseminated intravascular coagulation, requiring re-laparotomy and hysterectomy. Anticoagulant therapy was not commenced. A massive PE was seen on the computed tomography pulmonary angiogram with extensive deep venous thrombosis on ultrasound of the femoral veins. Cardiothoracic surgeons ruled out any role for surgical intervention. After transfer to a centre with interventional radiology, neither IVC filter insertion nor embolectomy were performed due to extensiveness of the thrombosis. She fully recovered, was extubated, and commenced on warfarin and therapeutic dose of enoxaparin. She is under fetomaternal care for investigation of thrombophilic syndromes and postpartum management.

Learning Points

Risk versus benefit should be weighed prior to transfusion and commencement of anticoagulant therapy. As embolic syndromes have similar presentation, early echocardiogram and objective evaluation can assist in attaining accurate diagnosis followed by tailored management. The role of early thrombolytic therapy must be explored further.

Conclusion

Parturients may present with silent embolic syndromes despite uneventful history. In the absence of overt symptoms, they may present with sudden MCA. Timely management can render good outcome if protocols, guidelines, and training are in place to manage obstetric crises.

ID: 68

A RARE CASE OF NECROTIZING TONSILLOPHARYNGITIS CAUSING ACUTE INFECTIOUS UPPER AIRWAY OBSTRUCTION IN AN INFANT

Farah Hanim Abdullah[1,2], Mohammad Nizam Mokhtar[1,2], Izzuddin Azaharuddin[1,2], Sze Meng Wong[1,3], Tse Siang Tan[1,2], Maryam Budiman[1,2], Rufinah Teo[1,2,3], Raha Abdul Rahman[1,2]

[1]Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; [2]Hospital Canselor Tuanku Mukhriz, Kuala Lumpur, Malaysia; [3]Hospital Tunku Ampuan Besar Tuanku Aishah Rohani, Hospital Pakar Kanak-Kanak Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Introduction

Necrotizing tonsillitis is an extremely rare and potentially life-threatening condition in children, often necessitating emergency airway management.

Case Description

An 8-month-old boy who presented with unresolved fever and was diagnosed with acute tonsillitis. Prior to admission, the patient had received amoxicillin and paracetamol for five days, but the fever persisted, and leukopenia was noted. Despite initiating intravenous C-penicillin, he developed respiratory distress, requiring non-invasive ventilatory support and subsequent intubation due to increased stridor. A challenging pediatric airway management procedure was initiated, utilizing a C-MAC® video laryngoscope with a Miller blade size 0 in the operating theatre. Intubation proved difficult due to copious secretions and a floppy epiglottis, but successful intubation was achieved on the second attempt. Computed tomography of the neck revealed a large, multiloculated collection with mild rim enhancement centered at the mucosal pharyngeal space of the bilateral peritonsillar and tonsillar regions. The collection extended to the base of the tongue, body of the hyoid bone, and the valleculae. Direct laryngoscopy with tissue sampling and multiple surgical debridements of necrotic areas in the naso-oropharynx were performed as the patient's general condition deteriorated. Additionally, the infant developed perianal excoriation and diarrhea, prompting suspicion of primary immunodeficiency syndrome. Tissue cultures grew *Pseudomonas aeruginosa* and *Stenotrophomonas maltophilia*, both of which were treated with targeted antibiotics resulting in improved infective parame-

ters. Serological tests indicated positive IgG for herpes simplex virus 1 (HSV-1), while immune deficiency testing revealed normal immune status, pending genetic testing results. After 21 days of ventilation, the patient was successfully extubated, received noninvasive ventilatory support, and was discharged with oral antibiotics.

Learning Point and Conclusion

This case underscores the critical nature of necrotizing tonsillitis, particularly in infants with suspected primary immunosuppressive disorders, emphasizing the importance of early recognition, timely airway management, and surgical intervention for optimal outcomes.

ID: 69

MASSIVE PULMONARY HEMORRHAGE AFTER PULMONARY EMBOLECTOMY: A CASE REPORT

Mohamad Haffiz Che Morad[1], Akif Azlan[1]

[1]Hospital Sultan Idris Shah, Serdang, Malaysia

Introduction

Pulmonary embolism (PE) is a life-threatening condition that requires prompt diagnosis and treatment. Surgical embolectomy is an option for patients with massive PE who are hemodynamically unstable or have contraindications to thrombolysis. However, this procedure carries a risk of complications, such as bleeding, infection, and reperfusion injury.

Case Description

We report a case of massive pulmonary hemorrhage after pulmonary embolectomy in a 42-year-old lady who had an atypical presentation of PE. She complained of sudden epigastric pain that radiated to the chest but delayed seeking medical attention for three days. A computed tomography pulmonary angiography revealed a saddle thrombus extending to both pulmonary arteries and their branches. She underwent median sternotomy and cardiopulmonary bypass (CPB) with bicaval cannulation. A large thrombus was removed from the main pulmonary artery and its branches. During weaning off CPB, she developed massive hemoptysis with blood clots occluding the endotracheal tube, leading to hypoxia and hypotension. She was put back on CPB and transferred to a veno-arterial extracorporeal membrane oxygenation (ECMO) for respiratory and circulatory support. Multiple bronchoscopies were done in the CICU to remove all the endobronchial clots. She was successfully weaned off ECMO and was successfully discharged home 31 days later. The possible causes and management of this rare complication are discussed.

Conclusion

Placing patients first on ECMO and followed by alveolar lavage can control bleeding in massive pulmonary haemorrhage after pulmonary embolectomy.

ID: 71

SYMPTOMATIC POSTPARTUM PUBIC SYMPHYSIS DIASTASIS AFTER DELIVERY: A CASE REPORT

Muhammad Nur Aiman Sazali[1], Deepa Lakshmi Dorai Rajoo[1], Mohd Rohisham Zainal Abidin[1]

[1]Hospital Tengku Ampuan Rahimah, Selangor, Malaysia

Introduction

Postpartum pubic symphysis diastasis is a rare complication post vaginal childbirth resulting in debilitating morbidity. This happens when the pubic symphysis, a cartilaginous joint in the pelvic region, becomes abnormally separated or widened without fracture. It is a diagnosis that is primarily based on clinical evaluation, including history, symptoms, and clinical examination. Imaging studies may be employed to confirm the diagnosis and assess the extent of separation. The treatment encompasses various disciplines, spanning from conservative treatment to surgical intervention for specific cases.

Case Description

We report a case of a 41-year-old multiparous lady who experienced pubic symphysis diastasis following normal vaginal delivery. She was asymptomatic during her antenatal period. She presented with pain over the pubic region, radiating to the inner and outer thighs, with weakness of bilateral lower limbs on ambulation. She has had similar presenting history in all her previous pregnancies which she claimed resolved after traditional massage. She was managed with simple analgesics such as non-steroidal anti-inflammatory medication and paracetamol with physiotherapy in the ward. Her symptoms, however resolved 20 days post-delivery after seeking traditional massage from a post-natal massage therapist.

Learning Point

In this article, we explore the presenting symptoms, risk factors, and multidisciplinary management of this condition.

ID: 73

OUR EXPERIENCES ANESTHETISING DENTAL PATIENTS WITH SPECIAL NEEDS

SL Chiu[1], SP Tan[2], ZS Lee[1]

[1]Hospital Seberang Jaya, Pulau Pinang, Malaysia; [2]Hospital Kepala Batas, Pulau Pinang, Malaysia

Introduction

The anesthetist will often encounter patients with disabilities such as autism coming for general anesthesia to facilitate safe dental procedures. It is challenging for these patients to have dental treatment in clinic setting due to limitations relating to cooperation and/or physical problems. These difficulties are not only limited to the clinic but for the anesthetic team as well during the perioperative period. Therefore, in comparison with general patients, for patients with autism, the plan should be carefully determined as they are more likely to experience anesthetic complications.

Case Description

In this report, we will illustrate some challenges that we face when providing anesthesia to two patients with autism. The first patient was a 24-year-old gentleman, with underlying autism, underwent surgical removal of impacted tooth. During induction, there was copious amount of clear secretion in oral cavity and developed bronchospasm after intubation. Further history from patient later revealed that he had taken clear fluids before coming to operating theatre. The second patient was a 28-year-old gentleman with underlying autism spectrum disorder, who underwent comprehensive dental treatment. He developed subcutaneous emphysema over his face, neck, and upper chest post-operatively. CT scan finding ruled out airway injury but showed subcutaneous emphysema communicating with empty sockets at site of extracted teeth.

Conclusion

In summary, a careful preoperative history taking from both patient and caregivers is important in order to obtain accurate information. Subsequently, post-operative follow-up visit is vital to ensure early detection of any post-operative complications for patient safety.

ID: 74

TRACHEAL STENOSIS POST TRACHEAL STENTING IN PULMONARY TUBERCULOSIS PATIENT – AIRWAY RESCUE IN DISTRICT HOSPITAL

Zhixin Chan[1], Aimi Amran[1], Johnny T.S Kiu[1]

[1]Hospital Kapit, Sarawak, Malaysia

Background

Tracheal stenosis is a known complication of tracheal stenting, often requiring urgent attention to improve airway patency. Tracheal stenosis post pulmonary tuberculosis (PTB) infection is commonly due to fibrotic scaring.

Case Description

An 18-year-old lady, with smear negative PTB complicated with tracheal and left main bronchus stenosis, had undergone tracheal stenting in a tertiary centre prior to discharge home. One month later, she was presented to Kapit Hospital with signs and symptoms of partial upper airway obstruction, which were, stridor and difficulty in breathing. The stridor did not resolve despite adrenaline nebulisers. The decision to intubate was made after discussion with respiratory physician at the tertiary centre. She was prepped for awake fibreoptic intubation. After IV glycopyrrolate and nebulized lignocaine had been given, IVI dexmedetomidine was started at 0.5 mcg/kg/h for the procedure. Trial of nasal intubation with ETT 6.5 mm, which was the size used previously, with the 5 mm fibreoptic scope failed as we were unable to pass through the stent and there was new stenosis, 5 cm below the vocal cords. A second trial of intubation with an ETT 5 mm with the 3.8 mm scope was successful and secured just above the stenosis. We noticed stenosis till the level of carina with severe left main bronchus stenosis during bronchoscopic survey. Post-intubation, the patient was ventilated in the ICU and transferred to the tertiary centre with medevac, where tracheostomy was performed.

Learning Points

Progression of tracheal stenosis should always be anticipated especially in aggressive PTB. It is not necessary to bypass the entire stenosis area for the placement of ETT, especially in severe cases. Frequent ETT suctioning and manual evacuation of residual air was required for effective ventilation.

Conclusion

Regular surveillance scope should be performed for this group of patients for airway patency assessment.

ID: 75

VEIN OF GALEN ANEURYSMAL MALFORMATION IN CHILDHOOD COMPLICATED WITH ACUTE PULMONARY OEDEMA

YT Liow[1], CL Wong[1], SP Ng[1]

[1]Department of Anaesthesia and Intensive Care Penang General Hospital, Malaysia

Case Description

We report a case of acute pulmonary oedema in a 23 kg 11-year-old boy with underlying Vein of Galen Aneurysmal Malformation (VGAM) who was electively admitted for cerebral digital subtraction angiography (DSA) as part of his disease follow-up. Pre-morbidly he thrived well with no failure symptoms. The case proceeded under general anaesthesia. He was intubated with a cuffed 6.5 mm endotracheal tube, anchored at 16 cm. Ventilation with pressure-controlled ventilation was easy, maintaining an oxygen saturation of 97-99%. The procedure was uncomplicated with a total IV fluid of 8 ml/kg crystalloids over 2 hours, which included maintenance and deficit. He was extubated after a full reversal with sugammadex. Immediately post-extubation, he desaturated to 93-94% and developed copious amount of pink frothy secretions. Auscultation revealed reduced bilateral air entry. An urgent chest radiograph revealed features of pulmonary oedema. Supplemental face mask oxygen of 5 liter/min was prescribed and intravenous frusemide 0.1 mg/kg was given. Subsequently, the oxygen was weaned off successfully and he was discharged to the general ward.

Learning Points

Anaesthetic and critical care management of these patients prove to be a challenge due to the risk of periprocedural complications such as congestive cardiac failure and cerebral infarction. Literature search revealed that acute pulmonary oedema is more commonly encountered in the neonatal period and infrequent in young adolescent age group. To date there are no set protocols or guidelines of the optimal anaesthetic and intensive care management of this group of patients due to its rarity.

Conclusion

Minimisation of alterations in the circulatory dynamics in patients with VGAM is crucial. IV sedation with propofol as the anaesthetic technique for diagnostic procedures such as angiography/MRI in patients with VGAM could be a better option compared to general anaesthesia as sedation provides a better haemodynamic profile.

ID: 81

EARLY DETECTION OF EXTRAVASATION OF IRRIGATION FLUID WITH IMMEDIATE REPORT OF SYMPTOMS BY AN AWAKE PATIENT UNDERGOING ARTHROSCOPIC ROTATOR CUFF REPAIR UNDER INTERSCALENE BRACHIAL PLEXUS BLOCK: A CASE REPORT

Dong Hyuck Kim[1], Jonghae Kim[1], Youngjin Cho[1]

[1]Department of Anesthesiology and Pain Medicine, Daegu Catholic University School of Medicine, Daegu, Republic of Korea

Introduction

Extravasation of irrigation fluid is a rare but potentially serious complication of arthroscopic rotator cuff repair (ARCR). Therefore, its early detection is important to prevent further injury to adjacent anatomical structures. Patients under general anesthesia cannot report symptoms related to the extravasation. In contrast, interscalene brachial plexus block (ISBPB) keeps patients awake, allowing them to report the symptoms. Herein, we report a case in which irrigation fluid extravasation was detected early with an immediate report of symptoms by an awake patient receiving ISBPB.

Case Description

A 66-year-old hypertensive female (weight: 52 kg; height: 160 cm) underwent ultrasound-guided ISBPB with 25 ml of 0.75% ropivacaine for ARCR. With the patient seated, the irrigation fluid (normal saline) was continuously infused at 50 mmHg via the posterior portal to facilitate visualization of the glenohumeral joint space. However, 50 minutes after the initiation of irrigation fluid infusion, the infusion pressure was increased to 60 mmHg due to poor visualization of the joint space. Within 5 minutes, the patient suddenly reported tearing pain with a pressing sensation in the right chest area, which was not squeezing and referred to the back. No significant changes in electrocardiogram from the baseline were noted, not indicating its cardiac origin. The ultrasound scan revealed excessive fluid collection below the right pectoralis muscles. The subsequent cessation of irrigation fluid infusion relieved the symptoms. The irrigation fluid infusion was minimised. The surgery took 100 minutes and a total of 45 liters of irrigation fluid was used. The patient was discharged 3 days after the surgery with no significant postoperative events.

Learning Point

Keeping patients awake allows for early detection of irrigation fluid extravasation during ARCR.

Conclusions

ISBPB allows patients to report symptoms related to irrigating fluid extravasation, enabling its early detection during ARCR.

ID: 83

SEGMENTAL THORACIC SPINAL ANAESTHESIA FOR ABDOMINAL SURGERIES: A CASE SERIES

MI Mohd Abd Rahman[1], SF Samsuddin[1], MZ Musa[1]

[1]Hospital Sungai Buloh, Sungai Buloh, Malaysia

Introduction

Segmental Thoracic Spinal Anaesthesia (STSA) is an emerging technique that provides selective anaesthesia for surgical procedures involving the abdomen and thorax. This case series presents high-risk cases utilising STSA and explores its safety and efficacy in different abdominal procedures.

Case Description

Three patients who underwent various abdominal surgeries, including gastrojejunostomy and Mayo repair for umbilical hernia, were included in this case series. The patients included very frail elderly patients with multiple comorbidities, such as advanced cancer with multi-organ impairment, cirrhotic liver disease and difficult airway risk. The STSA was performed at T7/T8 level using a 25-gauge Spinocan® needle. hyperbaric bupivacaine (0.5%) together with 25 mcg of fentanyl and 5 mcg of dexmedetomidine were injected in a total volume ranging from 2 to 3 ml. All patients experienced successful surgical outcomes with excellent pain control.

Learning Points

The results of this case series demonstrated that STSA provided an alternative effective anaesthesia for high-risk abdominal procedures. The selective nature of STSA allowed for precise anaesthesia while avoiding unnecessary sensory and motor blockade. The safety profile of STSA in this case series was favourable, with no major complications reported. There were no incidences of neurological sequelae, spinal haematoma, or infection. Furthermore, careful titration of anaesthetic dose ensured that the incidence of hypotension was low with optimal motor function preservation. STSA offers several potential advantages, including reduced respiratory compromise with improved post operative pain control. Furthermore, STSA with intrathecal ad-

juncts offers adequate sedation intraoperatively. This technique is particularly valuable in patients that have a higher risk if they received general anaesthesia.

Conclusion

This case series demonstrated the safety, efficacy, and potential advantages of STSA in abdominal surgeries. The technique offers selective anaesthesia with optimal pain control and reduced respiratory complications, making it an extremely valuable tool in the armamentarium of anaesthesiologists.

ID: 86

ANAESTHETIC MANAGEMENT OF A CUT-THROAT SURGERY

James J[1], Mazlilah AM[1], Adlina A[1], KT Lee[1], Mohd Hamzah K[2], Mohamad Arif MN[2], Bhavani K[2]

[1]Cardiothoracic Anaesthesiology and Perfusion Unit, Hospital Sultan Idris Shah, Serdang, Malaysia; [2] Department of Cardiothroacic Surgery, Hospital Sultan Idris Shah, Serdang, Malaysia

Introduction

Tracheal stenosis is a relatively rare complication of tracheal intubation and can present as a potentially life-threatening emergency. Tracheal resection with primary re-anastomosis is a well-defined life-saving procedure for severe tracheal stenosis refractory to balloon dilatation where anaesthetic management is crucial in ensuring a favourable outcome. We report the overwhelming challenges in the anaesthetic management during two cases of tracheal resection for severe tracheal stenosis.

Case Description

Firstly, a 39-year-old man with a complex medical history of liver cirrhosis, bronchiectasis, and recurrent chest infections requiring multiple intubations presented with shortness of breath. He was diagnosed to have tracheal stenosis at the level of C5/C6. The second is a 45-year-old man with underlying major depressive and anxiety disorder, who required intubation for benzodiazepine overdose. He presented with worsening dyspnoea five months post-intubation and was diagnosed to have tracheal stenosis at the level of C7/T1. Both patients had successful tracheal resection and reconstruction surgeries with a comprehensive peri-operative management, pre-operative counselling, extensive outline of cross field ventilation and a multi-disciplinary post-operative care. Both patients were able to be weaned within 24 hours, extubated, and had uncomplicated post operative recovery period.

Learning Points

The success in maintaining anaesthesia and securing airway whilst aiming to provide a good surgical access in complex cases such as tracheal resection relies on extensive pre-operative planning, communication and teamwork between the anaesthetist and the surgeon. Cross field ventilation technique is a safe modality, proven to be successful in tracheal resection surgery negating the need of extracorporeal membrane oxygenation (ECMO) or cardiopulmonary bypass (CPB) despite the demonstrated success of these two alternatives. Cross field ventilation technique is associated with less perioperative blood lost compared to surgery done utilizing ECMO or CPB.

ID: 87

MATERNAL MORTALITY: SUSPECTED AMNIOTIC FLUID EMBOLISM IN PARTURIENT DURING CAESAREAN SECTION, A CASE REPORT.

Noor Diyana AR[1], Nurul Izzah MF[1], Mas Idayu R[1], Wan Marzuki WR[1], Zaini AB[1]

[1]Hospital Tengku Ampuan Afzan, Kuantan, Malaysia

Introduction

Amniotic fluid embolism is a life-threatening obstetric emergency, occurring during labour or delivery, characterised by sudden cardiopulmonary failure, and may be accompanied by disseminated intravascular coagulation. It is unpredictable and has a high mortality rate. There are no effective prophylactic measures and management and enforcement of a diagnosis remain controversial.

Case Description

In this case report, we share our experience in encountering a parturient with antenatal history of placenta previa type 3 anterior, right ovarian cyst and well-controlled pregnancy induced asthma. She was admitted early for expectant management. However, on day 14 of hospitalisation, she had an episode of per vaginal bleeding and was posted for emergency cesarean section and right cystectomy. During pre-anaesthetic assessment in the operation theatre, she was well, alert, conscious, haemodynamically stable with clear lungs on auscultation. A combined spinal epidural single was performed and uneventful. Upon manipulation of the placenta and delivery of baby, the patient became bradycardic, hypotensive, and cyanosed. Her GCS dropped to 7 (E2V1M4) and her oxygen saturation was unrecordable. A crash intubation was done. Then, she developed pulseless electrical activity and cardiopulmonary resuscitation was commenced. The patient developed spontaneous circulation and was immediately sent to ICU, where bedside scan showed no thrombus in the heart or inferior vena cava. Compression tests were also negative over bilateral femoral and popliteal veins. However, hours after ICU admission, patient developed asystole and succumbed. Postmortem was not done as the family member not keen.

ID: 89

TRICK OR TREAT: CHALLENGING ANAESTHESIA MANAGEMENT IN PATIENT WITH HUGE ABDOMINAL MASS

Norfarhanah Z[1], Siti Zubaidah AG[1], Noorfidah AR[1], Zayuah MS[1], Muhammad Rizal AR[1]

[1]Department of Anaesthesia and Critical Care, Hospital Sultan Haji Ahmad Shah, Pahang, Malaysia

Introduction

A huge abdominal mass can cause difficulties and possible various challenges in anaesthetic management associated with life threatening respiratory and circulatory complications. Proper pre-operative assessment, planning, and communications among multidisciplinary team with appropriate treatment protocols is fundamental.

Case Description

A 58-year-old female with multiple comorbid, presented with huge intraabdominal mass secondary to bilateral ovarian carcinoma. The patient was seen in the anaesthesia clinic and prepared for surgery with anticipated difficult in airway management and massive fluid shift. The estimated cyst fluid loss was 34 litres with an estimated blood loss of 3.2 litres. Proper maintainance of intraoperative hemodynamics and judicious fluid management enforced. Surgery lasted for six hours with dense adhesions complicating resection. Post-operatively, the patient was admitted to intensive care unit for nine days, for further fluid optimisation, haemodynamic stabilisation and weaning from ventilatory support.

Learning Points

Prudent intraoperative planning is critical during induction and maintainance of anaesthesia, and also management of the circulatory and respiratory systems can be challenging because it is associated with significant morbidity and mortality.

Conclusion

Large ovarian tumours are very rare nowadays due to increased healthcare awareness, easy access to primary health care and advanced diagnostic methods. The anaesthetist should be familiar with the pathophysiological changes and possible perioperative complications need to be anticipated with extreme care and cautions. Careful perioperative management and communication among multidisciplinary teams are the key factors in the successful management of this rare condition.

ID: 90

MALIGNANT HYPERTHERMIA A CATASTROPHIC DISASTER: A CASE REPORT

Siti Zubaidah AG[1], Norfarhanah Z[1], Nurbayani IM[1], Noorfidah AR[1], Zayuah MS[1], Muhammad Rizal AR[1]

[1]Department of Anaesthesia and Critical Care, Hospital Sultan Haji Ahmad Shah, Pahang, Malaysia

Introduction

Malignant hyperthermia (MH) is a rare pharmacogenetic muscular disorder that develops following exposure to potent inhalational anaesthetics agents and succinylcholine. It produces a combination of muscle rigidity, hypermetabolism and a life threatening hyperthermic reaction.

Case Report

We report a case of a 28-year-old with no known medical illness and no past surgical history posted for elective dental extraction surgery. Pre-operative assessment was insignificant. Vital signs prior to induction were stable. Anaesthetic induction was done with intravenous fentanyl, propofol and rocuronium and further maintenance with sevoflurane. However, 25 minutes post induction, the surgeon complained of difficulty in mouth opening. There was an abrupt rise of end tidal CO2 up to 120 mmHg and unexplained persistent sinus tachycardia up to 140 beats per minute. IV paracetamol given intraoperatively for analgesia; thus temperature was not raised. Surgery was stopped immediately, and emergency drill was activated with the possibility of malignant MH. Sevoflurane was switched off immediately and anaesthesia continued with TCI propofol. Bolus of IV dantrolene was given as per guideline. Subsequently, there was marked reduction of the hypercarbia and tachycardia after cessation of sevoflurane and dantrolene. The patient was transferred to the ICU for further stabilisation and dantrolene infusion was continued for 24 hours. The patient was discharged home well with a MH card and follow up appointment at the anaesthetic clinic.

Conclusion

Malignant hyperthermia posed a critical and possible lethal muscular disorder following exposure to anaesthetic triggering agents. A delay in diagnosis can lead to morbidity and mortality. Thus, high index of suspicion and early recognition of malignant hyperthermia is crucial for early intervention to be initiated.

ID: 91

RED ALERT IN LABOUR ROOM: IS THE PATIENT IN EPIDURAL LABOUR? A CASE REPORT

Nurul Izzah MF[1], Noor Diyana AR[1], Zaini AB[1]

[1]Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia

Introduction

Labour pain is described as the most severe pain experienced ever by most women where majority of parturient complained their pain as severe or extremely severe. Epidural analgesia is acknowledged as the most effective and the gold standard of labour pain management. In this case report, we share our experience in encountering a red alert case of a parturient who was receiving epidural analgesia in labour.

Case Description

This was a 31-yearold Gravida 3 Para 2 at term with a well-controlled asthma who was otherwise well before, who requested for epidural analgesia for her labour. An epidural catheter was inserted with twice attempts by a trainee medical officer. Drop test done was noted positive. The patient was started on patient controlled epidural analgesia (PCEA) of ropivacaine 0.0625% with fentanyl 2 mcg/ml. Her vital sign after epidural was within normal value. Thirty minutes min post-insertion of the epidural catheter, she complained of severe headache. Continuous vital sign monitoring was done by the staff nurse in-charge and the value was normal.

After 4 hours in labour, we received a red alert from the obstetric team, and we attended the patient immediately. She was noted to be in asystole. Her airway was urgently secured by intubation, and peripartum Casesarean section was done at the bedside. Cardiopulmonary resuscitation was initiated at the same time. The epidural catheter was checked but there was no blood or cerebrospinal fluid aspirated indicating that it is in-situ. Despite of our rescue effort, the patient succumbed to death at the scene. The cause of death is pending a postmortem investigation.

ID: 94

QUADRATUS LUMBORUM BLOCK AS SURGICAL ANAESTHESIA FOR DEFUNCTIONING ILEOSTOMY FOR INTESTINAL OBSTRUCTION IN HIGH-RISK FRAIL ADVANCED CANCER PATIENTS: A REPORT OF 2 CASES

ZY Beh[1,2] KF Chin[3,4]

[1]Department of Anaesthesia, Assunta Hospital, Petaling Jaya, Selangor, Malaysia; [2]OSC Orthopaedic Specialist Centre, Subang Jaya, Selangor, Malaysia; [3]Department of Surgery, Assunta Hospital, Petaling Jaya, Selangor, Malaysia; [4]Department of Surgery, Gleneagles Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Introduction

Intestinal obstruction is a common and distressing outcome in patients with abdominal or pelvic cancer. While surgery remain the primary treatment for malignant obstruction, it is now recognized that there is a group of patients with advanced disease or poor general condition who are unfit for surgery under general anaesthesia (GA) or neuraxial technique. We report two cases of frail patients with advanced gastrointestinal cancer who presented with malignant bowel obstruction.

Case Description

Both patients safely underwent defunctioning ileostomy surgery with the aid of truncal block, which was an ultrasound guided quadratus lumborum block (QLB) plus monitored light sedation. This surgery helped to relieve distressing symptoms and avoid them succumbing from intraabdominal sepsis secondary to bowel perforation. The ultrasound guided QLB was performed unilaterally, which was the surgical site, using ropivacaine 0.375% 40ml. Patient A, a 71-year-old lady had advanced cholangiocarcinoma with Eastern Oncology Group (ECOG) Performance Status score 4. She previously underwent surgical bypass, chemoradiotherapy and presented with small bowel obstruction. She was transferred in from another hospital because there was no expert in performing regional block and she was too frail to undergo GA for defunctioning ileostomy. Patient B, an 80-year-old man with metastatic pancreatic cancer, ECOG score 4 presented with small bowel obstruction. Patient A survived for one month after the surgery before succumbing to cancer progression and received palliative care. Patient B survived for another three months

after the surgery and went home. He eventually died due to cancer progression and received palliative care during the last day of his life.

Learning Point/Conclusion

QLB provides a viable alternative anesthetic technique for defunctioning ileostomy surgery in frail, high-risk patients.

ID: 95

COMBINED CERVICAL PLEXUS, SUPERIOR TRUNK AND PECS1 BLOCKS AS REGIONAL ANAESTHESIA FOR HIGH-RISK CARDIAC PACEMAKER IMPLANTATION PROCEDURE: A CASE REPORT

ZY Beh[1,2] KH Lam[3]

[1]Department of Anaesthesia, Assunta Hospital, Petaling Jaya, Selangor, Malaysia; [2]OSC Orthopaedic Specialist Centre, Subang Jaya, Selangor, Malaysia; [3]Cardiology Unit, Assunta Hospital, Petaling Jaya, Selangor, Malaysia

Introduction

Permanent cardiac pacemaker implantation is an invasive procedure with significant pain which traditionally required large volume of cardiologist-administered local anaesthetic (LA) infiltration plus monitored sedation by anaesthesiologist. Patients who required such procedure are often elderly with compromised cardiac function, therefore general anaesthesia is less favoured due to high morbidity. Several regional anaesthesia techniques had been successfully used in pacemaker implantation procedure and described in individual papers such as combined cervical plexus and superior trunk blocks by Inan et al, 2021 and PECS 1 block by Mavarez et al., 2019.

Case Description

In this case report, a frail 83-year-old ASA IV lady, Canadian Study of Health and Aging (CHSA) Clinical Frailty score 7 with a background of congestive heart failure, atrial fibrillation and poor heart function (ejection fraction 35%), advanced dementia with old stroke, chronic kidney disease presented with symptomatic severe bradycardia of 20-30 beats/min. She was on a temporary transvenous pacemaker. She successfully underwent cardiac pacemaker implantation procedure using ultrasound-guided comprising of three regional techniques: combined intermediate cervical plexus (ICPB), superior trunk (STB) and PECS1 blocks plus monitored light sedation. The total LA used for the blocks was ropivacaine 0.375% 10 ml for the ICPB plus 10 ml for the STB and ropivacaine 0.2% 8 ml for PECS1 block. She had excellent analgesia during the procedure, with minimal sedation of TCI propofol under the Schneider algorthim at 0.1-0.2mcg/ml. The cardiologist did not have to give LA supplement during the procedure.

Learning Points/Conclusion

Combined intermediate cervical plexus, superior trunk and PECS1 blocks is the ideal regional block technique to provide complete insensate area for pacemaker implantation.

ID: 101

A CASE REPORT OF PARAVERTEBRAL BLOCK RESCUE IN AVOIDING GENERAL ANAESTHESIA FOR A MORBIDLY OBESE PATIENT UNDERGOING LEFT HERNIOPLASTY AND BACK LIPOMA EXCISION IN A DISTRICT HOSPITAL

Hafiz R[1], Ajlaa[1] A, Atiqah N[1]

[1]Hospital Besut, Terengganu, Malaysia

Introduction

Managing obese patients with obstructive sleep apnea (OSA) is always difficult especially in a district hospital setting. Regional technique alone or combination is a challenging but feasible option in this scenario which we intended to highlight in this report.

Case Description

A patient with a body mass index of 46 kg/^{m2} and underlying OSA was planned for left hernioplasty and excision of large lipoma at the left lateral back. The procedures were done under combination of spinal anaesthesia (SA) at L3/L4 levels with the combination of paravertebral block (PVB) at T6/T8 levels. Infusion of dexmedetomidone was started since prolonged duration of operation anticipated. Due to some degree of difficulties, the hernioplasty lasted for more than 3.5 hours. The excision of the large lipoma was completed for another hour, which made up the total duration of surgery of 4 hours. SA and PVB provided good anaesthesia throughout the duration of surgery. The intraoperative course was uneventful, and the patient was discharged well to ward.

Learning Points

Avoidance of general anaesthesia and its associated risk in a morbidly obese patient may be necessary especially in a district hospital setting where post-anaesthesia care unit or intensive care unit is unavailable. APVB is a good technique to combine with SA for its benefits including the intra-operative anaesthesia, post-operative analgesia and, also it may enhance the duration of the SA effect in this case. The PVB may be combined with SA to replace the use of combined spinal-epidural anaesthesia which may impose greater hemodynamic instability than the former

Conclusion

The PVB and SA may be combined to prolong the effect of anaesthesia and it may also provide good post-operative analgesia especially in obese patientswith OSA.

ID: 102

RELAXANT-LESS INTUBATION IN ELECTIVE DENTAL SURGERY OF PAEDIATRIC PATIENTS IN A DISTRICT HOSPITAL: A CASE SERIES

Ajlaa A[1], Atiqah N[1], Hafiz R[1]

[1]Hospital Besut, Terengganu, Malaysia

Introduction

Intubation without relaxant is not a routinely practice anaesthesia technique. Although there are concerns regarding the potential risks and benefits from the technique, selected patients and procedures may benefit from this.

Case Description

We chose to conduct this technique on two paediatric patients were scheduled for comprehensive dental surgery under general anaesthesia (GA) at our centrer, which is a district hospital. One of the patients had underlying attention-deficit hyperactive disorder and global developmental delay and the other had no known medical illnesswas previously well. Both patients were induced with intravenous induction agents, supplemented with inhalational agent and application of topical lignocaine spray prior to intubation. In these cases, muscle relaxant was not used. Smooth intubations were observed, with no exaggerated sympathetic responses. All procedures were uneventful and emergence from GA and extubation were smooth.

Learning Points

Relaxant-less intubation has several advantages: less drugs are administered to the patients since no relaxant means no reversal requires thus no side effect of those. It also provides ease of extubation since no reversal agent is required and free of residual weakness.

Conclusion

Intubation without relaxant is beneficial in certain situations since it may provide smoother emergence from anaesthesia and risk-free of relaxant associated adverse effect in the paediatric population.