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College of Anaesthesiologists, AMM

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MyAnaesthesia 2024:
Where Science Meets Art
ABSTRACT BOOK

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Messages

THE ORGANISING CHAIRPERSON

Dato' Dr Yong Chow Yen
President, Malaysian Society of Anaesthesiologists & Organising Chairperson, MSA and CoA Annual Scientific Congress 2024

Dear Esteemed Colleagues and Friends,

It is with great pleasure and honour that I welcome you to the 61st Annual Scientific Congress of the Malaysian Society of Anaesthesiologists and College of Anaesthesiologists, Academy of Medicine Malaysia, where we gather to celebrate our theme, "MyAnaesthesia 2024: Where Science Meets Art".

This year, we are excited to invite you to explore the intangible crossroad where science meets art in our profession. Anaesthesiology is a discipline that demands rigorous scientific knowledge and technical precision. Each patient we treat brings a unique set of challenges, from complex cases to unforeseen emergencies. These situations demand more than just scientific knowledge and technical precision to ensure patient safety and our well-being. They require us to be adaptable, creative, empathetic, and resilient. The delicate balance between these realms is what makes our field fascinating, challenging, and profoundly rewarding, very much like an artist's touch. This balance is precisely what our theme seeks to highlight.

Throughout this conference, the Scientific Committee has curated a diverse programme that brings together leading experts, innovative researchers, and passionate practitioners from Malaysia and around the world. Our session will not only delve into scientific advancements, feature keynote speeches from renowned experts in the field, offer hands-on workshops designed to enhance your practice, but also explore artistic approaches to patient care, leadership talks and well-being.

I encourage you to engage fully with the program, participate in discussions, explore technological advances exhibited by our supporting industry partners, and seize the precious time we have to renew friendships and make new friends.

I wish to thank the members of the Faculty, Organising Committee, Scientific Committee, our industry partners, and all who have contributed in one way or another, for bringing the congress to fruition.

Welcome to Kuala Lumpur. Thank you for being a part of this congress. I look forward to sharing our congress journey where “Science Meets Art”.

THE CO-ORGANISING CHAIRPERSON

Professor Dr Ina Ismiarti Shariffuddin

President, College of Anaesthesiologists, Academy of Medicine of Malaysia & Organising Co-Chairperson, MSA and CoA Annual Scientific Congress 2024

Assalamualaikum and Selamat Sejahtera,

On behalf of the College of Anaesthesiologists, AMM it is my great pleasure to extend a heartfelt welcome to all of you to MyAnaesthesia 2024. I would like to thank YB Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, for taking his time off from his busy schedule to officiate this meeting.

With the theme of "Science Meets Art", this conference serves as a platform for us to share our thoughts and exchange ideas on how to chart our journey to reach new heights. Indeed, Anaesthesia is a field where the art of gentle care meets the precision of science. We are dedicated to treating patients with the utmost compassion while ensuring the highest standards of safety and outcomes. This delicate balance is what makes our work both challenging and incredibly rewarding.

I would like to express our deepest gratitude to our distinguished speakers, who have generously contributed their time and expertise. Your insights and knowledge are invaluable, and we are honoured to have you here.

A special thanks to the Scientific Committee led by Dr Hasmizy Muhammad and the entire organising team for their tireless efforts in making this event possible. Your dedication and hard work are truly appreciated. We are also grateful to our partners in biomedical industries, whose innovations and support are critical to the advancement of our field.

To all our distinguished guests and valuable participants, we hope you enjoy not only the rich scientific discussions presented to you in this conference, but also please take the time to experience the vibrant culture and beauty of Kuala Lumpur and Malaysia.

Thank you for being here, and we look forward to a memorable and enriching congress.

THE SCIENTIFIC CHAIRPERSON

Dr Hasmizy Muhammad

Scientific Chairperson, MSA and CoA Annual Scientific Congress 2024

I am pleased to welcome you to the Malaysian Society of Anaesthesiologists and College of Anaesthesiologists, Academy of Medicine of Malaysia, Annual Scientific Congress 2024, which is held at the Shangri-La Hotel, Kuala Lumpur, on 2nd to 4th August 2024. The congress's theme "My Anaesthesia 2024: Where Science Meets Art", describes how evidence-based data and medical practice, refined by experience and other subjective factors, can influence each other with great impact.

The Scientific Committee has invited distinguished local and overseas speakers to present and discuss scientific issues, achievements, and challenges related to Anaesthesiology, Critical Care, and Pain Medicine. The overseas speakers who are sharing their knowledge are from the United States of America, Germany, Australia, Hong Kong, Thailand, Singapore, Indonesia, the Philippines, South Korea, and Japan.

The scientific programme starts with five pre-congress workshops on August 1 2024, namely Ultrasound-Guided Vascular Access, Thoracic Anaesthesia, Simulation Training on Crisis Management, Advanced Haemodynamic Monitoring, and Leadership in Anaesthesia (WFSA AARS Module). There are 7 plenaries, 18 symposia, 2 lunch symposia, 3 biomedical industry lectures, 2 in-congress workshops, a pro-con debate session, and interactive sessions with the Master and Parallel Pathway trainers and trainees in the main congress. With such variety, I believe this congress will offer new and exciting content for each and every delegate.

In terms of free papers, this congress has received a total of 87 submissions from local and international participants, of which 35 are original articles and 52 are case reports. A review panel has appraised all the submitted papers for competition in the oral and poster presentations. The prizes awarded are the Malaysian Society of Anaesthesiologists award and the Malaysian Society of Anaesthesiologists Young Investigator award for the oral competition, while the poster competition features prizes for original articles and case report.

I would like to thank the members of the Scientific Committee, Associate Professor Dr Azarinah Izaham and Dr Mohd Azrin Azidin, for the excellent academic programme developed to meet the needs of the participants, the Organising Committee, led by the Organising Chairperson Dato' Dr Yong Chow Yen, the review panel and judges of free paper presentations, the symposia's chairpersons, and last but certainly not the

least, our invited speakers for contributing their valuable time and providing guidance for this remarkable event.

Finally, I also want to thank all of you for attending this congress as our participants. I wish everyone a fruitful and enjoyable scientific congress.

Thank you.

MSA & MSA YOUNG INVESTIGATOR AWARDS

ID 011

EXPLORING A NEW ROUTE FOR LIGNOCAINE USE: A PRELIMINARY ANALYSIS IN A RANDOMISED CONTROLLED TRIAL OF INTRAPERITONEAL LIGNOCAINE (IP LIGNO TRIAL)

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Background

The analgesic properties of lignocaine have been proven as a local anaesthetic, but controversies exist in its use with different modalities. The discovery that lignocaine if given intravenously becomes an effective analgesia has led to newer studies for alternative modes of administration to negate potential risks of systemic toxicity should the concentration rise during infusion. As such, studies on intraperitoneal (IP) lignocaine have shown promising results to control postoperative pain by inhibiting sodium channel receptors of visceral and parietal nerve endings in the peritoneum. Our primary objective in this randomised controlled trial was to examine the effect of IP lignocaine on postoperative pain scores at rest and movement in women undergoing elective open gynaecology surgery.

Methods

Adults undergoing gynaecology laparotomies with midline or transverse incision above or below umbilicus were enrolled. Those allergic to lignocaine or planned for laparoscopies were excluded. All patients were randomly allocated to Group L (IP lignocaine 200 mg/20 ml + epinephrine 1:200,000) and Group P (IP 20 ml of 0.9% normal saline as placebo) using computer randomisation number generation.

Results

The finding in 41 recruited patients demonstrated that the IP lignocaine group was associated with lower postoperative pain score 1-hour on movement (mean difference = 1.79, 95% CI -0.01 to 3.59, $\rho = 0.03$). However, there were no significant differences in the postoperative pain score 1-hour at rest (mean difference = 0.88, 95% CI -0.70 to 2.46, $\rho = 0.13$), Day-1 at rest (mean difference = 0.17, 95% CI -0.75 to 1.09, $\rho = 0.35$), and Day-1 movement (mean difference = -0.26, 95% CI -1.21 to 0.69, $\rho = 0.29$). Mean patient-controlled analgesia morphine consumption at Day 1 was 12.4 mg and 14.7 mg for the lignocaine and placebo group, respectively (mean difference = 2.3 mg, 95% CI -3.84 to 8.48, $\rho = 0.22$). None of the recruited patients reported any adverse events of lignocaine toxicity in this study.

Conclusions

It is interesting to find IP lignocaine reduced postoperative pain scores on movement in the recovery postoperatively. The mechanism of action for IP lignocaine maybe more suited for intense pain upon movement.

ID 020

THE USE OF INTRANASAL DEXMEDETOMIDINE AS SEDATION FOR CHILDREN: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

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Background

Dexmedetomidine is a highly selective and potent α_2-adrenergic agonist, which has a potential role as a sedative agent because it offers the prospect of inducing a calm yet easily rousable state in paediatric patients without causing respiratory depression. The discovery that dexmedetomidine, if given intravenously, becomes an effective sedative has led to newer studies for alternative modes of administration to negate potential risks of systemic toxicity should the concentration rise during infusion. As such, studies on intranasal dexmedetomidine have shown promising results to provide satisfactory sedation in children. The primary objective of this systematic review and meta-analysis was to summarise the evidence use of intranasal dexmedetomidine on satisfactory sedation at parental separation in children undergoing surgery or procedures.

Methods

Databases of MEDLINE, EMBASE, and CENTRAL were searched from their inception date until May 2024. Randomised clinical trials comparing intranasal dexmedetomidine and controls in children undergoing surgery or procedures were included. Observational studies, case series, and case reports were excluded.

Results

Sixty-two RCTs involving a total of 4690 patients met the eligibility criteria for data synthesis. Compared to the control group, the intranasal dexmedetomidine group was associated with higher number of patients with satisfactory sedation at induction (OR: 0.25, 95% CI: 0.13-0.49, $p < 0.0001$, $I^2 = 71\%$) and parental separation (OR: 6.45, 95%CI: 4.31-9.66, $p < 0.0001$, $I^2 = 0\%$), respectively. The incidence of

emergence agitation (OR: 0.17, 95% CI: 0.10-0.29, $p < 0.0001$, $I^2 = 57\%$) and postoperative nausea/vomiting (OR: 0.42, 95% CI: 0.19-0.89, $p < 0.0001$, $I^2 = 31\%$) were significantly reduced in the intranasal dexmedetomidine group. No significant difference was observed in the incidence of hypotension in both the intranasal dexmedetomidine and control groups (OR: 4.83, 95% CI: 0.78-29.75, $p = 0.09$, $I^2 = 0\%$).

Conclusions

Intranasal dexmedetomidine is an excellent sedative agent, which provided satisfactory sedation to children undergoing surgery and procedure during parental separation and anaesthesia induction.

ID 034

COMPARISON OF EXPIRED TIDAL VOLUMES DURING MASK VENTILATION USING NOVEL DEVICE (GRIP PLUS) VS CONVENTIONAL IN OBESE PATIENTS: A RANDOMISED CONTROLLED CROSSOVER TRIAL

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Background

The Grip Plus is a novel adjunct device (patent pending) designed to attach to the standard anaesthetic face mask. This study aims to determine its effectiveness in assisting the performance of mask ventilation in obese patients. The primary objective was to determine if the application of the device changes the expired tidal volume during mask ventilation. The secondary objective was to determine if there was change in the level of operator fatigue.

Methods

ASA I to II patients of BMI 30 and above planned for mask ventilation under general anaesthesia were randomised into 2 groups depending on the first arm. Patients either first received mask ventilation using the device or conventional (without device) for 1 minute and subsequently crossed over to the alternate arm for another minute. Tidal volumes and level of fatigue using a rating-of-fatigue (ROF) scale of 0 to 10 (Micklewright et al. 2017) were recorded.

Results

Mask ventilation using the novel device recorded significantly higher mean VTe compared to the conventional technique (mean difference +56.0 mL, 95% CI: 21.5 to 90.5, $p < 0.02$).

The conventional technique resulted in a significant increase in fatigue scores compared to baseline score, with a median change of +2.0 (IQR = 1.0 to 2.5) compared to device technique 0.0 (IQR = -2.0 to 1). The difference in fatigue scores from the start to the end of mask ventilation between the 2 techniques was found to be statistically significant ($p < 0.001$).

Conclusions

There appears to be a trend towards benefit with the Grip Plus both in terms of improving ventilation and reducing operator fatigue.

ID 059

IMPACT OF MIXING TECHNIQUE ON ACCURACY OF DILUTING INTRATHECAL MORPHINE WITH BUPIVACAINE

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Background

Bedside manual dilution of 100 mcg intrathecal morphine (ITM) with bupivacaine 0.5% (Marcaine) in 1 mL syringes is a common practice. However, Marcaine's properties might affect morphine solubility, potentially leading to significant concentration variations within syringes due to inadequate mixing. This study investigated the impact of mixing technique on the final morphine concentration in the syringes.

Methods

Nine experienced anaesthesiologists were recruited and randomly assigned to 3 groups. Each participant prepared 9 samples of 100 mcg morphine following specific protocols for their assigned group. Technique 1 omitted the mixing step entirely, while Techniques 2 and 3 involved shaking the syringes for 1 minute according to the assigned protocol. Using high-performance liquid chromatography (HPLC-UV), we measured the morphine concentration at 3 key points within each syringe.

Results

Technique 1 demonstrated a non-uniform pattern of morphine concentration within the syringes, implying that the solution was not sufficiently mixed to achieve homogeneity. The concentration at the end of the syringes was significantly higher, with a median concentration of 364.23 mcg, while the concentration at the beginning was significantly lower, with a median of 19.64 mcg ($p < 0.05$). Techniques 2 and 3 showed a more similar and uniform pattern of morphine concentration along the length of the syringes. Notably, all mixing techniques revealed a statistically significant mean difference in concentration between the beginning and end of the syringes ($p < 0.05$).

Conclusion

Our findings show the chemical properties of bupivacaine may cause inadequate mixing of the solution, especially when the mixing step is completely omitted**.** This might lead to significant concentration variations within syringes, which could subsequently result in insufficient or excessive doses of ITM being administered to patients. This study underscores the importance of incorporating a mandatory shaking step during the morphine preparation process to ensure consistent and safe clinical outcomes.

ID 068

PREDICTORS OF PREOPERATIVE ANXIETY AMONG ADULT PATIENTS UNDERGOING AMBULATORY SURGERY

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Background

The advantage of short duration of hospital stays for ambulatory surgery does not seem to eliminate the potential for preoperative anxiety. The limited interaction time between healthcare providers and patients in ambulatory settings may heighten the anxiety level of patients. This study aimed to evaluate the prevalence and predictors of preoperative anxiety among ambulatory adult patients.

Methods

A cross-sectional study was conducted using self-administered structured validated questionnaires in adult patients who underwent ambulatory surgery. The Amsterdam Preoperative Anxiety and Information Scale (APAIS) was used to measure preoperative anxiety on the day of surgery. The preoperative psychosocial assessment (PPA) was used to evaluate factors affecting anxiety specifically related to surgeries. The univariate logistic analysis explored the relationship between sociodemographic characteristics, the need for additional anaesthesia or surgical information, PPA, and APAIS scores. Significant factors from this analysis were further analysed through multivariate linear regression. P-values ≤ 0.05 were considered statistically significant.

Results

Out of 392 patients analysed, 42.9% patients experienced significant preoperative anxiety. Their median age was 33 years old. There were no significant sociodemographic characteristic differences between the groups of patients that had low and high anxiety level preoperatively. Key predictors for preoperative anxiety included previous anaesthesia experiences (AOR = 3.08, 95% CI: 1.315 - 7.206, p = 0.010), higher PPA scores (Spearman's rho = 0.492, p < 0.001), and need for preoperative additional information regarding anaesthesia or surgical procedure (Spearman's rho = 0.611, p < 0.001). From the PPA questionnaires, we detected that preoperatively patients

were concerned regarding potential surgical complications, particularly postoperative pain, unexpected bleeding, and infection or non-healing wounds.

Conclusions

Just under half of our ambulatory surgical patients experienced significant preoperative anxiety which rose from their experience of previous anaesthesia, concerns regarding potential surgical complications, and their need for additional anaesthesia or surgical information.

ID 069

EVALUATING KNOWLEDGE AND ATTITUDES TOWARDS ADVANCED MEDICAL DIRECTIVE AMONG ANAESTHESIOLOGY AND CRITICAL CARE POSTGRADUATE TRAINEES

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Background

The implementation of advanced medical directives (AMD) in intensive care units (ICU) presents challenges due to various factors. This study aimed to assess the knowledge, attitudes, and factors influencing the practice of AMD among trainees.

Methods

This cross-sectional study involved postgraduate anaesthesiology and critical care trainees, utilising validated questionnaires to gather data on demographics, knowledge, attitude, and factors affecting AMD practice. Trainees scoring above the median value of 4.5 in the knowledge section and 40 points in the attitude section were classified as having a good score. Association analyses between demographic data and AMD-influencing factors with knowledge and attitude levels were conducted. P-values ≤ 0.05 were considered significant.

Results

Informed consent was obtained from 111 trainees, with approximately two-thirds being female and a mean age of 34.00 ± 2.50 years. Overall, trainees demonstrated good knowledge (mean score of 5.02 ± 1.81) and attitude (mean score of 50.91 ± 5.04) towards AMD. Despite minimal exposure (58.6%) and experience with AMD, 65.8% of trainees exhibited good knowledge, and 98.2% showed positive attitudes. No significant differences were observed in knowledge and attitude levels based on gender, marital status, ethnicity, religion, or duration of ICU experience. Most trainees identified the unavailability of clinical practice guidelines (76.6%) and poor family acceptance (66.7%) as barriers to AMD practice. However, factors such as religion or faith (86.5%), social (91%), and cultural (93%) backgrounds were not perceived as hindrances. However, all these factors did not influence the levels of knowledge and attitude of the trainees towards AMD.

Conclusion

Most of the postgraduate anaesthesiology and critical care trainees displayed good knowledge and positive attitudes towards AMD. Demographic diversity and investigated factors did not significantly influence knowledge and attitude levels. These findings suggest a robust foundation for AMD understanding and acceptance among trainees, highlighting potential areas for targeted interventions to enhance AMD implementation in ICUs.

ID 076

COMPARING THE EFFECTIVENESS OF PERICAPSULAR NERVE GROUP (PENG) BLOCK VERSUS SUPRA-INGUINAL FASCIA ILIACA COMPARTMENT BLOCK (S-FICB) IN REDUCING POSITIONAL PAIN DURING NEURAXIAL ANAESTHESIA IN HIP FRACTURES PATIENTS

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Background

Severe pain associated with a fractured hip results in difficulty during positioning for neuraxial anaesthesia for surgical fixation. We aim to compare pericapsular nerve group (PENG) block and supra-inguinal fascia iliaca compartment block (S-FICB) in reducing positional pain during neuraxial anaesthesia for internal fixation of hip fracture.

Methods

This prospective, randomised study involved 45 to 80-year-old patients undergoing internal fixation of hip fractures under neuraxial anaesthesia. They were divided into PENG Group and S-FICB Group. Pain score at rest, at passive movement, and during neuraxial anaesthesia was assessed using a numerical rating scale (NRS) after 30 minutes of the respective block. The ease of positioning (EOP) during neuraxial block and patient satisfaction were assessed to compare the effectiveness of analgesia between both groups.

Results

Out of 41 patients recruited, 21 were allocated to the PENG Group and 20 to the S-FICB Group. The delta change of NRS between pre and post block at rest was significantly greater in the PENG Group (-75.0% IQR: -75.0% to -60.0%) compared to the S-FICB Group (-40.0% IQR: -50.0 to -27.0%), $p < 0.001$. The delta change of NRS between pre and post block on passive movement was significantly greater in the PENG Group (-67.93 ± 5.9%) compared to the S-FICB Group (37.1 ± 9.26%), $p < 0.001$. The NRS during positioning for neuraxial anaesthesia was significantly lower in the PENG Group as compared to the S-FICB [2.88 ± 0.53 vs 3.9 ± 0.48, ($p < 0.001$)]. Patients

in the PENG Group reported significantly higher score for EOP ($p < 0.001$) and patient satisfaction ($p < 0.001$) compared to the S-FICB Group.

Conclusions

The PENG block provided better analgesic profile and patient satisfaction compared to S-FICB in reducing pain and ease of positioning during neuraxial anaesthesia for internal fixation of hip fractures.

ID 078

USING SAFETY ENGINEERED INTRAVENOUS ACCESS DEVICES IN MALAYSIA TO REDUCE NEEDLE STICK INJURIES: A META-ANALYTIC SYNTHESIS OF LITERATURE AND HEALTH SYSTEM PROJECTION

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Background

The objective of the study was to determine an effect size estimate of comparative efficacy of safety-engineered intravenous devices (SED) versus conventional intravenous devices in preventing accidental needle stick injuries when used by health care workers to perform infusion therapies, and/or intravenous drug administration based on published literature and ii. to understand projected impact of increased utilization of passive SEDs in infusions in the healthcare system of Malaysia based on incidence-based estimates from literature and Malaysian healthcare data.

Methods

A meta-analytic synthesis of published evidence pertaining to event rates of needle stick injury prevention using safety engineered devices (SED) for intravenous access was carried out using RevMan 5 software. Thereafter, a health system impact model was developed based on the incidence rates from a published study, to evaluate projected changes in needle stick injury rates for Malaysian public hospitals in the hypothesis of an increased utilization of passive SED in place of non-SED for incident patients over 5 years.

Results

The meta-analysis of published literature demonstrated odds ratio using fixed effects model was 0.0.09 [95% CI 0.06,0.14], p (< 0.00001), and with random effects model it was 0.14 [95% CI 0.07, 0.28], p (< 0.00001) favouring safety engineered devices. Risk ratio using fixed effects was 0.09 [95% CI 0.06, 0.14], p (< 0.00001) and with random effects it was 0.14 [95% CI 0.07, 0.28], p (< 0.00001) favouring SEDs. The health system projection model demonstrated following trend in needle stick injuries/year over 5 years: 1368, 1027 (24% reduction), 686 (50% reduction), 345 (75% reduction), and 4

(99% reduction) 5th year and reduction of NSI per 100,000 procedures in following trend over 5 years: 21, 16, 10, 5, and 0.01.

Conclusions

The analysis demonstrates safety engineered devices can prevent significant occupational hazards and reduction of NSI could be achieved if passive safety devices are utilized in higher proportion in the Malaysian public hospitals.

E-POSTER (RESEARCH CATEGORY) PRESENTATIONS

ID 013

SURVEY ON KNOWLEDGE, ATTITUDE, PRACTICES, AND BARRIERS IN ENVIRONMENTALLY SUSTAINABLE ANAESTHESIA AMONG ANESTHESIA PROVIDERS IN MALAYSIA

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Background

Sustainability in healthcare, particularly in anaesthesia, is globally significant. This study addresses the awareness and practices of Malaysian anaesthesia practitioners regarding environmentally sustainable anaesthesia (ESA).

Methods

A cross-sectional study was conducted from June to August 2023, involving 337 anaesthesia practitioners. A validated questionnaire, adapted from Petre et al. and McGain et al., was used to collect data on demographics, knowledge, attitudes, practices, and perceived barriers to ESA. Statistical analysis included descriptive statistics, univariate analysis, and regression analysis.

Results

Most practitioners expressed willingness (3.15 ± 0.82) to practice recycling and acknowledged the environmental impact of anaesthesia. However, confidence in waste handling was lacking (2.34 ± 0.90) due to limited ESA education (62/337, 18.4%). Actual recycling practices were limited (159/337, 47.2%), with identified barriers including inadequate information (285/337, 84.6%), lack of facilities (249/337, 73.9%),

and staff attitudes (228/337, 67.7%). No significant correlations were found between professional experience or gender and ESA knowledge and practices.

Conclusion

This study reveals a positive inclination among Malaysian anaesthesia practitioners towards ESA, despite notable gaps in formal education. The critical barrier of inadequate information emphasizes the immediate need for interventions such as continuous medical education and a unified national stance on ESA. This research serves as a catalyst for future policies and educational endeavours.

ID 024

A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS ON EFFICACY OF PHARMACOLOGICAL TREATMENT OF POST CENTRAL NEURAXIAL ANAESTHESIA SHIVERING WITH INCORPORATION OF DOSE EFFECT

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Background

Post spinal anaesthesia shivering is a complication of central neural axial blockade that impacts perioperative monitoring during anaesthesia, presents discomfort for the patient, and interferes during surgery with a reported rate of 30-85% and 30-33% for epidural anaesthesia. Several pharmacological interventions are used, including opioids, 5HT3 serotonin receptor antagonist, alpha 2 receptor agonist, NSAIDs, NMDA receptor agonist and electrolyte.

Methods

Multiple randomised control trials have been conducted and there are multiple meta-analyses for head-to-head comparisons. However, a search in database and registry shows yet a network meta-analysis (NMA) conducted to analyse the existing pharmacological therapy efficacy in anti-shivering. We are using a frequentist model for NMA regarding the efficacy of anti-shivering medication. Randomised control trials (RCT) regarding anti-shivering identifies through databases (EMBASE, Cochrane, Medline), registry, and non-indexed source were extracted. A total of 569 RCT were screened by 2 investigators.

Results

Only 27 RCTs were eligible to proceed with NMA. Data was extracted from 27 RCTs, raw papers were assessed with risk of bias assessment and analysed using R studio with netmeta package. All medications were ranked based on their efficacy. We discovered a total of 13 drugs that were statistically significant in anti-shivering efficacy, in descending order: clonidine 0.03mg, butorphanol 1mg, tramadol 50mg, clonidine 0.5 mcg/kg, clonidine 0.05 mg, clonidine 0.15 mg, pethidine 50 mg, tramadol 0.5 mg/kg, pethidine 0.5 mg/kg, tramadol 0.25 mg/kg, MgSO4 50 mg/kg, nalbuphine 0.05 mg/kg, pethidine 0.35 mg/kg.

Conclusion

Local practise of using tramadol and pethidine is effective and in line with evidence we found with clonidine being the most effective anti-shivering drug.

ID 046

EVALUATING THE PERCEPTION OF ANAESTHESIOLOGY POSTGRADUATE TRAINEES ON THE LEARNING ENVIRONMENT IN OPERATION THEATRES IN MALAYSIA

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Background

Evaluation of perceptions concerning the learning environment in operation theatres (OTs) by anaesthesiology postgraduate trainees in Malaysia.

Methods

This was a prospective cross-sectional study that used the Anaesthetic Trainee Theatre Education Environment Measure (ATEEM) questionnaire that consisted of 40 items categorised in 5 domains. Scores were analysed using descriptive and comparison analyses by the independent t-test and ANOVA statistics.

Results

Response rate was 52% with 152 trainees. The mean ATEEM score was 121.5 ± 21.9. Total mean score percentage per domain, autonomy was the highest (88.1%) and workload/supervision/support was the lowest (65%). Male trainees scored higher in the learning opportunities and orientation to learning domain ($p = 0.034$). Trainees who were at the accredited non-university hospitals had better perception of their teachers and teaching in the OTs compared to those in university hospitals ($p = 0.040$). When comparing the items in the domains with years of training, an item from the domains of “atmosphere”, “workload/supervision/support” and “teachers and teaching” is found to be significantly different. When comparing the items with types of training hospital, university hospital trainees perceived some significant uncertainties in some of the items of the same listed domains. No significant differences were detected in the items of domains of “Perception of Autonomy” and “Perception

of Learning Opportunities and Orientation to Learning". Post hoc analyses were performed using pairwise comparisons on those significant ATEEM items.

Conclusion

The overall perception of our postgraduate trainees regarding the anaesthetic educational environment in OT was good. Nevertheless, there were still some dissatisfaction and uncertainties expressed over certain aspects related to workload, atmospheres, teachers and teaching. The positive perception that trainees had for their teachers and teaching diminished as trainees' workplace transitioned from accredited non-university to university hospitals, which demands the preexisting circumstances to be scrutinised and strategies to be developed to improve this change in perception.

ID 047

PULMONARY BAROTRAUMA IN MECHANICALLY VENTILATED COVID-19 PATIENTS: EXPERIENCE FROM A TERTIARY HOSPITAL

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Background

Pulmonary barotrauma is a complication of mechanical ventilation (MV). We aimed to determine the incidence and risk factors associated with pulmonary barotrauma in MV COVID-19 patients in our COVID ICU.

Methods

This was a retrospective study involving medical records of MV COVID-19 patients, aged 18 years and above, that were admitted to COVID ICU between January 2021 and June 2022. Medical records of patients that developed pulmonary barotrauma prior to or less than 24 hours of admission, iatrogenic pneumothorax, readmission and were MV for other causes than respiratory failure due to COVID-19 were excluded. Pulmonary barotrauma was confirmed by radiologists or ICU consultants by means of HRCT thorax or bedside ultrasound, which was further categorised into subcutaneous emphysema, pneumothorax, pneumomediastinum, and pneumopericardium during data collection. The data for demographics, vaccination status, ventilator settings, laboratory data, steroid and immunomodulator therapies were analysed. Significant data in the univariate analyses were entered into multivariate analyses to determine the risk factors in developing pulmonary barotrauma and its outcomes. P values ≤ 0.05 were considered statistically significant.

Results

Medical records of 204 out of 389 patients admitted were analysed. The incidence of pulmonary barotrauma was 22.5%. Lower C-reactive protein values on admission ($p = 0.039$), FiO_2 requirements in the first week of MV ($p = 0.049$), higher PEEP use in the second week of MV ($p = 0.021$), and longer MV days ($p = 0.036$) significantly predisposed patients to pulmonary barotrauma. Pulmonary barotrauma increased the duration of COVID ICU stay ($p = 0.006$) and all-cause COVID ICU mortality ($p = 0.009$).

Conclusion

About a fifth of our MV COVID-19 patients during the study period developed pulmonary barotrauma. Independent risk factors to develop this condition were lower levels of CRP, FiO_2 requirements, higher use of PEEP, and longer ventilator days, which resulted in increased duration of COVID ICU stay and all-cause mortality.

ID 055

COMPARISON OF PERIOPERATIVE OUTCOMES OF SPONTANEOUS VENTILATION AND MECHANICAL VENTILATION FOR VIDEO ASSISTED THORACOSCOPIC SURGERY: A 2-YEAR RETROSPECTIVE STUDY

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Background

Evolution of minimally invasive thoracic surgery has challenged anaesthesiologists to modify anaesthesia techniques to enhance patient's recovery. The objectives of this study were to compare perioperative outcomes of spontaneous ventilation (SV-VATS) and mechanical ventilation (MV-VATS) on patients who underwent video-assisted thoracoscopic surgery.

Methods

This was a single-centre study, data collected between January 2021 until December 2022.

Results

A total of 124 patients were included. The median age and BMI of patients who underwent SV-VATS was 31 years and 20.3 kg/m^2. The median age and BMI of patients underwent MV-VATS was 44.5 years and 23.8 kg/m^2. There were no statistically significant differences in smoking or ASA status. Intraoperatively, SV-VATS exhibited significantly shorter duration of surgery (SV-VATS 75.7 min; MV-VATS 210 min, $p < 0.001$) and significantly lower estimated intraoperative bleeding volume (SV-VATS 100 ml, MV-VATS 200 ml, $p < 0.001$). Postoperatively, median duration of postoperative chest tube was 3 days, similar between the groups. However, there was a notable difference in the interquartile range (IQR), being 1 day for SV-VATS and 3 days for MV-VATS. This implies that 50% of SV-VATS group had a chest tube for 2 to 4 days while 50% of MV-VATS group experienced a broader range of postoperative chest tube use durations, ranging from 1.5 to 4.5 days ($p < 0.001$). In comparison to MV-VATS, SV-VATS had a significantly a shorter duration of hospital stay, 7.5 days and 5 days, respectively ($p < 0.001$). No statistical differences shown in the need of ventilatory support (p 0.495), postoperative morphine equivalent consumption ($p = 0.975$) and incidence of postoperative nausea and vomiting ($p = 0.495$) in both groups.

Conclusion

Spontaneous ventilation technique during video assisted thoracoscopic surgery (SV-VATS) significantly reduced duration of surgery and intraoperative bleeding as well as reduced duration of postoperative chest tube and hospital stay. These dual intra- and postoperative advantages will be beneficial to enhance patient recovery after minimally invasive thoracic surgery.

ID 084

PHOSPHATE: A FEASIBLE PREDICTIVE BIOMARKER FOR RENAL INJURY AND RECOVERY IN CARDIAC SURGERY – INSIGHTS FROM A RETROSPECTIVE AUDIT AT HOSPITAL SULTANAH AMINAH JOHOR BAHRU IN 2024

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Background

This study evaluated phosphate as a novel renal biomarker for injury and recovery in cardiac surgery patients at HSAJB. The primary goal was to determine if phosphate levels rise earlier than creatinine during renal injury and decrease earlier during recovery, offering a more sensitive and timelier marker. Additionally, phosphate cut-off values for significant creatinine rise, the onset of creatinine reduction, and the initiation of renal replacement therapy (RRT) were identified.

Methods

A retrospective audit of 100 patients who underwent cardiac surgery in 2024 was conducted. Data on demographics, comorbidities (e.g., DM, HPT, and CKD), cardiopulmonary bypass (CPB) time, and renal function markers (creatinine and phosphate) were collected. Phosphate and creatinine levels were tracked from baseline (preoperative) to postoperative day (POD) 7. Descriptive statistics, correlation analysis, and trend analysis were performed to assess the timing and extent of biomarker changes. Specific analyses determined phosphate cut-off values for sharp rises in creatinine, the onset of creatinine reduction, and the initiation of RRT.

Results

The mean patient age was 54.57 years. Significant comorbidities included diabetes (54%) and hypertension (76%). CPB times averaged 154.66 minutes. Phosphate levels rose sharply from POD1 (0.88 mg/dL) to POD2 (1.62 mg/dL), peaking at POD4 (1.89 mg/dL), and then declined to POD7 (1.27 mg/dL). Creatinine levels rose from POD1 (147.62 mg/dL) to POD2 (161.51 mg/dL), stabilized around POD3 (160.78 mg/dL), and declined to POD7 (123.31 mg/dL). Phosphate cut-off values were identified: 1.7 mg/dL for significant creatinine rise, 1.5 mg/dL for the onset of creatinine reduction, and 2.0 mg/dL for initiating RRT.

Conclusion

Phosphate levels change more rapidly than creatinine levels in response to renal injury and recovery, making phosphate a valuable early biomarker for renal function. The identified phosphate cut-off values serve as critical thresholds for early intervention and management of renal dysfunction.

ID 090

NETWORK META-ANALYSIS ON EFFICACY OF ONDANSETRON FOR POSTOPERATIVE VOMITING IN CHILDREN WITH STRABISMUS SURGERY WITH INCORPORATION OF DOSE EFFECT

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Background

Strabismus surgery is the most common paediatric eye surgery. The occurrence of strabismus in children is 3–5% worldwide. In children, strabismus surgery is an independent, and possibly the most significant, predictor for postoperative vomiting (POV) as indicated in the POVOC scoring system. Ondansetron is a serotonin (5-hydroxytryptamine) receptor antagonist. It is efficacious in the prevention and treatment of POV (relative risk [RR] 0.76 versus placebo). Ondansetron may be the most commonly used antiemetic in this class, given its low cost and benign side effect profile. Dose of ondansetron for children is 0.05-0.2 mg/kg IV in multiple randomised control trial since 1990s. The objective of this study is to identify the optimal dose of ondansetron and whether additives will improve the outcome of lowering postoperative vomiting.

Methods

Our team used a frequentist model for network meta-analysis regarding efficacy of ondansetron and its additives. Randomised control trials (RCT) regarding ondansetron, children population, and strabismus surgeries were identified by searching databases (EMBASE, Cochrane, Medline), registry, and non-indexed source were extracted. A total of 809 RCTs were screened by 2 investigators.

Results

Only 9 RCTs were eligible to proceed with network meta-analysis. Data was extracted from 9 RCTs, raw papers were assessed with risk of bias assessment and analysed using R studio with netmeta package. All medications were ranked based on their efficacy. The results showed RCTs from 1994 to 2001 with involvement of total 1318 children with mean age of 6.78 years old and mean weight of 21.07 kg. Forest plots showed ondansetron dose of 0.075 mg/kg till 0.2 mg/kg are suitable for children with strabismus surgery.

Conclusion

Ondansetron with 0.2 mg/kg ranked the highest in terms of efficacy for preventing POV in children who had strabismus surgery.

ORIGINAL ARTICLE ABSTRACTS

ID 006

ROLE OF PROCESSED ELECTROENCEPHALOGRAM-GUIDED ANAESTHESIA IN REDUCTION OF POSTOPERATIVE DELIRIUM

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Background

Postoperative delirium is a common complication in elderly patients undergoing surgery under general anaesthesia. Processed electroencephalogram (EEG)-guided anaesthesia may influence postoperative cognitive outcomes.

Methods

This was a single-centred randomised control trial, involving patients above 60 years old and had undergone general anaesthesia for non-cardiac surgery. Eighty patients of ASA III and below were included and randomised into two groups: Group M (n = 40) and Group E (n = 40). Group M, the control group, received anaesthesia based on end-tidal volatile anaesthetics concentration to achieve the desired Minimum Alveolar Concentration (MAC). The intervention group, Group E, had their volatile anaesthetic administration guided by processed EEG monitoring. The Confusion Assessment Method (CAM) was the diagnostic tool used for the detection of postoperative delirium.

Results

Within the study cohort, incidence of delirium was 2/80 (2.5%). Two patients from Group M manifested postoperative delirium, while no delirium was reported in Group E (P = 0.494), hence showing that processed EEG monitoring during anaesthesia had no impact on the incidence of postoperative delirium. Moreover, it did not affect intraoperative vasopressor usage, with no significant statistical difference in the usage of ephedrine (P = 0.496), phenylephrine (P = 0.068) and Noradrenaline (P = 0.116).

With processed EEG guidance, there was a greater proportion of patients requiring lower MAC < 0.8 in Group E (22.5%) versus Group M (2.5%) (P = 0.022).

Conclusions

Processed EEG-guided anaesthesia might reduce the intraoperative MAC requirement, potentially causing fewer haemodynamic disturbances and thus improving patients' recovery. But the current study did not show a reduction in postoperative delirium. This may be due to the smaller sample size and the generally lower ASA status of the patients, which might not reflect the general population accurately. Further investigation is needed to assess its effectiveness in the more vulnerable elderly populations, particularly those with higher ASA scores and cognitive impairments.

ID 009

RISK FACTORS OF DEVELOPMENT OF POST-MASTECTOMY PAIN SYNDROME (PMPS) AND ITS IMPACT ON THE PSYCHOLOGICAL SYMPTOMS IN PATIENT WITH PMPS

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Background

Post-mastectomy pain syndrome (PMPS) is a common complication following breast cancer surgery, characterized by persistent neuropathic pain.

Objective

To determine the prevalence of PMPS, identify its risk factors, and assess its impact on psychological symptoms in affected patients.

Methods

The study successfully recruited 202 patients with complete medical records. Eligibility criteria included women diagnosed with breast cancer who underwent breast surgery at PPUM in 2022, while exclusion criteria included patients who declined study consent, were unreachable, or faced communication barriers. These patients were assessed for PMPS via phone call interviews, adhering to the IASP definition. For those with PMPS, pain characteristics were documented, pain intensity was measured using the numeric rating scale (NRS), and psychological symptoms were evaluated using the Hospital Depression and Anxiety Score (HADS). Univariate and multivariate logistic regression analyses were conducted to identify PMPS risk factors.

Results

Among the 202 patients, 14 (7%) reported PMPS, with pain predominantly described as mild or moderate intensity localized in the ipsilateral breast or chest wall, often characterized as throbbing. Risk factors for PMPS encompassed younger age, increased weight, high BMI, neoadjuvant chemotherapy, sentinel lymph node biopsy (SLNB), and axillary lymph node dissection (ALND), all exhibit p-values < 0.05. Among patients with PMPS, two experienced mild depression, one experienced mild anxiety, and one experienced moderate anxiety.

Conclusion

PMPS significantly impacts patient morbidity, psychological well-being, and quality of life. Identifying potential risk factors for PMPS is crucial for implementing early multimodal and multidisciplinary approaches to prevent or alleviate this condition.

ID 014

IMMEDIATE POSTOPERATIVE COMPLICATIONS AND PATIENT'S DISPOSITION FOR PAEDIATRIC PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYMPTOMS AFTER ADENOTONSILLECTOMY: A RETROSPECTIVE REVIEW AT A TERTIARY PAEDIATRIC CENTRE FROM JANUARY 2021 TO DECEMBER 2022

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Background

Children with obstructive sleep apnoea (OSA) have higher risk for perioperative cardiorespiratory adverse events after surgery as compared to children without OSA. Many of these patients were routinely admitted to the paediatric high-dependency ward (PHDU) or paediatric intensive care unit (PICU) for overnight monitoring. This study aims to investigate the incidence of postoperative complications and patient's disposition for paediatric patients with OSA symptoms following adenotonsillectomy at a tertiary paediatric centre. With this, we aimed to assess the necessity of PHDU or PICU admission for this group of patients.

Methods

Medical records from the period of January 2021 to December 2022 of selected subjects were reviewed. Postoperative complications up to 24 hours after surgery and disposition of patients after surgery were recorded and analysed.

Results

Out of 67 patients, 25 (37%) patients were overweight or obese. Postoperative complication rates were insignificant, with 1 (1.5%) patient having desaturation and requiring airway intervention while in recovery area, 1 (1.5%) patient having asymptomatic bradycardia, and 2 (3%) patients having primary bleeding from the tonsillectomy site in the ward. There were no unplanned PHDU or PICU admissions. Postoperatively, 51 (76%) patients had extended stay in the recovery area up to 2 hours. Seen (10.4%) patients had to be observed in the post-anaesthesia care unit (PACU) with maximum duration of 240 minutes, 7 (10%) patients were discharged from recovery within 30 minutes. Two (3%) patients with severe comorbidity had planned PICU admission. All other patients were discharged to ward. Overweight or obesity is a risk factor for PACU admission ($p = 0.010$, Fisher exact test).

Conclusions

For children with OSA symptoms undergoing adenotonsillectomy, extended monitoring in the recovery area followed by monitoring in the ward is sufficient. Admission to PICU is reserved for patients with severe comorbidities.

ID 016

ACCELERATED RECOVERY FOLLOWING OPIOID-FREE ANAESTHESIA IN SUPRATENTORIAL CRANIOTOMY

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Background

Anaesthesia for craniotomy surgery focuses on maintaining cerebral perfusion, avoiding factors that may lead to increased intracranial pressure and aim for early postoperative neurological recovery. Opioid-based anaesthesia (OBA) have always been the mainstay for the standard of care. However, opioid use poses a significant number of adverse effects, such as excessive drowsiness, which impairs neurological examination.

Methods

This single blinded, prospective randomised controlled trial was carried out in University Malaya Medical Centre (UMMC) to investigate whether opioid-free anaesthesia (OFA) accelerates the recovery of patients who underwent elective craniotomies for supratentorial lesions compared to the standard OBA technique. A protocol (medications for OFA and OBA groups) was generated and used in this study. From January 1, 2023 to January 31, 2024, 25 patients were recruited and randomised into OFA and OBA groups. After exclusion, the data of 20 patients were analysed, including time taken to achieve Modified Ramsay Sedation Score of 1, sedation score at 24 hours post operation, pain score, total postoperative opioid consumption, and CONOX (qCON and qNOX), and compared between both groups.

Results

We found there was no evidence to affirm that patients who underwent supratentorial craniotomy with OFA have a better recovery or show different behaviour in depth of consciousness or response to stimuli electroencephalogram indices (qCON and qNOX) than the patients in the OBA group.

Conclusions

OFA may be concluded to be non-inferior to OBA in anaesthesia for supratentorial craniotomy. Nevertheless, larger sample size is instrumental to achieve stronger statistical significance.

ID 023

PERIOPERATIVE MORTALITY REVIEW: A PILOT CLINICAL AUDIT IN A HOSPITAL IN SELANGOR, MALAYSIA FOR THE YEAR 2023

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Background

The primary objective of this audit is to identify the perioperative mortality reporting rate, one of the six indicators for 'Global Surgery'. The secondary objective is to determine the perioperative mortality rate in our hospital. This evaluation aims to assess the quality of perioperative care and propose recommendations for improvement.

Methods

A retrospective clinical audit was conducted, encompassing all surgical, orthopaedic, gynaecological, oral maxillofacial, paediatric dental, and dental special needs patients who underwent procedures between January 1, 2023, and December 31, 2023, at our centre. Data were collected from the Virtual Perioperative Mortality Reporting (VPOMR) forms used in our centre.

Results

The audit revealed a reporting rate of 93.18% in our centre, aligning with the 'Global Surgery' target of 80% by 2020 and moving towards the goal of 100% by 2030. There was a total of 4,260 cases performed last year, approaching the surgical volume target of 5,000 procedures per 100,000 population by 2030, as set by 'Global Surgery'. The overall perioperative mortality rate was found to be 1.1%, which is comparable to studies reporting a median mortality rate of 1-2% for planned procedures. Our centre's perioperative mortality rate for planned procedures was 0.04%, whereas for emergent procedures, was 0.96%.

Conclusions

This audit demonstrated that our reporting rate is nearing the target set by “Global Surgery”. However, there is room for improvement regarding the perioperative mortality rate, which stands at approximately 1.1%. More robust audits are needed to evaluate the causes of individual cases and to identify common issues such as communication failures, delays in surgery, delays in access to critical care units, and adherence to clinical guidelines.

ID 031

A RANDOMISED CONTROLLED TRIAL TO ASSESS THE EFFICACY OF INTRAVENOUS AMBROXOL HYDROCHLORIDE AS AN ADJUNCT THERAPY FOR SEVERE PNEUMONIA IN CRITICALLY ILL PATIENTS

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Background

The efficacy of intravenous (IV) ambroxol hydrochloride as adjunct therapy for severe pneumonia in critically ill patients has not been widely studied.

Methods

A single-centre, open-label, randomised controlled trial involving 32 mechanically ventilated patients with pneumonia in the ICU were randomly assigned in a 1:1 ratio to either receive standard therapy for pneumonia (Group C) or an addition of IV ambroxol hydrochloride 30 mg thrice daily for 14 days as an adjunct to standard therapy (Group A). The primary outcome investigated was the rate of pneumonia resolution by using Clinical Pulmonary Infection Score (CPIS) and procalcitonin (PCT) assessed at day 1 (D1), day 5 (D5), and day 10 (D10). Secondary objectives were to compare the mechanical ventilation duration, length of ICU stay, ICU mortality, and incidence of reintubation within 48 hours between intervention and control groups. Patients with prolonged ICU stay (more than 10 days) and their reasons were documented.

Results

The mean CPIS was significantly lower at D5 (P = 0.01), but there was no significant difference at D10 (P=0.82) between groups. No significance difference in PCT level between D1 and D5 to D10. There are no significant differences between rate of ICU discharge, incidence of reintubation, length of mechanical ventilation, and ICU stay, as well as mortality between groups. Group A had 50% of patients with prolonged ICU stays versus Group C with 75% (P = 0.14), and new nosocomial infections was the reason (Group A, 62.5% vs Group C, 41.7%).

Conclusions

IV ambroxol is an effective adjunct to standard therapy for earlier resolution of pneumonia but does not confer protection against new nosocomial infection.

ID 033

SURVEY ON WORK-LIFE BALANCE AND WELL-BEING AMONG MALAYSIAN ANAESTHESIOLOGISTS

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Background

This study investigates work-life balance and its impact on the well-being of Malaysian anaesthesiologists (n = 498).

Methods

A cross-sectional survey explored stress management, prioritization of personal time, and challenges due to work demands.

Results

While over half (51.7%, combining “very happy” and “happy”) reported positive well-being, nearly half (45.9%) expressed concerns. Family time (88%) emerged as the top stress management strategy, highlighting the importance of social connection. Self-care activities such as hobbies (66%) and sleep (57.8%) were common, but professional help like therapy remained underutilised (3.4%).

Balancing Work and Life: Despite a near-even split in prioritizing work-life balance (48.4%) and salary (51.6%), both were valuable. Over half (53.7%) reported work-life balance challenges due to parental responsibilities. The vast majority (83.5%) overwhelmingly prioritised personal and family time, suggesting a desire for stronger social connections.

Health and Vacations: Marriage was the most common relationship status (69.7%) with mostly positive experiences (61.2%). Nearly two-thirds (67.9%) exercised less than recommended. A striking disconnection emerged between perceived vacation importance (78.5% considered crucial) and actual vacation time taken (most took 1-2 weeks annually despite a leave allowance of 25-35 days).

Social Connection and Self-Care for Well-being: The findings suggest that strengthening social connections beyond work and prioritizing comprehensive self-care, including professional help where needed, could be crucial for improving well-being among Malaysian anaesthesiologists.

Conclusion

This study sheds light on the complex interplay between work-life balance, self-care strategies, and well-being among Malaysian anaesthesiologists that can directly guide the development of interventions and support systems in the anaesthesiology department, ultimately fostering a more satisfied and resilient workforce, which can lead to improved patient care.

ID 040

THE RELATIONSHIP BETWEEN SEQUENTIAL SERUM MAST CELL TRYPTASE LEVELS AND THE SEVERITY OF ANAPHYLAXIS AMONG PATIENTS WITH PERIOPERATIVE ANAPHYLAXIS IN MALAYSIA

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Background

Perioperative anaphylaxis is a rare but potentially life-threatening complication that can occur during surgery and anaesthesia. Previous studies suggested that elevated mast cell tryptase (MCT) levels are highly suggestive of anaphylaxis, but studies in Southeast Asia were limited. Our study aimed to identify the relationship between sequential serum MCT levels and the severity of perioperative anaphylaxis.

Methods

A retrospective review was conducted on patients (≥ 18 years old) referred for suspected perioperative anaphylaxis to the anaesthetic allergy clinic Hospital Kuala Lumpur in 2014-2022. Data on serum MCT levels at 1 hour (T1), 4 hours (T4), and 24 hours (T24) post-anaphylaxis, the severity of anaphylaxis (grade 1-4), and the skin test results were analysed.

Results

There were 104 (48.1%) out of 216 patients who had MCT sent, and 41 (39.4%) showed tryptase positivity (≥ [1.2 × baseline + 2] µg/L). Serum MCT levels at T1 were significantly higher in the grade 3 (life-threatening) group [6.46 (8.75) ug/L] compared to grade 1 (mild) [2.50 (1.83) ug/L] ($p = 0.001$) and grade 2 (moderate) [2.23 (3.25) ug/L] ($p = 0.014$) groups. Serum MCT levels at T4 were also significantly higher in the grade 3 group [6.01 (9.37) ug/L] compared to the grade 1 group [2.60 (0.6) ug/L], $p = 0.043$. Tryptase positivity was significantly associated with a higher grade of anaphylaxis, $p < 0.001$. Moreover, 95.1% (39/41) of tryptase-positive cases had a positive skin test, significantly higher than 48.3% (29/60) in tryptase-negative group ($p < 0.001$).

Conclusions

This study highlights the usefulness of sequential serum MCT levels in diagnosing anaphylaxis and complementing skin tests in identifying the causative agents.

ID045

THE EFFECTS OF PREOPERATIVE MENTAL STATE ON POSTOPERATIVE RECOVERY IN ARTHROPLASTY SURGERIES

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Background

Preoperative mental state may affect postoperative recovery. We aimed to investigate the effect of preoperative anxiety and depression on quality of postoperative recovery.

Methods

This was a prospective study that included patients who were aged 18 and above planned for elective arthroplasty surgery. We used validated questionnaires. The Hospital Anxiety and Depression Scale (HADS) questionnaires were completed preoperatively to assess level of anxiety and depression. A HADS score between 11 to 21 indicates significant presence of either anxiety or depression, while score from 8 to 10 is borderline. The Quality of Recovery (QoR-40) questionnaires were completed 24 hours after surgery to assess the quality of postoperative recovery across five dimensions: physical comfort, emotional state, physical independence, psychological support, and pain management with each dimension having 12, 9, 5, 7, and 7 items respectively. Data analyses were performed to determine prevalence and associations between preoperative mental state and quality of postoperative recovery. P values ≤ 0.05 were considered significant.

Results

We had 52 respondents who were mainly females (65.4%) and above 35 years old (94.2%) with previous history of surgery (59.6 %). The HADS questionnaire detected borderline anxiety in 4 (7.7%) of the respondents whereas only 1 (1.9%) respondent had anxiety. None of the respondents suffered preoperative depression. The postoperative QoR-40 scores revealed median scores for physical comfort was 53.50 ± 5.75,

emotional state was 42.5 ± 4.75, physical independence was 20.5 ± 5.75, psychological support was 35.00 ± 2.75 and pain was 32.0 ± 3.00. Median total score was 181.50 ± 13.75. There was no correlation between the level of preoperative anxiety ($r = 0.089$, $p = 0.753$) or depression ($r = 0.161$, $p = 0.066$) and quality of postoperative recovery detected.

Conclusion

In our study, patients that underwent elective arthroplasty, preoperative mental state did not affect the quality of postoperative recovery.

ID 052

COMPARISON OF EFFECTIVENESS BETWEEN USING THE RAPID INTUBATION PILLOW AND RAMPING DURING INDUCTION OF GENERAL ANAESTHESIA AMONG OBESE PATIENTS IN HOSPITAL PAKAR SULTANAH FATIMAH, MUAR: A PROSPECTIVE RANDOMISED STUDY

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Background

Obesity presents challenges in anaesthesia due to increased perioperative risks, including difficult tracheal intubation. Proper positioning of obese patients is crucial to mitigate these risks. This study compares the efficacy of rapid intubation pillow (RIP) with ramping using blankets during anaesthesia induction in obese patients.

Methods

Conducted at Hospital Pakar Sultanah Fatimah (HPSF), Muar, this prospective, randomised trial recruited 77 patients. Written consent was obtained and patients were randomised into RIP or blankets groups using lot drawing method. Pre-oxygenation with 100% oxygen was followed by induction. Laryngoscopy was performed, the best view obtained during laryngoscopy was graded by the anaesthetist based on Comack-Lehane classification, and intubation attempts were noted. Time to secure the airway (time interval between loss of consciousness and detection of CO2 on the end tidal capnograph monitor) and vital sign were documented.

Results

Factors such as gender, race, age, BMI, neck circumference, thyromental distance, Mallampati score, and doctors' duration of experience in intubation were found not significantly associated with the time needed to secure the airway. No significant differences were found in intubation time, first attempt success rate, or laryngeal view improvement between RIP (39 patients) and blanket (38 patients) groups. However, a significant association was noted between obese patients with dyslipidaemia with airway securing time ($P = 0.020$).

Conclusion

The ramped position with the head elevation above the shoulders has significantly lower the incidence of difficult laryngoscopy. It is usually recommended for intubating morbidly obese patients and those with difficult intubation features. Both RIP and blanket methods yielded similar outcomes in intubation time, attempts and laryngeal view improvement. RIP pillow can be a time-saving alternative for intubation preparation in obese patients.

ID 057

DIFFICULT LARYNGOSCOPY PREDICTION: COMPARING MANDIBULAR PROTRUSION TEST WITH NECK CIRCUMFERENCE AND MALLAMPATI TEST

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Background

Mallampati test (MT) and neck circumference (NC) are often used as predictors for difficult laryngoscopy. Mandibular protrusion test (MPT) assessing the mandibular mobility is a lesser used test for this prediction. This study aimed to assess whether MPT alone or in combination with MT and NC are equivalent or more superior in predicting the difficult laryngoscopy.

Methods

This prospective single-blinded cross-sectional study recruited a total of 168 adult patients, scheduled for elective surgery which required laryngoscopy. Patients with NC more than 40 cm, MPT with Grade C and MT of either Grades 3 or 4 were considered as predictors of difficult laryngoscopy. Difficult laryngoscopy was defined as Cormack-Lehane grading of 3 or 4 during the first view of laryngoscopy using C-MAC video laryngoscope without cricoid pressure.

Results

Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated for all 3 airway assessments either as individual test or in combination with each other. By themselves, MPT had the best predictive values with a sensitivity, specificity, PPV and NPV of 100.0%, 99.3%, 94.4% and 100.0%, respectively. When MPT was combined with MT or NC, the sensitivity and NPV were maintained at 100%, with minimal changes of specificity and reduction of PPV to 73.9% (MPT + MT) and 70.8% (MPT + NC). The sensitivity, specificity, PPV, and NPV were 100.0%, 92.5%, 58.6%, and 100.0%, respectively, when all 3 predictors were combined.

Conclusion

Mandibular protrusion test had the highest sensitivity and NPV in term of individual or combination airway assessment and should be added in the routine preoperative airway assessment to predict difficult laryngoscopy.

ID 061

ANAESTHESIA CLINIC DIGITAL HYBRID REFERRAL SYSTEM IN A NON-IT BASED HOSPITAL: A PRELIMINARY REPORT

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Background

A digital hybrid referral system was developed to improve the efficiency of the Anaesthesia Clinic at Tengku Ampuan Rahimah Hospital (HTAR), a non-IT based hospital. Current referral system requires a written form followed by screening of supporting documents via phone call and then the pre-anaesthetic assessment is performed on the same day with a copy of the anaesthetic record form stored in the clinic. This system resulted in long waiting times, repeat visits due to incomplete clinical information and delayed referrals to other specialties.

Methods

An online portal was developed using a government-approved cloud-based platform, Google Workspace. Additionally, the hybrid digital system utilises scanning-capable photocopy machines and hospital servers for data storage. Patients referred electronically are provided scheduled appointments and the anaesthetic records are digitally stored after the assessments. However, as per regulation in a non-IT based hospital, all physical forms and anaesthetic records are maintained. A cross-sectional observational study was then carried out by extracting data from the clinic registry between January 2024 and May 2024 involving patient waiting time duration, consultation time duration, and frequency of visits. During this period, referrals were accepted using both systems with the digital hybrid referral system implemented in stages.

Results

A total of 1694 patients were assessed in the clinic with 390 of these patients referred online. Patients referred online had significantly shorter waiting time duration, mean (standard deviation): 16 mins (17 mins) vs. 19 mins (21 mins), $P = 0.015$. Consultation time duration was longer with patients referred electronically, mean (standard deviation): 23 mins (16 mins) vs. 21 mins (17 mins), $P = 0.048$. The incidence of repeat visits was lower in patients referred online (3.9% vs. 5.5%).

Conclusion

Preliminary data revealed a shorter waiting time duration and reduced repeat visits with this newly developed digital hybrid referral system.

ID 072

OUTCOMES IN CRITICALLY ILL COVID-19 PATIENTS WITH HOSPITAL-ACQUIRED INFECTIONS AT A TERTIARY TEACHING HOSPITAL

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Background

This study aimed to assess the impact of hospital-acquired infections (HAIs) on the outcomes of critically ill COVID-19 patients in our institution.

Methods

This retrospective cohort study reviewed medical records of patients admitted to the COVID-19 ICU from year 2020 to 2022. Records with inadequate data were excluded. Chi square tests and simple logistic regression analyses identified factors that were associated with hospital-acquired pneumonia (HAP), ventilator-associated pneumonia (VAP), urinary tract infection (UTI), catheter-related bloodstream infection (CRBSI), surgical site infection (SSI), and bloodstream infection (BSI) among patients who developed HAIs. Factors explored included demographic characteristics, types of oxygen deliveries, steroids used and renal replacement modalities, dosages of intravenous (IV) vitamin C and immunomodulators, isolated microorganisms, and prescribed antimicrobials. P values ≤ 0.05 were considered significant.

Results

We recruited 368 patients. The most common HAIs were HAP/VAP, which occurred in 255 patients (69.3%) and the least common was BSI (0.8%). For every year increase in age, the likelihood of developing HAP/VAP decreased by 0.02% ($p = 0.001$). White cell counts at the onset of HAIs were significantly higher than at ICU admission ($p = 0.010$) and decreased significantly when HAIs resolved ($p < 0.001$). Patients who received IV hydrocortisone were 64% less likely to develop HAP/VAP but 2.92 times (95% CI 1.20–7.11) more likely to develop CRBSI compared to those who received IV methylprednisolone ($p = 0.018$). Patients who developed UTI (28.1%) and CRBSI (28.8%) had underwent sustained low-efficiency dialysis ($p < 0.001$). Those patients that developed UTI used high-flow nasal cannulas ($p < 0.001$). All patients who devel-

oped BSI died (p = 0.022). Patients with CRBSI stayed appeoximately a week longer in the ICU and on mechanical ventilation compared to those with HAP.

Conclusion

The types of HAIs influenced the mortality and morbidity of the critically ill COVID-19 patients in our institution.

ID 079

IDENTIFYING GAPS AND LIMITATIONS AFFECTING DECISION-TO-DELIVERY INTERVAL OF CATEGORY-1 EMERGENCY CAESAREAN SECTIONS IN AN URBAN UNIVERSITY TEACHING HOSPITAL

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Background

Caesarean sections (CS) are rising in Malaysia. Delay in category-1 CS delivery can lead to severe long-term disability such as cerebral palsy. According to NICE guidelines (2021), category-1 Caesarean birth should be performed within 30 minutes after decision making.

Objectives

To determine if decision-to-delivery interval (DDI) ≤ 30 minutes is met for category-1 emergency CS, and to identify the factors affecting DDI, including maternal demographics and medical diseases, pathology during pregnancy, CS indication, decision time (office hours vs out-of-office hours), patient's location at decision time, preoperative stabilisation need, consent delay, OR availability, transfer time, anaesthesia mode, and surgeon status.

Methods

A retrospective study was conducted at University Malaya Medical Centre, Kuala Lumpur from January to December 2022, involving patients who underwent category-1 emergency CS. Patient data were retrieved from hospital records and analysed using SPSS version29, with statistical significance set at $p < 0.05$.

Results

A total of 167 CSs were studied. DDI ≤ 30 minutes was achieved in 67.7% of cases, with a median (IQR) time of 26 (18-33) minutes. Factors significantly affecting DDI included previous CS history (median 31 min, IQR 25-41, $p = 0.01$); indication of category-1 CS ($p < 0.01$) with cord prolapse had the shortest DDI (10 min, 9-23 min) and longest DDI in antepartum haemorrhage with maternal hypovolaemia (43 min, 33-53 min); transfer time >15 minutes (43 min, 37-43 min, $p < 0.01$), anaesthesia mode ($p = 0.001$) with shortest DDI in primary GA (18 min, 14-25), followed by epidural top-up

(25, 18-31 min), epidural converted to GA (26, 18-30 min), subarachnoid block (29, 25-37.5 min) and longest DDI being subarachnoid block converted to GA (31, 29.5-35.5 min).

Conclusion

The 30-minute DDI target was not met for all patients, emphasising the need for guidelines or protocols to mitigate delays. Suggestions include interdisciplinary discussions to optimize transfer time, personnel allocation, and planning to minimise delays in anaesthesia and surgery time, ensuring readiness for immediate emergency action.

ID 083

CORRELATION BETWEEN THE PERCENTAGE OF PLACENTA ACCRETA INDEX SCORE ASSESSMENT AND THE AMOUNT OF BLEEDING IN PATIENTS DIAGNOSED WITH PLACENTA ACCRETA WHO UNDERWENT CAESAREAN SECTION

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Background

This study examines the correlation between the placenta accreta index (PAI) score percentage and the volume of intraoperative bleeding in patients diagnosed with placenta accreta undergoing Caesarean section.

Methods

A retrospective analysis was conducted on 165 patients with confirmed placenta accreta who underwent Caesarean section between 2019 and 2023. The PAI score, expressed as a percentage, incorporates clinical risk factors and imaging findings, with higher scores indicating more severe placental invasion. The primary outcome was the amount of intraoperative blood loss. Correlation analyses using Pearson method were used to evaluate the correlation between the PAI score percentage and bleeding volume.

Results

The PAI score percentages ranged from 10% to 96%, with a median of 69%. There was a significant positive correlation between PAI score percentage and intraoperative blood loss ($r = 0.563$, $p < 0.001$). Patients with PAI scores ≥ 75% had an average blood loss of 5000 mL (range: 3000-6250 mL) compared to 2850 mL (Range: 2300-5500 mL) in those with scores < 50%. Correlation analyses using Pearson method confirmed that higher PAI percentages were strongly associated with increased bleeding ($r = 0.563$, $p < 0.001$), independent of patient age, parity, and number of previous Caesarean sections.

Conclusion

The PAI score percentage is a robust predictor of intraoperative bleeding volume in patients with placenta accreta undergoing Caesarean section. Higher PAI percentages correlate with greater blood loss, highlighting the importance of PAI assessment for risk stratification and surgical planning to mitigate haemorrhagic complications.

ID 089

RISK FACTORS FOR PHEOCHROMOCYTOMA SURGERY-RELATED HAEMODYNAMIC INSTABILITY: A SINGLE-CENTRE RETROSPECTIVE OBSERVATIONAL STUDY

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Background

Pheochromocytoma, a rare catecholamine-secreting tumour primarily found in the adrenal glands, poses significant perioperative risks. Surgical resection, the definitive treatment, can be complicated by acute hemodynamic fluctuations induced by catecholamine release. The aim of this study was to identify preoperative risk factors that could affect hemodynamic stability during pheochromocytoma surgery and determining postoperative complications.

Methods

This retrospective observational study at Putrajaya Hospital, Malaysia, investigated adult patients who underwent pheochromocytoma surgery between 2011 and 2021. Paediatric patients were excluded due to differing hemodynamic parameters. The sample size totalled 56 patients. Data was collected from the hospital's electronic medical records. A stepwise multiple linear regression statistical method was applied to measure key outcomes, which included the magnitude of haemodynamic instability and maximum dose requirements of vasopressors and vasodilators used perioperatively that were determined by using the validated HI-score. The incidence of postoperative problems was also assessed.

Results

Tumour size ($P = 0.032$) was the only significant preoperative risk factor showing positive collinearity with haemodynamic instability. There was also a linear positive relationship for intraoperative factors between proportion of SBP >160 ($p < 0.001$), minimum MAP ($p = 0.003$), total duration of MAP < 60 ($p = 0.001$) during anaesthesia ($R^2 = 0.597$), and magnitude of haemodynamic instability after adjustment for other variables. The incidence for significant postoperative problems in the ICU showed requirement for blood transfusions from bleeding was 33.9%, followed by postoperative hypotension (0-5 hours) at 19.6%, followed by length of ICU stay > 24 hours at 17.85%. Pulmonary complications had an incidence of 7.14% followed by AKI at

5.36%. Cardiovascular complications had a low incidence of 1.78%. There were no thromboembolic events nor mortalities recorded in this cohort of patients.

Conclusion

The magnitude of haemodynamic instability during pheochromocytoma surgery directly correlates with tumour size, proportion of SBP > 160 mmHg, minimum MAP, and total duration of MAP < 60 mmHg during anaesthesia, with risk factors of surgical approach, preoperative BP and HR, as well as preoperative metanephrine and normetanephrine levels.

ID 091

POINT-OF-CARE ECHOCARDIOGRAPHY FOR NON-CARDIAC SURGERY: A SCOPING REVIEW

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Background

Managing emergency cases involving elderly patients with underlying cardiac disease is a challenge that should be taken seriously. It is estimated around 200 million adults will undergo major non-cardiac surgery in a year with vascular complications affecting several millions of patients within the first 30 postoperative days.

Methods

A comprehensive literature search was done on Medline, Scopus and UTAR libraries. The following search terms were used, “echocardiography” AND “non-cardiac surgery”. Studies with cardiac assessment performed using either transthoracic or transesophageal echocardiography on the day of the surgery were eligible. The studies that were selected also included elective or emergency non-cardiac surgery. Narrative synthesis of extracted data was performed to ascertain the effectiveness of performing point-of-care echocardiography for non-cardiac surgery.

Results

A total of 654 studies were screened with 8 studies identified; 1 study protocol and 4 duplicates were removed. There were 3 studies which met the inclusion criteria for this scoping review. One study showed a 67% change in cardiac diagnosis, another showed a 75% greater influence on emergency surgeries, and the last study showed a significant save in waiting time $p < 0.001$.

Conclusion

Point-of-care ultrasound provides a simple platform for anaesthesiologists to screen high-risk emergency cases before deciding the level of monitoring and most suitable mode of anaesthesia. Although there are only limited studies available to support the advantages of point-of-care echocardiography, expanding the knowledge with proper training will greatly enhance patient safety.

ID 092

NETWORK META-ANALYSIS ON EFFICACY OF ONDANSETRON OF POSTOPERATIVE VOMITING IN CHILDREN WITH ADENOTONSILLECTOMY SURGERY WITH INCORPORATION OF DOSE EFFECT

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Background

Adenotonsillectomy in paediatric population is common and can be done under day-care centre or as in-patient services. Incidence of postoperative nausea and vomiting (PONV) is as high as 50-70%, which is the 2nd highest incidence after strabismus surgery. PONV is a distressing post-anaesthetic issue that is often rated as the worst after postoperative pain. Ondansetron is a serotonin (5-hydroxytryptamine) receptor antagonist. It is efficacious in the prevention and treatment of PONV (relative risk [RR] 0.76 versus placebo). Ondansetron may be the most commonly used antiemetic in this class, given its low cost and benign side effect profile. Recommended dose of ondansetron for children is 0.1-0.15 mg/kg IV. The objective of this study is to identify the optimal dose of ondansetron and whether additives will improve the outcome of lowering post op vomiting.

Methods

Our team use a frequentist model for network meta-analysis regarding efficacy of ondansetron and its additives. Randomised control trials (RCT) regarding ondansetron, children population and adenotonsillectomy surgeries were identified through searching databases (EMBASE, Cochrane, Medline), registry, and non-indexed sources were extracted. A total of 809 RCT were screened by 2 investigators.

Results

Only 11 RCTs were eligible to proceed with network meta-analysis. Data was extracted from 11 RCTs, raw papers were assessed with risk of bias assessment and analysed using R studio with netmeta package. All medications were ranked based on their efficacy. The results show RCTs from 1994 to 2017, with involvement of total 2344 children, with mean age of 5.79 years, and mean weight of 22.9 kg. Forest plots showed ondansetron dose of 0.1 mg/kg to 0.15 mg/kg was the only intervention that did not cross the line of null effect.

Conclusion

Ondansetron 0.15 mg/kg ranked the highest in terms of efficacy for pharmacological method preventing postoperative vomiting in children who had adenotonsillectomy surgery. Incidentally, we found that transcutaneous electrical acupoint stimulation outranked ondansetron in our analysis.

ID 095

ANAESTHETIC APPROACHES AND TWO-YEAR RECURRENCE RATES IN NON-MUSCLE INVASIVE BLADDER CANCER: A PROSPECTIVE RANDOMISED PHASE II STUDY

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Background

The impact of anaesthesia on non-muscle invasive bladder cancer (NMIBC) recurrence remains uncertain. This study was performed to compare the oncological outcomes of spinal anaesthesia (SA) and general anaesthesia (GA) in NMIBC patients.

Methods

All patients underwent transurethral resection of bladder tumour (TURBT). In the SA group, intrathecal hyperbaric 0.5% bupivacaine was administered. In the GA group, 1-2 mg/kg propofol and 50-100 mcg fentanyl were used as induction agents, and desflurane or sevoflurane was used for anaesthesia maintenance. The primary outcome was the 2-year recurrence-free survival (RFS).

Results

Out of 289 patients, 96 patients dropped out, leaving 191 eligible for analysis. In terms of American Urological Association (AUA) risk group, 16.2%, 36.1%, and 47.7% of patients were classified into low, intermediate, and high-risk groups, respectively. On multivariate Cox regression analysis, AUA high risk (HR 2.99, $p = 0.003$) and BCG instillation (HR 0.354, $p = 0.005$) were significantly associated with disease recurrence, while SA (HR 0.696, $p = 0.184$) was not associated. Kaplan-Meier curve analysis showed no significant difference between the SA group and GA groups in the entire cohort. However, in the high-risk group (n = 91), SA was an independent risk factor for RFS (HR 0.438, $p = 0.034$). Kaplan-Meier curve analysis for this group revealed significantly longer RFS in the SA group compared to the GA group (log rank $p = 0.022$), with a 2-year recurrence rate showing 22.2% in SA group, and 45.7% in GA group.

Conclusions

We found no association between type of anaesthesia used and the long-term prognosis of bladder cancer. However, SA should be considered more as an anaesthetic approach in high-risk groups.

ID 096

RETROSPECTIVE OBSERVATIONAL STUDY OF INTRAOPERATIVE FLUID MANAGEMENT PRACTICE IN ADULTS UNDERGOING ELECTIVE CANCER SURGERY

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Background

Fluid management has a significant impact on perioperative outcomes. Both liberal and restrictive protocols may be associated with complications. Cancer surgery is associated with higher incidence of fluid shifts and haemodynamic instability.

Aims

We conducted this retrospective observational study to understand our practice intraoperative fluid management practice in elective cancer surgery and its association with postoperative complications.

Methods

This retrospective observational study was conducted in 456 adult patients undergoing elective cancer surgery in a tertiary care cancer centre in India over a period of 2 months after ethics committee approval. Patients with intraoperative blood loss more than 1 litre were excluded.

Results

In the 456 patients included in the study, Ringers lactate solution was used in all but one patient. Gelatine, albumin, and packed blood cells were used in 25 (5.5%), 7 (1.5%), and 4 (0.8%), patients respectively. Of the patients undergoing gastrointestinal surgery, 42% received 4-8 ml/kg and 41% received 8-12 ml/kg IV fluid, whereas 25% and 54% of patients undergoing thoracic surgery received 0-4 ml/kg and 4-8 ml/kg IV fluid, respectively. Postoperative complications were observed in 5.6%, 5.0%, 6.7%, and 8.3% percent of patients who received fluids < 4, 4-8, 8-12, and 12-16 ml/kg (ideal body weight) fluid, respectively. Most patients had fluid administered at the rate of 4-8 ml/kg ideal body weight followed by 8-12 ml/kg ideal body weight. Though our findings suggested higher postoperative morbidity with higher intraop-

erative fluid administration, we could not statistically confirm the association in our sample.

Conclusion

The practice of fluid administration in our institute was mostly moderate, with Ringers lactate solution being the crystalloid of choice. Complications were least in patients receiving 4-8 ml/kg IV fluids. Colloids were used sparingly, with gelatines being most commonly used colloid.

E-POSTER (CASE REPORT OR SERIES) PRESENTATIONS

ID 021

RE-EXPANSION PULMONARY OEDEMA: UNCOMMON COMPLICATION IN COMMON PROCEDURE

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Introduction

Re-expansion pulmonary oedema (RPE) is a rare (< 1%, but up to 14% in some case series) but potentially lethal complication (mortality up to 20%) that occurs after rapid removal of air or fluid from the pleural cavity. We reported a case of RPE in a young patient with pleural effusion following thoracocentesis.

Case description

A 30 kg, 27-year-old woman with diabetes mellitus was admitted to the intensive care unit (ICU) after undergoing an exploratory laparotomy for a perforated gastric ulcer. During her ICU stay, she developed hospital-acquired pneumonia (HAP) complicated with moderate pleural effusion. Consequently, she underwent thoracocentesis, which drained 500 ml of fluid. Approximately 1.5 hours post-drainage, she developed severe desaturation and required high ventilator. Hence, a diagnosis of RPE was considered and frusemide challenge given. Oxygenation remained poor and we decided for prone ventilation for 12 hours. Following prone ventilation, the patient demonstrated improvement and was weaned from oxygenation support. She was subsequently discharged from the ICU care.

Learning point

The clinical presentation of RPE encompasses a spectrum ranging from minimal manifestations to potentially life-threatening hypoxia. Symptoms typically appear within the first 2 hours after pulmonary re-expansion, but may be delayed by 24

hours. Risk factors include diabetes, young age, and rapid lung expansion with the drainage of large volumes of pleural fluid. However, our case study reported RPE can still result from low-volume drainage. As a precaution, it is advisable to limit the drainage to 10 ml/kg for the initial first hour of thoracocentesis and repeat the process, if necessary, after an hour.

Conclusion

This case report highlights the risks and uncommon fatal complication of a commonly performed medical procedure. Maintaining a high index of suspicion for RPE is crucial in clinical practice.

ID 030

ANAESTHETIC MANAGEMENT IN PATIENTS WITH POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME: TWO CASE REPORTS

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Introduction

Posterior reversible encephalopathy syndrome (PRES) is a neurological syndrome associated with several conditions including pre-eclampsia, eclampsia, and renal failure. Scarce literature recommends information on how patients with PRES should be approached by anaesthesiologists. We report 2 cases encountered last year.

Case description

The first case involved a 26-year-old primigravida at 36-weeks' gestation who experienced a witnessed generalised seizure at home, spontaneously resolving after 5 minutes. Upon arrival at the casualty department, her Glasgow Coma Scale (GCS) was intact, without postictal drowsiness or headache. With a history suggestive of eclamptic fit and a CT brain scan revealing no cerebral oedema, she underwent an elective Caesarean section under spinal anaesthesia. Following a successful delivery with good Apgar scores, she experienced another seizure 6 minutes later, necessitating intubation. Rapid sequence induction was performed without complications, and the patient was ventilated in the Intensive Care Unit postoperatively. A subsequent CT brain scan confirmed bilateral occipito-parietal hypodensities consistent with PRES. The patient was extubated on postoperative day 2 and discharged home after a week without neurological sequelae.

The second case involved a 29-year-old primigravida at 28-weeks' gestation presenting with headache and giddiness, diagnosed with pre-eclampsia. A CT brain scan revealed occipital hypodensities consistent with PRES and no cerebral oedema. Following counselling by the obstetric team, she consented to Caesarean section under spinal anaesthesia. The procedure was uneventful, and the patient was monitored in the High Dependency Unit postoperatively, discharged in good condition after a 5-day hospital stay.

Conclusion

Neuraxial anaesthesia can be considered in the management of patients with PRES undergoing Caesarean section.

ID 035

FIRST CONFIRMED MALIGNANT HYPERTHERMIA SUSCEPTIBILITY IN MALAYSIA VIA NEXT-GENERATION SEQUENCING ANALYSIS

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Introduction

Malignant hyperthermia (MH) is a life-threatening rare anaesthetic emergency. It is an inherited pharmacogenetic disorder that causes dysregulation of calcium release in skeletal muscle on exposure to all volatile agents and suxamethonium. Despite multiple case reports of suspected MH cases in Malaysia, there has been no confirmatory testing available in Malaysia.

Case description

A case of a 19-year-old patient suspected to have malignant hyperthermia reaction during emergency laparoscopic surgery had been reported to Anaesthesia Department, HKL. Based on the clinical presentation and available blood investigations, patient had Larach Clinical Grading Scale of MH Rank 5. Patient and parents were contacted and seen in the Anaesthesia Clinic HKL. After obtaining consent from the patient, a 10 ml blood sample was taken and sent to Genetic Lab Hospital Tunku Azizah for DNA extraction. Permit was applied from PKD Titiwangsa via BLESS portal for sending the DNA sample to the National Taiwan University Hospital (NTUH) Genetic Department for diagnostic testing of MH via next-generation sequencing (NGS). Patient is confirmed to be MH-susceptible with pathogenic variant detected in *RYR1* gene.

Conclusion

DNA testing using NGS is now a viable pathway for confirmative diagnosis of MH in regions where in-vitro caffeine halothane contracture test is unavailable. This method is less invasive and more cost effective than the classical diagnostic pathway. It is also now a recommended pathway for testing of probands of suspected MH cases. Currently, the HKL Department of Anaesthesia has embarked on a pilot study to identify the genetic landscape of malignant hyperthermia in Malaysia in collaboration with the Institute of Medical Research.

ID 051

DISSEMINATED VARICELLA ZOSTER INFECTION WITH ACUTE ENCEPHALITIS IN A YOUNG IMMUNOCOMPETENT PATIENT: A CASE REPORT

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Introduction

Varicella zoster virus (VZV) infection can manifest in different forms: Varicella infection, herpes zoster and severe disseminated disease (encephalitis, pneumonitis, hepatitis). Varicella zoster encephalitis is rare with incidence of 0.01-0.1% and mortality risk of 5-15% (up to 80% in immunocompromised patients). We report a rare but life-threatening case of a young immunocompetent patient with disseminated VZV infection.

Case description

A 31-year-old immunocompetent patient with no c-morbidities presented with altered mental status for 1 day associated with fever and generalised vesicular rashes for 5 days. No prior history of varicella infection or vaccination. In the Emergency Department (ED), she had generalised tonic clonic seizure for 1 minute which aborted spontaneously. She was intubated for poor GCS score. CT brain was normal. Lumbar puncture opening pressure was high at 45 cmH_2O. CSF fluid PCR revealed positive VZV. She was started on intravenous acyclovir from ED and successfully extubated after 2 days in full mental status and transferred to isolation ward for completion of 14 days of acyclovir. She was subsequently discharged home well with no neurological deficit.

Learning points

The common risk factors for disseminated VZV infection are immunocompromised state and elderly, which were not present in this patient. Recent evidence has shown a link between immunocompetent individuals with mutations in genes coding for RNA polymerase III and severe VZV infection in the CNS. A rare missense mutation in genes (POLR3A, POLR3C, or both) coding for RNA polymerase III can cause an impaired induction of interferons leading to decreased antiviral and inflammatory responses.

Conclusion

Recent evidence has shown gene mutations in immunocompetent patients to be a predisposing factor to disseminated VZV infection. However, due to its rare incidence and small sample size, we suggest conducting further epidemiological studies to establish this as a risk factor.

ID 088

MATERNAL EXTRACORPOREAL MEMBRANE OXYGENATION IN THE SETTING OF MALIGNANT CENTRAL AIRWAY OBSTRUCTION

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Introduction

Maintaining adequate gas exchange is a challenge in the setting of critical central airway obstruction. Initiating extracorporeal membrane oxygenation (ECMO) support in parturients poses several considerations and challenges not only to the mother but also the potential impact on the fetus. While ECMO has been safely performed on pregnant women in other parts of the world, to our knowledge, this represents the first successful ECMO case on a parturient in Malaysia.

Case description

A 26-year-old lady at 27-weeks' gestation presented with prolonged cough, dyspnoea, and weight loss. Contrast-enhanced CT of the thorax showed a large mediastinal mass causing airway narrowing from T2 to T5 level with the narrowest diameter at T2-T3 level measuring 2 mm in diameter. A multidisciplinary team formulated a management strategy: veno-venous ECMO (VV-ECMO) was utilised as a tool to ensure sufficient gas exchange while interventional airway therapy was performed. Bilateral femoral veins were cannulated under monitored anaesthesia care and placement of the cannulas was verified using transthoracic echocardiography. VV-ECMO was initiated, and adequate oxygenation and utero-placental perfusion were maintained throughout the procedure. Airway stenting was successfully performed and an endotracheal tube was placed at the end of the procedure. Weighing the risk and benefits of thrombosis and obstetric haemorrhages, unfractionated heparin was infused, targeting a lower value of activated clotting time (ACT) of 160 seconds. Regular antenatal transabdominal ultrasonography and foetal heart monitoring were performed for early detection of fetal compromise. VV-ECMO was successfully terminated after 48 hours.

Learning point

VV-ECMO may be utilised as life-saving procedure in a parturient with critical central airway obstruction.

Conclusion

VV-ECMO may be utilised as life-saving procedure in a parturient with critical central airway obstruction without compromising mother and foetus. A lower ACT target may be employed to reduce haemorrhagic complications.

ID 097

EARLY VENO-VENOUS EXTRACORPOREAL MEMBRANE OXYGENATION IN CENTRAL AIRWAY OBSTRUCTION CAUSED BY CHEST TUMORS: A CASE REPORT

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Introduction

Early veno-venous extracorporeal membrane oxygenation (VV-ECMO) may be considered in severe central airway obstruction, as it provides satisfactory gas exchange and can be initiated with the patient awake, before anaesthesia induction.

Case description

A 64-year-old man presented with dyspnoea requiring non-invasive ventilation. Contrast-enhanced computed tomography thorax showed a superior mediastinum mass (5.7 x 8.1 x 9.6 cm) causing mass effect from C5 to T5 vertebrae level displacing and compressing the intrathoracic trachea with narrowest measuring 1.2 mm. Securing the airway and maintaining gas exchange presented a challenge. Multidisciplinary discussion was held between the respiratory, cardiothoracic surgery, and cardiothoracic anaesthesia teams. VV-ECMO was initiated through bilateral femoral vein cannulation under monitored anaesthesia in semi-recumbent position. The placement of both cannulas was confirmed using bedside transthoracic echocardiography (TTE). Induction of anaesthesia was achieved using TCI propofol and remifentanil once VV-ECMO achieved adequate flow rate. Tracheal intubation was successful however, ventilation was inadequate. The respiratory team proceeded with airway stenting. Patient desaturated during airway stenting and image intensifier revealed malposition of the cannulas, causing blood recirculation. After repositioning of the cannula, saturation improved, and the airway was stented with metallic stent. The patient was weaned off ECMO and extubated the following day in intensive care unit.

Learning point

An early VV-ECMO can provide safety and security in cases of central airway obstruction. Image intensifier proved to be as effective as TTE in identifying malposition of ECMO cannulas. Cannula position should be monitored regularly, especially after any changes in the patient's position.

Conclusion

Early VV-ECMO initiation can be used as an alternative strategy to manage difficult airways, providing adequate oxygenation and support during surgical procedures for patients with central airway obstruction. More studies are needed, and existing guidelines for managing central airway obstructions may require review.

CASE REPORT ABSTRACTS

ID 003

CASE REPORT: CONTINUOUS SERRATUS ANTERIOR PLANE BLOCK FOR MULTIPLE POSTERIOR RIB FRACTURES

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Introduction

Physiotherapy and pulmonary rehabilitation following rib fractures require optimal analgesia. The ultrasound-guided serratus anterior plane block (SAPB) was first described in 2013 by Blanco et al. for analgesia of the hemithorax following surgery or trauma. It is well accepted that the SAPB works well for lateral rib fractures but not for anterior and posterior rib fractures. However, studies in traumatised cadavers show that the spread of injectates may be more extensive, providing analgesia beyond that innervated by the lateral cutaneous branches of the intercostal muscles alone.

Case description

A 63-year-old, 85 kg gentleman was involved in a road traffic accident and subsequently sustained fractures of the left 7th and 8th ribs (at their posterior aspect) among a myriad of other multiregional injuries. Due to the inadequate pain relief despite on patient-controlled analgesia morphine, regional anaesthesia was planned for. An erector spinae plane block with catheter insertion was considered as the first choice but was deemed not feasible due to positioning challenges related to the totality of his injuries. A trial of single-shot SAPB, followed by catheterisation after the test block proved efficacious. His NRS reduced from 9 to 4 while doing deep breathing exercises. He received SAPB infusion for a total of 6 days with no escalation of oxygen therapy required after commencement of the infusion.

Learning point

For patients suffering multiple rib fractures, especially involving the posterior hemithorax, and requiring a regional anaesthesia technique, a spinal/paraspinal related block will usually be the ideal block of choice due to consistent combined dorsal and ventral rami spinal nerve coverage, along with that of the sympathetic chain.

Conclusions

SAPB may be a viable alternative as the coverage may be altered by the underlying trauma suffered, providing efficacy for the block.

ID 005

HYDROGEN PEROXIDE, NOT AS SAFE AS YOU THINK

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Introduction

Gas embolism is an iatrogenic condition due to entry of gas into the vascular system. One risk factor is hydrogen peroxide.

Case description

A 58-year-old gentleman, NKMI, alleged RTA and sustained open fracture of supracondylar right femur with intercondylar split, open comminuted right patella fracture, closed segmental fracture right midshaft femur, and traumatic arthrotomy right knee. Preoperative investigations were unremarkable. On day 8 post trauma, an elective right femoral interlocking nail plus plating right distal femur KIV iliac bone grafting was performed under general anaesthesia combined with intrathecal morphine. After induction, intravenous infusion of phenylephrine was started to maintain MAP at 70 mmHg. During wound irrigation using hydrogen peroxide solution at 1 hr 20 mins into surgery, cardiac monitoring showed bradycardia at 35 bpm with type 2 heart block and bigeminy. Intravenous atropine 0.5 mg was immediately given but the patient arrested shortly. Cardiopulmonary resuscitation was initiated. A venous blood gas indicated hyperkalaemia (7 mEq/L), therefore, lytic cocktail was given twice and resulted in return of spontaneous circulation (ROSC) at 6 minutes. Two minutes post ROSC, the patient developed pulseless VT and was cardioverted once (150 J). Lytic cocktail was again given twice (K 7.6) and ROSC returned after another 6 minutes CPR. A total of 40 mg intravenous frusemide was given as his ETT suction appeared copious, pink, and frothy. Blood pressure was supported with noradrenaline and adrenaline; sedated for post arrest care. Bedside lung scan IVC 1.43 cm, B lines generalised over bilateral lung. Serial arterial blood gases showed hyperglycaemia (error then > 27.8 mmol/DL) and hyponatremia (114 mEq/L). Formal ECHO: EF 57%, RWMA apical wall mildly hypokinesia. CTPA: right segmental pulmonary artery embolism. Troponin T: 285. Pulmonary embolism treatment started, and he was extubated day 2 in Intensive Care Unit well to nasal prong.

Learning point

Hydrogen peroxide risks air embolism, along with patent knee flexed above heart level and large, deep knee wound gap serving to drain in hydrogen peroxide. Hydrogen peroxide's cytotoxic property explains deranged blood parameter during resuscitation.

Conclusions

Hydrogen peroxide use in closed body cavities and deep or large wounds is contraindicated. Once intravasated, it can cause rapid bubbles formation with subsequent pulmonary and systemic embolization.

ID 010

PERIOPERATIVE ANAESTHETIC APPROACH FOR AN EPILEPTIC PATIENT WITH CHILDHOOD POLIO COMPLICATED WITH POSSIBLE POST-POLIO SYNDROME UNDERGOING HIP SURGERY IN A DISTRICT HOSPITAL IN SABAH

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Introduction

The Global Polio Eradication Initiative observed a successful 99% reduction in incidence of the highly infectious poliomyelitis. Nevertheless, clinicians still encounter patients with complications of poliomyelitis, including post-polio syndrome (PPS).

Case description

A 51-year-old female presented with right intertrochanteric fracture after a fall, requiring a dynamic hip screw insertion. She had childhood poliomyelitis resulting in right-sided weakness of her limbs, a waddling gait, and contractures of the affected limbs. Anti-epileptics were prescribed following adult-onset epilepsy and continued perioperatively. Her PPS symptoms of fatigue and difficulty swallowing manifested over a decade ago. She was counselled for combined spinal-epidural (CSE). To avoid known risks of neuraxial injury in PPS due to multiple attempts and anatomical challenges of CSE, an ultrasound-assisted technique was used with a successful single attempt. There was adequate blockade up to T10 with heavy bupivacaine 0.5% and fentanyl. Despite warming measures, she developed intraoperative hypothermia down to 34°C. She was monitored in ICU for hypothermia and autonomic instability. She had 2 self-limiting focal seizures within 4 hours post-procedure which were not attributed to any clinical cause or biochemical derangement. Epidural catheter was removed post-seizure and pain well-controlled with multimodal analgesia. She returned to baseline motor and sensory function within 8 hours post-CSE. She experienced favourable recovery of function with physical therapy and safely discharged with no worsening of PPS.

Conclusions

The rarity of PPS presents a challenge on deciding the mode of anaesthesia. Greater sensitivity to sedative agents, possibly due to changes in the reticular activating system makes regional anaesthesia more favourable. Neuraxial block can be safely administered using ultrasound assistance and careful titration of anaesthetic drugs. Meticulous surgical techniques and a multidisciplinary collaboration ensures an optimal recovery. Vigilance is paramount during the perioperative period for neurological symptoms, autonomic instability, and hypothermia.

ID 012

DIFFICULT AIRWAY MANAGEMENT OF A NEONATE WITH PIERRE ROBIN SEQUENCE AT DAY ONE OF LIFE IN A DISTRICT HOSPITAL IN SABAH

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Introduction

Pierre Robin Sequence (PRS) may present with difficult airway management due to the triad of micrognathia, glossoptosis, and upper airway obstruction. Intubation is particularly challenging for the novice or when performed after hours in smaller centres with lack of expertise and equipment.

Case description

A term neonate at day 1 of life with craniofacial dysmorphology pathognomonic of PRS was given continuous positive airway pressure (CPAP) and placed under an oxygen headbox post vaginal delivery. He was later monitored for transient tachypnoea of the newborn with nasal prong oxygen. Assessment revealed increasing tachypnoea with subcostal recessions and a systolic murmur at 24 hours of life. Several initial attempts of intubation made by the paediatric team using a straight blade were unsuccessful. Due to desaturation with transient bradycardia, the anaesthesiologist on call made a single further attempt with no success. Thus, immediate plans were made to mask ventilate the neonate on a radiant warmer to the operation theatre. He was induced with sevoflurane while opioids were avoided to maintain spontaneous breathing. With adequate depth of anaesthesia and ventilation, the anaesthesiologist utilised the only available paediatric videolaryngoscopy (D-blade size 2) for intubation. The percentage of glottic opening was 25% despite optimal external laryngeal manipulation (OELM) and this prompted him to use a stylet with hockey-shaped uncuffed endotracheal tube, 3.5 mm internal diameter, to facilitate intubation. With successful ventilation, a direct laryngoscopy was done by the otorhinolaryngology team to exclude laryngeal cleft and other airway-related pathologies, followed by a surgical tracheostomy. The patient was subsequently weaned off ventilation in the paediatric intensive care unit.

Conclusions

While different methods using advanced equipment have been described to overcome the arduous intubation in PRS, the simple measure of using a hockey-shaped endotracheal tube with a malleable stylet could improve first time success rate alongside videolaryngoscopy and OELM.

ID 015

CATASTROPHIC CARDIAC PERTURBATION CAUSING 38-MINUTE CARDIOPULMONARY ARREST DURING DECOMPRESSIVE CRANIECTOMY WITH SUCCESSFUL RESUSCITATION AND FUNCTIONAL RECOVERY IN A DISTRICT HOSPITAL

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Introduction

Major adverse cardiac events (MACE) during neurosurgical procedures pose a unique challenge as the sole application of advanced cardiac life support (ACLS) algorithm may not suffice.

Case description

A 53-year-old male presented with hypertensive emergency, left-sided weakness, and vomiting. His blood pressure was 262/133 mmHg, requiring antihypertensives. Assessment revealed unequal pupils, nystagmus, and reduced power of the left side. Baseline investigations showed left ventricular hypertrophy. Computed tomography (CT) of the brain revealed right basal ganglia bleeding with intraventricular haemorrhage requiring decompressive craniectomy. Intraoperatively, the patient was placed supine with invasive blood pressure monitoring. Induction was uneventful apart from low doses of vasopressor support for adequate cerebral perfusion pressure. The neurosurgeon reported a tensed dura and hard brain tissue on craniectomy. Phenytoin loading dose was commenced prior to opening of dura as seizure prophylaxis. Upon removal of the brain flap, there was hypotension and bradycardia at 36 beats per minute with immediate progression to asystole leading to cardiopulmonary resuscitation. The neurosurgeon expedited skin closure without reinsertion of brain flap. No other reversible causes were identified. The patient also required defibrillation for pulseless ventricular tachycardia. Fortunately, there was return of spontaneous circulation after 38 minutes. Repeated CT brain showed an unchanged intracranial bleed. Echocardiogram revealed good cardiac contractility while cardiac enzymes were not significantly raised. He was safely extubated 48 hours post cessation of cerebral protection. On outpatient review, he had improved neurology but declined reconstructive cranioplasty. In this patient, a rise in systemic blood pressure and vagal tone could have led to MACE. Phenytoin has been reported to cause cardiac arrest requiring knowledge of administration and vigilance on MACE.

Conclusions

The awareness on the potential inciting events in neurosurgical MACE based on position, stretch-related stimuli, as well as patient and drug factors remain vital. With prompt intervention, a favourable outcome is possible.

ID 017

CRACKING THE CODE: DIAGNOSING AND MANAGING NPPE IN HIGH RISK

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Introduction

Negative pressure pulmonary oedema (NPPE) is a rare but serious complication for patients undergoing general anaesthesia. It often presents a diagnosis dilemma, thence posing significant management challenges.

Case description

We report a case of NPPE in a middle-aged obese patient with high perioperative cardiac risk who underwent an emergency open appendicectomy. The patient had multiple comorbidities, including diabetes mellitus, hypertension, obesity, probable obstructive sleep apnoea, and ischemic heart disease.

During anaesthesia, a modified rapid sequence induction was applied, and intubation was uneventful. Postoperatively, despite showing adequate recovery, the patient developed acute respiratory distress and hypoxia upon extubation. Initial management with application of continuous positive airway pressure and intravenous frusemide provided temporary improvement.

However, the patient's symptoms recurred, necessitating non-invasive ventilation and further diuretic therapy. A chest X-ray confirmed pulmonary oedema. Patient was admitted to the Intensive Care Unit with the working diagnosis of unstable angina complicated with acute pulmonary oedema. The patient's condition stabilised gradually and was weaned to nasal prong oxygen supplement several hours later. Serial point-of-care echocardiography, electrocardiography, and blood investigations ruled out cardiogenic cause of pulmonary oedema.

Learning point

This case report details the anaesthetic approach to managing the patient's complex comorbidities, and events leading to the diagnosis of NPPE. We discuss the challenges encountered in the diagnosis and management of NPPE and review the potential preventive measures. This case highlights the importance of recognising NPPE risk factors, particularly in patients with obesity and obstructive sleep apnoea.

Conclusions

Our conclusion underscores that diagnosis of NPPE remains challenging, and early identification of patients at risk with vigilant monitoring is crucial for timely diagnosis and effective management of NPPE.

ID 018

A RARE CASE OF PROPOFOL ANAPHYLAXIS

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Introduction

Perioperative anaphylaxis is a rare life-threatening condition, with a mortality rate higher than other anaphylactic aetiologies. Hereby, we report a case of a 17-year-old female patient who suffered from anaphylaxis due to propofol.

Case description

A 17-year-old girl sustained a post-traumatic right femur fracture and deep laceration in the right knee. She was planned for emergency wound debridement, wound exploration, and arthrotomy washout in the right knee. Patient consented to general anaesthesia. The premedication assessment revealed no food or drug allergies. The patient was induced with IV fentanyl and IV propofol along with sevoflurane. She developed desaturation, hypotension, and tachycardia. LMA was inserted, but tidal volume was inadequate. Subsequently, LMA was removed and bag mask ventilate (BMV) was attempted, it was difficult. After IV atracurium, an endotracheal tube was placed successfully. The patient went into asystole and cardiopulmonary resuscitation (CPR) was commenced for 2 cycles until return of spontaneous circulation. Postoperatively, she was transferred to ICU for post-CPR care with impression of anaphylaxis secondary to anaesthetic medication. She was successfully extubated shortly and discharged. Later, the patient was listed for definitive surgery, but she strongly refused regional anaesthesia and consented to general anaesthesia. After given IV fentanyl and IV propofol, there was difficult BMV. She was intubated immediately with IV scoline, nevertheless, complicated with hypotension and bronchospasm. Anaphylaxis was diagnosed and prompt treatment given. Immediate sample of serum tryptase was 6.72 mcg/L and second sample was 3.01 mcg/L. She was referred to HKL's allergy clinic for further evaluation. Six weeks later, she underwent skin testing and intradermal testing showed positive response to propofol twice. Skin prick and skin challenge to latex were negative. Patient was given an allergic card and advised to carry it with her.

Conclusions

Anaesthesiologists plays a crucial role in the identification, treatment, and prevention of recurrences by early initiation of immune-allergologic study.

ID 019

LIFE-THREATENING DISSEMINATED NEUROMELIOIDOSIS IN A G6PD-DEFICIENT PATIENT IN A DISTRICT HOSPITAL IN SABAH, MALAYSIA

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Introduction

Neuromelioidosis often mimics other clinical presentations. Long-term antibiotics with brain penetration are efficacious but require careful consideration.

Case description

A middle-aged male presented with generalized tonic clonic seizures preceded by fever, gastrointestinal symptoms, and shortness of breath. The immediate resuscitation measures included orotracheal intubation and multiple synchronized electrical cardioversions for life-threatening arrhythmias. He remained refractory to electrical cardioversion and was given intravenous anti-arrhythmics. The tracheal and blood culture samples yielded *Burkholderia pseudomallei*. This led to a contrasted CT scan of the brain, thorax, abdomen, and peritoneum that identified abscesses in the brain, liver, spleen, and lung. The patient required cerebral doses of carbapenem during the initial intensive phase of disseminated neuromelioidosis and was commenced on concurrent doxycycline in lieu of co-trimoxazole, as he was identified to be G6PD-deficient. He was initially weaned off ventilatory support, but required intermitted dialysis support due to acute kidney injury. He had fluctuating levels of consciousness due to multiple factors and was reintubated 9 days post extubation. Post reintubation, a repeated contrasted CT brain revealed a significant reduction in hypodense lesions suggestive of treatment response. The patient underwent surgical tracheostomy and was weaned off ventilation immediately post tracheostomy. He recovered well with continued intravenous antibiotics for 2 months and multidisciplinary rehabilitation with full functional recovery.

The initial plain CT brain did not elicit a brain abscess. However, the neurological presentation and causative organism prompted further investigation with contrasted CT brain. It is presently routine to exclude G6PD prior to co-trimoxazole that may lead to catastrophic haemolytic anaemia.

Conclusions

In resource-limited centres without magnetic resonance imaging, the index of suspicion for neuromelioidosis remains imperative. A lack of familiarity with disease progression may lead to a delay in tracheostomy. The decision must be weighed against risks of prolonged ventilation and ICU delirium due to sedatives.

ID 022

A RARE CASE OF LIPOID PROTEINOSIS

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Introduction

We report a case of 19-year-old woman with underlying lipoid proteinosis (LP) and vocal cord nodules planned for incision biopsy of eyelids lesions, moniliform blepharosis.

Case description

LP is a rare autosomal recessive genodermatosis with fewer than 300 reported cases, characterized by deposition of hyaline material in various parts of the body, particularly the skin, mucous membranes of the upper airway tract and certain viscera. Our patient gave the history of progressive hoarseness of voice since childhood and skin lesions on her shoulders and elbows. Besides dermatological and ocular manifestations of LP, airway assessment revealed small mouth opening, short tongue with difficulty in tongue protrusion, and prominent tonsils. Hence, the features of difficult airway present in LP patients pose a challenge in terms of anaesthetic and airway management. In anticipation of difficult intubation, the patient was induced with rapid sequence induction, intubated using a smaller endotracheal tube of size 6.0 mm internal diameter using video laryngoscopy C-MAC blade size 3. As anticipated, percentage of glottic opening score was 50%, which correlates to Cormack-Lehane grade 2B.

Learning point

Oral cavity and upper respiratory tract are the most extensively affected area, thus posing a challenge for airway management in general anaesthesia in LP patients.

Conclusion

As LP is a rare disease, a history of hoarseness since childhood with skin manifestations may alert anaesthetist in undiagnosed cases. Airway management of patients with LP should not be underestimated by anaesthetists as it can be potentially difficult due to the airway features, vocal cord abnormality, and upper airway lesions.

Difficulty in securing the airway should be anticipated; thus, proper planning of airway management should be executed.

ID 025

REGIONAL ANAESTHESISA FOR CESAREAN SECTION IN PREGANANCY WITH BRAIN ARTERIOVENOUS MALFORMATION

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Introduction

Brain arteriovenous malformation s(bAVMs) are congenital cerebrovascular lesions characterised by abnormal interweaving of blood vessels in the absence of capillary intervention between arteries and veins, with an estimated incidence between 0.001% and 0.5% in the overall population. During pregnancy, bAVMs are responsible for spontaneous intracerebral haemorrhage in 8%-38% of cases, which can result in severe consequences to both mother and foetus. Anaesthesia methods for pregnancy with cerebral AVMs rarely been reported have to date. Decisions regarding the choice in anaesthesia and analgesia for bAVMs in pregnancy should be made using a multidisciplinary approach to ensure haemodynamic stability.

Case description

A 33-year-old woman, 38-weeks' gestation, presented to the Emergency Department of a referral hospital from her previous hospital with a diagnosis of gestation with an acquired vascular malformation (AVM). MRI scan showed high- flow vascular malformation in the subcortex of the extratemporal lobe. The patient had a history of seizures. The patient received depakote as oral therapy.

Learning point

From a strictly anaesthetic point of view, in the absence of established guidelines, the primary goal was to maintain the parturient's cardiovascular stability, avoiding hypotension, (which could compromise the uteroplacental vascularization) and hypertension, (which could increase the risk of bleeding).

Conclusion

Regional anaesthesia management shows a good and safe anaesthesia management, analgesia, no complications, and no effect on intracranial pressure in pregnancies with AVM.

ID 026

PROLONGING SOMATIC SUPPORT FOR PARTURIENT WITH PALLIATIVE METASTATIC ATRIAL SARCOMA: A CASE REPORT

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Introduction

The crossroads of advanced malignancy and pregnancy presents a profound challenge for clinicians, where the dual goals of maternal and foetal well-being often necessitate intricate and multifaceted management strategies. This report explores the medical, ethical, and logistical aspects of providing extended somatic support in such a critical scenario.

Case description

A 39-year-old woman, G4P6, at 26 weeks of gestation who presented with advanced metastatic atrial sarcoma was intubated at a district hospital for hospital-acquired pneumonia and was referred to us for continuation of care. Initially diagnosed in October 2020 after experiencing shortness of breath, further investigations revealed a malignant right atrial tumour with local infiltration, right pleural effusion, and metastasis to the brain. Unfortunately, the patient was not on contraception and conceived. At 9 weeks of gestation, a multidisciplinary team recommended terminating the pregnancy and starting palliative brain radiotherapy. Even though the couple agreed to palliative brain radiotherapy, they refused to terminate the pregnancy. Following acute respiratory distress from hospital-acquired pneumonia, she was intubated at a district hospital and was referred to our tertiary center. She was ventilated until 30 weeks of gestation. An emergency hysterotomy was performed for deteriorating maternal condition. Despite efforts, the foetus died 1 day after birth from sepsis, and the patient passed away 3 days post-hysterotomy.

Conclusion

Prolonging somatic support for a parturient with advanced atrial sarcoma presents complex challenges, particularly in the intensive care unit setting. It includes an ethical dilemma, maternal priorities, and multidisciplinary approach which involved the obstetricians, medicolegal team, and anaesthesiologists.

ID 027

EX-UTERO INTRAPARTUM THERAPY PROCEDURES: A COMPREHENSIVE CASE SERIES AND ANAESTHESIA ANALYSIS IN PAEDIATRIC AND OBSTETRIC PRACTICE IN HOSPITAL TUNKU AZIZAH, MALAYSIA

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Introduction

The ex-utero intrapartum treatment (EXIT) procedure is a unique surgical technique that maintains uteroplacental circulation during a Caesarean section, allowing for therapeutic intervention on the foetus while still maintaining uteroplacental perfusion. It is invaluable for managing foetuses with airway-obstructing congenital anomalies, such as congenital neck, mediastinal masses, or congenital high airway obstruction syndrome (CHAOS). This case series highlights the unique practices and protocols developed for the EXIT procedure at our centre, showcasing the specific techniques and strategies tailored to enhance outcomes.

Case description

Clinical data for this case series were collected from anaesthesia records, operative notes, and clinical progress notes at Hospital Tunku Azizah in Kuala Lumpur from 2019 to 2024. Nine EXIT procedure cases were identified, reviewed, and analysed to compare our practices and outcomes with those of other institutions.

Between 2019 and 2024, our centre conducted 12 EXIT procedures. We meticulously documented preoperative and demographic data, including maternal details and foetal diagnosis. Airway securing methods varied, including direct intubation, bronchoscopy-guided intubation, and tracheostomy, with corresponding foetal outcomes recorded. Preparation commenced with multidisciplinary discussions ensuring safety for mother and foetus. Following aspiration prophylaxis, invasive lines and cannulas were inserted pre-induction. General anaesthesia induction utilised rapid sequence induction, with sevoflurane maintenance and hemodynamic stabilization via noradrenaline infusion. Uterine relaxation was maintained with high MAC values, and oxytocin was administered post-delivery. Upon foetal delivery, pulse oximetry and cannulas were secured for airway assessment and intubation, either via direct laryngoscopy or rigid bronchoscopy. Fentanyl was administered for analgesia, with

muscle relaxants sparingly used. Out of 9 foetuses, only one fatality occurred, highlighting the procedure's overall success.

Conclusion

Our experience demonstrates that with the appropriate anaesthetic and obstetric management, the EXIT procedure can be performed with a high success rates and minimal complications. These findings have significant implications for both obstetric and paediatric anaesthesia practices, offering a robust framework for managing similar cases and potentially guiding improvements in clinical protocols across other centers.

ID 028

HISTORY TAKING, EXAMINATION, INVESTIGATIONS AND MULTIDISCIPLINARY TEAM DISCUSSION AS ARMAMENTARIA FOR ANAESTHESIOLOGISTS IN MANAGING A COMPLEX CASE OF A SYNDROMIC TEENAGER

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Introduction

The essence of detailed history taking, physical examination, modern investigations, and multidisciplinary team involvement cannot be overemphasised.

Case description

A 13-year-old teenager with a history of slow learning and global developmental delay was brought to the emergency department and intubated due to a generalized tonic-clonic seizure. Examinations revealed short stature, deeply set eyes, and a short philtrum. The patient was transferred to the ICU for further management. A CT of the brain revealed prominent cerebrospinal fluid space/density lesion anterior to the cerebellar hemisphere and a prominent occipital horn. Lumbar puncture was normal. The seizures were attributed to the CT findings, and the patient remained seizure-free in the ICU with antiepileptics. After a week in the ICU, the patient had a failed extubation, showing signs of upper airway obstruction. Bronchoscopy following reintubation revealed no subglottic obstruction. A contrast-enhanced CT scan of the neck showed upper airway stenosis due to circumferential thickening of the trachea. A multidisciplinary team (MDT) meeting involving anaesthesiology, ENT, and respiratory teams, concluded that the patient resembled a case of MYHRE syndrome. A tracheostomy was decided as the best management plan. The patient was discharged from the ICU 1-week post-tracheostomy and from the hospital 30 days later after rehabilitation. He was also referred to social welfare for further support.

Conclusion

This case underscores the importance of thorough history taking, physical examination, modern investigations, and MDT discussions in recognising and managing a syndromic teenager. The patient, with features of autism spectrum disorder, short stature, characteristic facial features, hearing loss, and laryngotracheal narrowing, was managed with a tracheostomy and discharged home with rehabilitation.

ID 029

PLATELET-RICH PLASMA TECHNIQUE IN OSTEOARTHRITIS PATIENTS: CASE REPORT

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Introduction

Osteoarthritis (OA) is a leading cause of severe long-term pain and disability affecting approximately 10% of the global population. Regenerative solutions and new tissue engineering-based strategies are promising for treatment of knee OA. Our aim was to evaluate the effects of intra-articular platelet-rich plasma (PRP) injections on symptoms and joint structure in patients with symptomatic mild to moderate knee OA. Patients underwent bilateral PRP injections in the knees. The procedure requires to draw approximate 45 ml of the patients' blood. The blood needs to be filled up in 4 PRP bottles to be centrifuged. The 4 bottles filled with blood are centrifuged for 4 minutes at the speed of 4000 P/R(speed/RCF). The platelets are then syringed out and injected into the patient's knees.

Case description

A 55-year-old female with underlying bilateral knee OA diagnosed in 2022, presented with chronic bilateral knee pain which was not relieved by multimodal analgesia and had limitation of activity. Her pain score was 8 at rest and 10 on movement. In December 2022, the patient underwent the PRP technique. After one session, there was a significant change to her symptoms and lifestyle. The patient had controlled pain, which reduced to 3, as well as improved range of motion.

An 81-year-old female with underlying bilateral knee OA was in a wheelchair due to chronic bilateral knee pain that disrupted her sleep and daily activities. The patient she was unable to undergo surgeries due to her age. In December 2022, the patient underwent 1 session of PRP technique and was immediately able to sleep at night, walk with a walking stick, and do simple exercises.

Conclusion

PRP has been advocated as a treatment option in all stages of knee OA. Intra-articular PRP injections in active patients with knee OA show significant improvements in pain reduction, symptoms, and QoL. However, large randomised controlled trials are needed to further assess the efficacy and duration of PRP treatment for patients with knee OA.

ID 032

DISSEMINATED INTRAVASCULAR COAGULATION IN SUBCHORIONIC HAEMORRHAGE: TWO HITS AT ONCE

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Introduction

Subchorionic haemorrhage (SH) or bleeding between the chorion and uterine wall rarely leads to maternal disseminated intravascular coagulation (DIC). We report a life-threatening case of DIC following SH.

Case description

A 46-year-old-woman at 20-weeks' gestation presented with vaginal bleeding and was initially treated for missed miscarriage. Overnight, her worsening bleeding was not reported. Ultrasonography revised the diagnosis to SH. Her haemoglobin dropped to 3 g/dL and coagulation profile indicated no clot formation. The hysterotomy revealed a 50 ml retroplacental clot and multiple intramural fibroids. Due to uterine atony, multiple uterotonic drugs were administered and the patient was planned for hysterectomy. Estimated blood loss was around 3300 ml with intermittent hypotension requiring intermittent vasopressor boluses. She received 8 units of packed cells, 2 DIC regimes, 1500 ml of colloid, and 3000 ml of crystalloid. Post-first DIC regime tests showed coagulopathy (INR 1.7, APTT 74.3 s, fibrinogen 0.83 g/L) and platelet count of 53 x 10^9/L. Before the hysterectomy, large yellow secretions in the endotracheal tube (ETT) worsened the ventilator settings. Therefore, the obstetricians decided against the hysterectomy as the bleeding had stopped too. She required high ventilator and inotropic support in ICU. Copious ETT secretions were noted. She succumbed 4 hours later. Lung histology showed widespread microthrombi in small and medium-sized vessels without acute lung injury.

Disruption of the chorion-decidual barrier releases significant tissue factor into maternal circulation, leading to uncontrolled coagulation activation and thrombin generation. Women with retroplacental clots experience faster, more severe DIC, despite lower overall blood loss. Transfusion in this type of DIC should be guided by viscoelastic testing. In low-resource settings, abrupt normalisation of coagulation parameters after first haemostatic transfusion may indicate thrombotic predominance, warranting caution for subsequent transfusions.

Conclusion

Concept of consumptive coagulopathy as the primary mechanism of DIC in SH is overly simplistic. Its combined coagulopathy involves 2 hits, substantial thromboplastin release and consumption coagulopathy.

ID 036

PERIOPERATIVE MANAGEMENT OF A PREGNANT PATIENT WITH LARGE ABDOMINAL MASS UNDERGOING CAESAREAN SECTION

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Introduction

Pregnancy is associated with inherent difficulties in perioperative management. The presence of an abdominal mass in a pregnant patient is expected to complicate management further. We present a case of a pregnant patient with a large abdominal mass coming for elective Caesarean section and mass resection.

Case description

The patient was a 30-year-old primigravida who was diagnosed with a massive abdominal mass at 37 weeks of gestation. Preoperative CT of the abdomen showed the large mass to be cystic, multiloculated with mass effect, displacing the gravid uterus to the left side of the abdomen. The origin of the mass was not identified in the CT scan. A total of 500 ml of mucinous content was drained preoperatively to reduce the mass size. The patient was posted for a combined Caesarean section and mass resection. Preoperative anaesthetic assessment was unremarkable. She was planned for GA with epidural analgesia. Preinduction, lumbar epidural was sited at L1/L2 level and nasogastric tube inserted. Patient was induced with RSI method with head in slightly elevated position. Endotracheal intubation was performed with video laryngoscopy assistance. Intubation was followed by a brief period of desaturation down to 88% which picked up with manual ventilation. Positive pressure ventilation with volume control mode with PEEP of 8 was initiated, achieving tidal volume of 6 ml/kg with peak airway pressure of 26-28 cmH_2O. Ventilation pressures improved with decompression of the cystic mass, draining a total of 3L mucinous fluid. A healthy 2.2-kg baby girl was delivered. Caesarean section was followed by right salphingoophorectomy and partial omentectomy. The patient was extubated well and discharged on day 3 postoperatively.

Conclusion

The gravid uterus and huge mass resulted in the diaphragm splinting that caused lung atelectasis and reduced lung compliance, which can spell disaster during induction of general anaesthesia. Careful perioperative anaesthetic planning and management is vital in ensuring the patient's safety and surgical success.

ID 037

PHEOCHROMOCYTOMA, AN UNUSUAL CAUSE OF MATERNAL COLLAPSE

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Introduction

Pheochromocytomas are rare neuroendocrine tumours with an incidence of < 0.2 per 10,000 pregnancies. In obstetric patients, pheochromocytomas are often misdiagnosed as preeclampsia due to its similarities. Anaesthetic management of patients with pheochromocytomas is very challenging. Hypertension caused by pheochromocytomas is often resistant and may lead to maternal collapse. Early identification of maternal collapse and initiation of perimortem caesarean section (PMCS) improves the outcomes of patient and foetus during a collapse.

Case description

A 33-year-old female, G8P7 at 34 W 3 D presented to our hospital for severe preeclampsia and deranged blood sugar level. Although the patient was given antihypertensives in the patient assessment centre, her blood pressure remained high. She was sent for emergency lower segment Caesarean section for foetal distress. Attempts to lower blood pressure were done in OT with titrating doses of IV hydralazine and IV labetalol, but the patient became breathless and restless. The patient was placed in left lateral tilt position and induced under general anaesthesia. Post intubation, the patients' oxygen saturation became unrecordable, end tidal carbon dioxide showed persistent drop, cardiac monitor showed asystole, and pulse was not palpable. Red alert was initiated and cardiopulmonary resuscitation was commenced. PMCS was started within 4 minutes of collapse. Return of spontaneous circulation was achieved after delivery of placenta, and patient was sent to ICU postoperatively. Pheochromocytoma was diagnosed postoperatively with presence of right adrenal mass via CT imaging and raised 24 hr urine metanephrine. The patient was managed by multidisciplinary approach, recovered well, and was discharged home.

Conclusion

Pheochromocytoma during pregnancy is a rare and unusual cause of maternal collapse. Educating medical personnel on early identification of maternal collapse and initiation of PMCS will help improve maternal and foetal outcomes.

ID 038

OCCULOGYRIC CRISIS AND ACUTE DYSTONIA IN A PARTURIENT REQUIRING IMMINENT CAESEREAN SECTION

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Introduction

Oculogyric crisis is a sustained dystonic, conjugate, upward deviation of the eyes lasting from seconds to hours which can be drug induced. Metoclopramide used in treatment and prevention of nausea and vomiting has important side effects including acute dystonic reactions such as torticollis, trismus, opisthotonus, akathisia, dystonia, tardive dyskinesia, and oculogyric crises.

Case description

A 38-year-old woman, gravida 7, para 3 with history of 3 miscarriages, at 38 weeks 2 days into pregnancy, was posted for emergency lower segment Caesarean section for placenta previa major in labour. She had a history of a previous Caesarean birth and no other known medical history. The patient was given IV metoclopramide 10 mg in the labour room. Shortly after, the patient was noted to roll her eyes upwards and showed dystonic movement in the right upper limb. The ocular manifestation was transient, but the dystonic movement persisted and worsened. Intravenous atropine 0.5 mg was given as other anticholinergics such as benztropine and procyclidine were not available in our hospital. A second dose of IV atropine 0.5 mg was given 15 minutes later as no significant improvement was observed. General anaesthesia was given after discussion with the obstetric team as well as patient and family counselling. Rapid sequence induction was performed and the patient was successfully intubated. Surgery was uneventful. Postoperatively, her dystonia had resolved with no further sequelae.

Learning points

The anaesthesia approach for a pregnant patient experiencing ongoing extrapyramidal symptoms requires meticulous evaluation. Consultation with senior experts from both obstetrics and anaesthesia teams as well as adequate counselling of the patient and her family is crucial.

Conclusion

Careful consideration needs to be given to patients with acute extrapyramidal symptoms.

ID 039

PERIPHERAL NEUROPATHY POST LOWER SEGMENT CAESAREAN DELIVERY

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Introduction

Peripheral neuropathy is a rare but clinically significant complication following lower segment Caesarean section (LSCS). Despite its significance, it is often underscored by more common spinal anaesthesia-related issues. This case report aims to highlight the clinical presentation, diagnostic challenges, and management strategies of peripheral neuropathy post-LSCS.

Case description

We present the case of a 26-year-old Rohingya woman who underwent emergency LSCS at 34 weeks and 5 days due to abnormal cardiotocography. Intraoperatively, she experienced post-spinal hypotension requiring phenylephrine. Additionally, she had a history of falling in the ward post-delivery, further complicating her clinical course. Subsequently, she developed bilateral lower limb weakness, which progressed over a 2-week period. Initial working diagnoses included arachnoiditis or peripheral nerve neuropathy due to nerve entrapment from the fall. Clinical examination revealed reduced power and sensation in both lower limbs and absent knee reflexes. Imaging studies showed no gross abnormalities in the thoracolumbar spine. Nerve conduction studies indicated symmetrical sensorimotor axonal polyneuropathy, likely attributed to poor nutritional status. The patient received a multimodal approach to treatment, including oral and parenteral supplementation with neurobion, cyanocobalamin, parentrovite, gabapentin, thiamine, multivitamin, and zincofer. Significant improvement in motor weakness and numbness was observed within 7 days of initiating treatment, enabling ambulation with assistance. Upon discharge, the patient was advised on rehabilitation, dietary, and neuromedical follow-up.

Conclusion

Peripheral neuropathy post-LSCS demands a multidisciplinary approach to diagnosis and management. Early recognition and intervention can mitigate morbidity, thereby enhancing patient outcomes. Long-term follow-up is imperative to monitor recovery and address potential sequelae.

ID 041

ACUTE LEFT FOREARM COMPARTMENT SYNDROME AS AN UNUSUAL COMPLICATION OF SEVERE DENGUE

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Introduction

We present a case of severe dengue associated with left forearm compartment syndrome at our centre.

Case description

A 57-year-old nursing home resident with underlying schizophrenia presented with persistent vomiting and loose stools, associated with a 3-day history of fever. Blood investigations revealed thrombocytopenia and hyponatremia. Both the NS1 dengue antigen and dengue IgM were positive. His haemodynamic parameters were stable with normal lactate levels. He was admitted with an impression of dengue fever with warning signs and managed with maintenance intravenous fluid of normal saline at a rate of 2 ml/kg/hr. On the fifth day of illness, after 2 days in the hospital, he developed swelling in the previous intravenous access site on his left forearm. The area was tense, warm, and erythematous but without ulceration or discharge. Laboratory tests revealed haemoglobin 10.0 g/dL, platelets 11,000/µL, and haematocrit 30%. An orthopaedic consultation confirmed the diagnosis of left forearm compartment syndrome. Despite significant thrombocytopenia, he underwent a high-risk fasciotomy under general anaesthesia. Intraoperatively, he received 1 pint of packed cells and 4 units of platelets. Fasciotomy was performed, releasing all muscles within the compartment, which exhibited good contractility. The estimated blood loss was 800 ml. Postoperatively, the patient was ventilated in the ICU. During the dengue critical phase, his ICU stay was complicated by transaminitis, coagulopathy, and thrombocytopenia. He was managed according to the recent clinical practice guidelines on dengue management. He was extubated on day 13 of dengue illness, after spending 8 days in the ICU.

Conclusion

Anaesthesiologists should be aware of these atypical presentations of severe dengue. Prompt and aggressive interventions are crucial in salvaging limbs and preventing mortality in such cases.

ID 042

GROUP B STREPTOCOCCUS MENINGITIS POST SPINAL ANAESTHESIA

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Introduction

Post spinal anaesthesia meningitis is extremely rare. We report a case of group B streptococcus (GBS) meningitis in a postpartum lady after undergoing examination under anaesthesia for third degree cervical tear.

Case description

A 26-year-old lady, Para 3 with no comorbidities received spinal anaesthesia at the lumbar area (L4, L5) using spinocan 26G. The anaesthetist practiced hand washing, wore a cap, mask, and sterile gown. Lumbar area was cleaned using povidone iodine 10% and draped. Intrathecal 2 ml heavy marcaine 0.5% and 15 mcg fentanyl mixture were prepared and administered in sterile manner. Day two post spinal anaesthesia, she complained of headache. Two days later, she presented with seizures, neck stiffness, low GCS (11/15), and fever (38.9°C). Her white cell count was 14 and her blood gas analysis showed metabolic acidosis. She was intubated for cerebral protection. A lumbar puncture was performed. The appearance of CSF was clear, colourless with opening pressure of 50 cmH_2O. The CSF glucose level was 2.5 mmol/L (blood glucose 5.4 mmol/L, ratio 0.46) and protein was 0.9 g/L (high). The CSF culture indicated *Streptococcus agalactiae* and thus diagnosis of GBS meningitis was confirmed. No organism was isolated from the patient's blood culture or high vaginal swab. Patient was extubated after 3 days with no neurological abnormality. She received IV cefriaxone 2 g 12 hourly for a total 14 days.

Conclusion

Meningitis still can occur even after meticulous aseptic technique during spinal anaesthesia. Hence, meningitis should always be suspected in patients having post spinal headache.

ID 043

LIGNOCAINE-INDUCED METHAEMOGLOBINAEMIA: A CASE REPORT

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Introduction

Methaemoglobinaemia is a potentially-life threatening condition in which there is diminution of the oxygen-carrying capacity of circulating haemoglobin. It can be result from either congenital or acquired processes. Methaemoglobinaemia forms when haemoglobin is oxidized to contain iron in the ferric (Fe^{3+}) rather than the normal ferrous state (Fe^{2+}). Methaemoglobinaemia is a clinical diagnosis and is suspected in the presence of hypoxaemia refractory to supplemental oxygen. Symptoms are usually dependent on methaemoglobin levels; at levels higher than 35%, systemic symptoms from tissue hypoxia may be fatal. Treatment options involve the removal of inciting agent and the antidote methylene blue.

Case description

A 22-years-old woman post spontaneous vaginal delivery underwent episiotomy repair with lignocaine as local anaesthetic. She developed central cyanosis and her oxygen saturation was 90% via pulse oximetry. Arterial blood revealed pH 7.41, $PaCO_2$ 29 mmHg, PaO_2 276 mmHg (on high-flow mask oxygen 15L/min), O_2 sat 91%, $HCO3^-$ 20.3, MetHb > 30%. The patient was continued on $HFMO_2$ 15 L/min and admitted to ICU. She was given intravenous methylene blue 1 mg/kg. Subsequently, she was weaned from oxygen therapy as SPO_2 picked up to 99% and arterial blood gaseous revealed pH 7.42, $PaCO_2$ 32 mmHg, PaO_2 103 mmHg (on nasal prong oxygen 3L/min), $HCO3^-$ 22.5, MetHb 3.1. She was discharged to the general ward.

Conclusion

Methaemoglobinaemia is a potentially lethal condition after exposure to routinely used drugs. Physician should be aware of this complication for early diagnosis and treatment.

ID 044

A CASE OF NORMAL RECOVERY FROM ROCURONIUM IN A WEIGHTLIFTING ATHLETE WITH CHILDHOOD POLIOMYELITIS IN SABAH

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Introduction

The global incidence of poliomyelitis has been reduced by an encouraging 99%. However, clinicians in Malaysia may still encounter post-polio patients for surgery. The "rule of 2" is often used as a guide, *i.e.*, reducing doses of anaesthetic agents and anticipating delayed time for recovery, especially with non-depolarizing muscle relaxants. Notably, the poliomyelitis virus affects neuromuscular junctions with a resultant anatomic distortion despite the appearance of normal looking muscles.

Case description

A 41-year-old male with newly diagnosed diabetes mellitus presented with a large neck abscess. He had childhood poliomyelitis resulting in bilateral lower limb contractures and wheelchair ambulation. The patient was a state athlete who lifted weights daily in the past 6 years. Clinical assessment showed stable hemodynamic with a large abscess in the lateral and posterior aspect of the left side of the neck, measuring 16 cm x 10 cm. There was no stridor or respiratory distress but marked limitation of neck extension. Blood parameters revealed normal hepatic and renal function, and an ultrasound of the neck confirmed a collection. He also consumed steroids and took regular vitamin supplements.

In the operation theatre, he was given lignocaine nebulization and topical anaesthesia. Subsequently, a single attempt of awake fibreoptic intubation was uneventful and a usual dose of rocuronium 0.6 mg/kg was administered after the induction drugs were given. The procedure was completed within 90 minutes and a train of four assessment revealed a count of 4, with an uneventful extubation in the intensive care unit.

Conclusion

In post-polio patients, sensitivity to sedative agents, possibly due to changes in the reticular activating system makes general anaesthesia less favourable. It is a postulation that in weightlifters, there is improved muscle strength and neuromuscular function. This could be a potential prehabilitation measure for elective surgeries requiring general anaesthesia.

ID 048

ANESTHETIC MANAGEMENT OF AN INFANT WITH EPIDERMOLYSIS BULLOSA

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Introduction

Epidermolysis bullosa (EB) is a rare genetic disorder with severe skin fragility. Trivial shearing forces to the skin lead to blister formation.

Case description

A 1-month-old male, diagnosed with EB since birth, presented with right shoulder septic arthritis and underwent arthrotomy washout.

In the preoperative assessment, the baby had skin blisters on the trunk and limbs, oral ulcers, and good mouth opening and neck movement. 24-G branula at left foot with Mepilex dressing (atraumatic silicone-based dressing). Minimal handling of patient who was wrapped in soft, crease free cloth and was transferred to OT table with crease-free bedsheet. Adhesive tape with skin was avoided. Lubricated pulse oximeter placed on toe. ECG electrode sites greased with paraffin gel. Blood pressure cuff padded with Orthoban dressing.

As calm and smooth as possible. Facemask lubricated with paraffin gel. Minimal mask holding and contact area with skin during preoxygenation. Airway devices and blades were also lubricated. By senior anaesthetist with glideslope, uncuffed ETT, secured with soft lubricated string, plastered with Mepilex dressing without direct contact with skin. Maintenance of anaesthesia was done with volatile anaesthetics, neuromuscular blockade, and opioids.

During extubation, smooth emergence was paramount. Hard plastic oxygen face masks were avoided. Oxygen headbox 10 L/min was placed surrounding the patient's head without direct contact.

earning point

Optimal management revolves around the protection of the skin against slightest injury, careful usage of wound care dressings, and lubrication of monitoring and airway devices. Active input from a dermatologist is essential. Induction and emergence should be smooth along with multimodal analgesia.

Conclusion

Patients with EB provide unique and complex challenges anaesthetically. Meticulous preoperative planning and extreme attention to mucous membrane and skin protection is vital.

ID 049

A SUCCESSFUL ULTRASOUND GUIDED STELLATE GANGLION BLOCK IN TERMINATING REFRACTORY VENTRICULAR TACHYCARDIA/STORM IN ISCHAEMIC HEART DISEASE SCHEDULED FOR CORONARY ARTERY BYPASS SURGERY: CALMING THE ELECTRICAL STORM OF THE HEART

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Introduction

This case series assesses the efficacy of stellate ganglion block (SGB) as an adjunct therapy in managing refractory ventricular tachycardia (VT) cases resistant to conventional advanced life support (ALS) interventions. Two cases are presented, illustrating SGB's potential in stabilising patients with persistent refractory VT and optimisation for a definite surgery.

Case description

The first case involves a 44-year-old Chinese male with coronary artery disease who had experienced post induction cardiac arrest with prolonged refractory VT receiving standard ALS measures such as CPR, antiarrhythmic medications, and defibrillations, continued to experience an electrical storm. Following SGB administration guided by ultrasound, the patient's refractory VT ceased immediately, leading to successful CABG surgery and good recovery.

The second case features a 64-year-old Indian male with refractory VT secondary to an ST-elevated myocardial infarction, whose VT persisted despite extensive ALS interventions until SGB was employed. Post-SGB administration, the patient's refractory VT terminated within an hour, enabling emergency CABG.

Both cases demonstrate the significant impact of SGB in terminating refractory VT, preventing recurrent episodes during hospitalisation, and facilitating comprehensive rehabilitation and discharge planning. The mechanism of SGB, which disrupts sympathetic innervation to the heart, proves crucial in reducing arrhythmogenic potential and underscores its role as a life-saving intervention in acute cardiac emergencies.

Conclusion

This report advocates for integrating SGB into ALS protocols for refractory VT and highlights the need for further research to validate its effectiveness and explore broader applications in cardiac arrhythmia management.

ID 050

AIRWAY MANAGEMENT IN PATIENT WITH LARGE UPPER BACK MASS: A CASE REPORT

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Introduction

Airway management for patients with large mass in the upper back is extremely. challenging. The large mass limits the patient being placed in supine position to facilitate airway management. We report a case of huge upper back liposarcoma requiring general anaesthesia for mass removal.

Case description

A 62-year-old male, classified as ASA III with history of non-ST elevation myocardial infarction 6 months prior to surgery treated with dual antiplatelets presented with large upper back swelling for the past 10 years. The upper back mass measured 40 x 40 cm with multiple ulcerated wounds. CT of the neck revealed locally advanced ulcerating pedunculated fat containing soft tissue lesion with infiltration of left trapezius and splenius capitis muscle associated with multiple cervical lymphadenopathies. His final diagnosis was huge upper back liposarcoma.

He was unable to lie supine, had limited neck movement and pain in the upper back. He was planned for awake fibreoptic intubation in view of anticipated difficult airway. Since he was very anxious to undergo awake intubation, we tried to position the patient to facilitate intubation under anaesthesia. We managed to pull the mass slightly to the lateral side and were able to put him in a modified ramped position, thus enabling direct intubation.

Learning point

Adequate planning and preparation are crucial in managing high-risk patients. In our case, the preparation included difficult airway management as well as anticipating haemodynamic instability, bleeding, and cardiac events perioperatively. Ramped position is important to facilitate intubation in airway difficulties. It improved functional residual capacity thus increasing safe apnoea time and assisted to achieve ideal alignment during direct intubation.

Conclusion

Airway difficulties and recent cardiac events put the patient at high risk for morbidity and mortality. A thorough evaluation, proper perioperative planning and multidisciplinary team approach are essential in managing such cases.

ID 053

OVERCOMING CHALLENGES IN POSTOPERATIVE PAIN MANAGEMENT: SUPRAINGUINAL FASCIA ILIACA BLOCK FOR HIP SURGERY IN THE DEAF AND MUTE POPULATION

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Introduction

The suprainguinal fascia iliaca block (SIFIB) offers a compelling option for postoperative analgesia following hip surgery, particularly beneficial for patients with communication barriers such as deafness and mutism. This technique involves administering local anaesthetics to target the lumbar plexus, either through a single injection or by catheter placement for sustained analgesia. Conventional methods such as patient-controlled analgesia (PCA) may pose challenges for deaf and patients who have difficulty speaking, especially the young, in following postoperative instructions. Hence, SIFIB provides an effective alternative tailored to their specific needs.

Case description

A 14-year-old boy with congenital deafness and mutism presented with a closed, undisplaced neck of femur fracture following a fall from a double-decker bed. He was scheduled for screw fixation of the left femur neck. Prior to surgery, the patient's mother granted anaesthetic consent, as the patient was a minor. Due to difficulty in cooperation, the patient was induced with intravenous ketamine prior to transfer to the operating table. The operation was performed under general anaesthesia, and a SIFIB catheter with local anaesthetic infusion was inserted postoperatively as part of a multimodal postoperative analgesia plan. Postoperatively, the patient showed minimal pain scores using the FLACC (Face, Legs, Activity, Cry, Consolability) scoring system, and the mother expressed satisfaction with the service. The continuous infusion facilitated the patient's participation in physiotherapy. The catheter was removed on the second postoperative day, and the patient was able to ambulate with the aid of crutches and his mother's help.

Conclusion

This case showcases the value of SIFIB as a carefully selected and suitable analgesia modality that can be modified to meet the unique needs of patients with communication barriers, thus ensuring comprehensive pain management and rehabilitation.

ID 054

DEEP BRAIN STIMULATION FOR YOUNG ONSET PARKINSON'S DISEASE PATIENTS DONE SUCCESSFULLY UNDER SCALP BLOCK AND MONITORED ANAESTHESIA CARE

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Introduction

Deep brain stimulation (DBS) surgery is one of the treatment modalities for Parkinson's disease and movement disorders which fail medical therapy. It can be performed under monitored anaesthesia care (MAC), asleep-awake-asleep (AAA) or general anaesthesia (GA). We report a case series of 3 young onset Parkinson's disease (YOPD) patients who successfully underwent DBS under scalp block and MAC last year.

Case description

Three YOPD patients had uncontrolled symptoms despite optimal medical therapy. They were 47, 50, and 55 years old, respectively, at the time of surgery. Prior to scalp block, they were started on intravenous infusion of dexmedetomidine 0.2-0.3 mcg/kg/hour and target controlled infusion (TCI) remifentanil 1-2 ng/ml. Scalp block of bupivacaine 0.25% with adrenaline 1:200,000 was given. Additional lignocaine 2% was supplemented at scalp pin sites when needed. Intravenous dexamethasone 0.2 mg/kg was given. Intraoperatively, dexmedetomidine was titrated up to 0.6 mcg/kg/hour and TCI remifentanil up to 3 ng/ml to achieve Modified Ramsay Sedation Scale 3 and bispectral index 65-85. Patient 1 required IVI hydralazine up to 100 mcg/min intraoperatively. Patients were comfortable throughout the surgery and neurologists were able to assess their motor symptoms and any side effects during microstimulation.

Learning points

An awake craniotomy for DBS allows a more precise location for microelectrode placement as it can be guided by motor improvement. In GA and AAA, micro recording and stimulation testing can be a challenge as the patient is not awake (in GA) or deeply sedated (in AAA) and risk of anaesthetic drug effects on microelectrode recording and stimulation (both GA and AAA). This can lead to sparse, disorganised, and unreliable firing patterns.

Conclusion

Scalp block and MAC are the most suitable mode of anaesthesia for DBS as it has a higher success rate with shorter intensive care time and hospitalization compared to other techniques.

ID 058

MATERNAL DOUBLE TROUBLE: A CASE REPORT

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Introduction

Acute airway obstruction is always a nightmare to every medical practitioner as it exhibits various difficulties in airway management such as difficult intubation and ventilation, which may lead to severe respiratory complications. Thus, appropriate assessment, discussion, and planning among multidisciplinary teams is vital to ensure a good outcome with minimal or without any complications.

Case description

We report a case of a previously active 34-year-old woman, gravida 2 para 0 + 1 presented with stridor. She was scheduled for an elective Caesarean section in view of intrauterine growth restriction. The patient had a history of pulmonary tuberculosis in 2018 and COVID 19 4a infection in 2022. Antenatally, the patient was asymptomatic until 36 weeks of gestation, where she presented with respiratory distress and reduced effort tolerance. ENT team was referred for rigid laryngoscopy that showed areas of stenosis in the subglottic and glottic regions. Preoperative CT of the neck and thorax revealed mild subglottic stenosis with features of chronic lung changes. Multidisciplinary conference was done to anticipate difficulty in airway management and possible complications associated with foetal wellbeing: we reached a consensus of tracheostomy under local anaesthesia followed by Caesarean section. EUA, direct laryngoscopy, and biopsy were done in the same setting under general anaesthesia. We proceeded to surgery with high-risk consent, ICU backu,p and TB contact precaution. Postoperatively, the patient was admitted to ICU for 2 days then discharged home after 3 days in ward with appointment and proper follow up at ENT and O&G clinic.

Conclusion

A pregnant woman with subglottic stenosis demonstrated a higher risk of airway compromise. A multidisciplinary team approach during perioperative planning together with good communication were the key factors in the successful management of this unfortunate condition.

ID 060

GROWING MASS INSIDE YOUR CHEST… WATCH OUT: A CASE REPORT

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Introduction

Mediastinal masses can present challenges for anaesthetists as they can cause major airway and vascular compression that may lead to hypoxia and death.

Case description

A 33-year-old female with no known medical illness, presented with a 4-month history of worsening shortness of breaths associated with noisy breathing, orthopnoea, worsening bilateral neck swelling, and dilated vessels in the chest and neck area. Based on chest X-ray, there was a large mediastinal mass with possibility of lymphoma. At presentation, she was unable to lie flat and was thus planned for CT of the thorax. Initially, she to be referred tothe cardiothoracic centre for further management, but the patient became more tachypnoeic and we decided for awake fibre optic intubation in sitting position in the operating theatre. We were able to intubate, but unable to ventilate the patient due to external compression of airway. Although multiple manoeuvres were done to ventilate the patient, hypoxia and asystole increased but then she revived. We had difficulty ventilating in various positions other than sitting and leaning forward. We were only able to ventilate after we pushed the ETT beyond the compression. Patient was sent to ICU for further stabilisation. In ICU, we still had difficulties in maintaining adequate oxygen saturation, until chemotherapy was commenced. Unfortunately, the patient already developed HIE secondary to hypoxia from prolonged desaturation due to difficulties in ventilation.

Conclusion

This case was very challenging in term of difficulties in securing the airway and ventilation. Patient may have had a better prognosis if it was promptly diagnosed with adequate management.

ID 062

ANAESTHETIC CHALLENGES IN ACHONDROPLASIA PATIENT UNDERGOING CAESAREAN SECTION

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Introduction

Achondroplasia is a genetic disorder characterized by disproportionate short stature due to abnormalities in cartilage formation, which can have widespread effects on various organ systems. In this case report, we describe the dilemmas encountered and the strategies employed to provide safe anaesthesia for our patient.

Case description

A 22-year-old primigravida with achondroplasia (height: 92 cm; weight: 26 kg) at 33 weeks and 3 days of gestation, underwent an emergency Caesarean section due to bleeding placenta previa type III. The surgery was performed under general anaesthesia, during which we encountered significant challenges with ventilation and intubation. Despite these difficulties, the patient recovered well without any complications.

Learning point

Our report highlights the dilemmas that we faced in deciding the mode of anaesthesia. Administering anaesthesia to individuals with achondroplasia involves 2 primary concerns: difficult spinal access and challenging airway management.

Conclusion

This case report provides a reference for anaesthesiologists managing patients with achondroplasia. The risks associated with both regional and general anaesthesia in achondroplastic patient are well documented. Therefore, thorough preoperative assessment is crucial in deciding for the mode of anaesthesia.

ID 063

PATIENT RECOVERING FROM GUILLAIN-BARRÉ SYNDROME UNDERGOING ELECTIVE LOWER SEGMENT CAESAREAN SECTION: A CASE REPORT

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Introduction

Guillain-Barré syndrome (GBS) is one of the common causes of acute acquired weakness and may lead to respiratory failure or autonomic dysfunction. This gives significant challenges to anaesthetists. Complications include the risk of GBS relapse, perioperative haemodynamic instability, and postoperative pain management complexities.

Case description

A 41-year-old female, Gravida 7 Para 5+1 at 38 weeks of gestation, was scheduled for an elective lower segment Caesarean section. The patient had been diagnosed with GBS, specifically acute motor sensory axonal neuropathy (AMSAN), at 18-weeks' gestation. Initial management included non-invasive ventilation and intravenous immunoglobulin therapy, which led to significant improvement in her condition. Preoperative assessment revealed stable vital signs with no respiratory compromise. Neurological examination showed bilateral sensory reduction in the L4, L5, and S1 dermatomes, but muscle strength was preserved and there was no evidence of autonomic dysfunction. After careful consideration of the risks and benefits, and obtaining informed consent, spinal anaesthesia was chosen as the anaesthetic technique.

Perioperatively, the Caesarean section was performed under spinal anaesthesia with careful haemodynamic monitoring throughout the procedure. The patient remained hemodynamically stable during the surgery, with no significant variations in blood pressure or heart rate. The immediate postoperative period was uneventful, with no exacerbation of neurological symptoms. Both maternal and neonatal outcomes were satisfactory, with good postoperative pain control and no new neurological deficits noted during the follow-up period.

Conclusion

Providing anaesthesia to pregnant patients with GBS is challenging, with both general and spinal anaesthesia presenting unique risks. Comprehensive pre-anaesthetic evaluation, documentation, counselling, and informed consent are crucial to managing these patients effectively.

ID 064

EXTERNAL OBLIQUE INTERCOSTAL PLANE BLOCK AS RESCUE ANALGESIA FOR LAPAROSCOPIC CHOLECYSTECTOMY CONVERTED TO OPEN CHOLECYSTECTOMY: A CASE REPORT

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Introduction

The external oblique intercostal (EOI) plane block is an emerging technique gaining popularity for providing analgesia in upper abdominal surgeries. Large surgical incisions in the upper abdominal region can lead to severe pain and pulmonary complications postoperatively.

Case description

We present a case involving a 37-year-old healthy female scheduled for elective laparoscopic cholecystectomy due to cholelithiasis. Mid-operation, the surgical team decided to convert the procedure to an open cholecystectomy. Upon completion of the surgery, an EOI block was administered at the T7 level with the patient in a supine position. A total volume of 20 mL of 0.2% ropivacaine was injected, and a catheter was placed in the external oblique space. Continuous infusion of 0.1% ropivacaine was initiated in the general ward, supplemented by multimodal analgesia. Pain scores assessed frequently in the ward revealed scales of less than 4. The patient did not develop any postoperative pulmonary complications and was discharged home on the third postoperative day. The EOI block is a novel technique that provides analgesia by blocking the lateral and anterior cutaneous branches of the intercostal nerves from T6 to T11. Its superficial location makes it easily identifiable using ultrasonography, and it shares a similar safety profile with the erector spinae plane block due to its compressible location. Additional advantages include not interfering with surgical incisions, being distant from vascular sites, and ease of administration in the supine position.

Conclusion

The EOI plane block demonstrates good efficacy in providing analgesia and is simple and easy to perform, making it a valuable option for anaesthetists. However, larger studies and more data are needed to compare this block with the gold-standard practices.

ID 065

ANAESTHETIC MANAGEMENT OF A CAESAREAN DELIVERY OF PARTURIENT WITH WOLF-PARKINSON-WHITE SYNDROME

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Case description

We had a 31-year-old primigravida with asymptomatic Wolf-Parkinson-White (WPW) syndrome planned for an elective Caesarean section for oblique lie. Her Caesarean section was done under regional anaesthesia which was a combined spinal epidural (CSE) technique. Cardiology team was involved during the management in the antenatal period and early preoperative assessment was done in our high-risk anaesthesia clinic. A plan for cardiac ablation would be prepared after delivery. She had an uneventful antenatal period, and we had extra preparation for drugs and monitoring for her Caesarean section. She safely delivered her baby under CSE anaesthesia and had close monitoring in the high-dependency unit of labour suite with good analgesia control via epidural infusion. From this case, we learned that the predisposing factors of pregnancy and labour, such as cardiovascular, hormonal, and emotional changes, may induce the onset of tachyarrhythmias in a previously asymptomatic parturient and may significantly affect maternal and foetal outcomes.

Conclusion

Meticulous monitoring is essential in the perioperative period. CSE is a safe technique to provide anaesthesia for Caesarean section with good haemodynamic stability and provides the option to titrate anaesthesia intraoperatively if required as well as a good postoperative analgesia strategy for a parturient with asymptomatic WPW syndrome.

ID 066

LEVOBUPIVACAINE PLUS INTRATHECAL MORPHINE AS ANALGESIA IN ABDOMINAL SURGERIES: A CASE SERIES STUDY

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Introduction

Analgesia for surgical laparotomies remains a challenging and tricky conundrum intraoperatively and postoperatively. Methods have been explored namely thoracic epidurals, regional anaesthesia, and intravenous patient-controlled analgesia.

Case description

Our case series shared the experience using intrathecal levobupivacaine plus morphine combined with general anaesthesia for surgical laparotomies in adults. Levobupivacaine (S-1-butyl-2-piperidylformo-2',6'-xylidide hydrochloride), a pure S (-) enantiomer of racemic bupivacaine, is a relatively new local anaesthetic that is an attractive alternative to racemic bupivacaine for spinal anaesthesia due to the lower potential for cardiotoxicity. Intrathecal morphine, as a hydrophilic agent, can maintain its concentration in the cerebrospinal fluid for longer duration of action and more analgesic spread above the injection point which provides a wider area of analgesic coverage. There are limited studies on the benefits of intrathecal opioid with levobupivacaine for abdominal surgeries. We included all adult patients receiving levobupivacaine and intrathecal morphine for abdominal surgeries from surgical and Obstetrics and Gynaecology from January to June 2024. Patient details, characteristics, intraoperative data, and postoperative outcomes were retrieved from medical records. Our case series study observed the quality of analgesia intraoperatively and postoperatively in addition to patient satisfaction and its side effects. Few patients demonstrated haemodynamic instability intraoperatively requiring low-dose vasopressor and were weaned off at the end of surgery. Otherwise, excellent satisfaction in terms of pain control among all patients. We noted the ease of early ambulation as less catheters and infusion pumps were required.

Conclusion

It was demonstrated that levobupivacaine plus intrathecal morphine could be advocated as an alternative to patient-controlled analgesia opioid and reduces long-acting intraoperative and postoperative opioid usage. However, a larger sample size is still required to evaluate the safety and efficacy in clinical practice.

ID 067

COMPLETE MATERNAL RECOVERY AFTER PROLONGED CARDIAC ARREST

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Introduction

Maternal cardiac arrest is an infrequent, yet dreadful occurrence and patient outcomes depend on timely and effective resuscitation. Sudden obstetric collapse has a wide range of aetiologies and peripartum haemorrhage is a common and reversible pregnancy-specific cause which can result in mortality if poorly managed. Despite the standardised guidelines for cardiopulmonary resuscitation (CPR), recommendations on optimal resuscitation duration for favourable neurological outcomes remain unclear. Studies have shown a decline in survival rate when the duration of CPR is more than 10 minutes and reported medical futility after 30 minutes.

Case description

A 43-year-old female with gravida-3-parity-2 at 28 weeks of gestation with 2 previous histories of Caesarean section was brought to the emergency department in a state of shock followed by cardiac arrest. In addition to the activation of massive transfusion protocol, immediate perimortem Caesarean section was commenced as part of the resuscitation process. The intraoperative findings revealed uterine rupture with placenta accreta, resulting in a total estimated blood loss of 15 L. Advanced cardiac life support measures, including approximately 1 hour of chest compressions and defibrillation for ventricular fibrillation, were executed until spontaneous return of maternal circulation. After surgery, the patient was transferred to the intensive care unit for post-resuscitation stabilisation of haemodynamics and ventilation. Although several complications were encountered throughout her hospital stay, she was discharged home after 5 weeks with no neurological sequelae. This review highlights the strategies employed by our healthcare team in managing this critical event.

ID 071

EPIDURAL LOSS OF RESISTANCE TECHNIQUE: SALINE OR AIR? A RARE CASE OF POSTOPERATIVE DELIRIUM WITH PNEUMOCEPHALUS

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Case description

We report a case of an octogenarian with fluctuating postoperative Glasgow Coma Scale (GCS) after multiple attempts at combined spinal epidural (CSE) which was converted to continuous spinal anaesthesia (CSA) due to accidental dura puncture for a left hemiarthroplasty. His CT of the brain showed pneumocephalus in bilateral ventricles, no mass effect, with multifocal chronic infarcts, cerebral atrophy, and small vessel disease. He did not demonstrate any headache typical of pneumocephalus or dura puncture. Neurological examination showed normal power, intact sensation, and normal reflexes. He was managed conservatively and treated as delirium secondary to medical conditions and was subsequently discharged with a full GCS. He was readmitted for symptomatic hypoglycaemia and pneumonia and succumbed on postoperative day 22. Pneumocephalus confounded the diagnosis for postoperative delirium and was an unexpected complication in CSE that required a high index of suspicion to diagnose. There were some mixed results on the advantages of using saline over air in terms of incidences of post dural puncture headache, ease of catheter placement, quality and onset of analgesia, and occurrence of dural puncture. Nevertheless, using saline instead of air for the loss of resistance technique may confer additional safety net in preventing potential air embolism or pneumocephalus if a vessel or dura was inadvertently breached.

ID 074

CASE SERIES: ANAESTHETIC MANAGEMENT OF LAPAROSCOPIC SURGERY IN PATIENTS WITH CARDIAC ABNORMALITY

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Introduction

Laparoscopic surgery in patients with cardiac abnormalities requires evaluation with a comprehensive diagnostic approach because it can lead to cardiovascular and respiratory complications that may lead to haemodynamic instability.

Case description

A 3-year-old male patient diagnosed with disorders of sexual development, double outlet right ventricle, patent ductus arteriosus, ventricular septal defect, great artery malposition, bilateral undescended testes, and kwashiorkor marasmus underwent bilateral orchidopexy and laparoscopic evaluation.

A 17-year-old male patient with diagnosis of stage I hypertension under treatment, stage C FC II heart failure, moderate pericardial effusion, mild mitral regurgitation, mild aortic regurgitation, mild pulmonary regurgitation, anaemia, and renal failure underwent laparoscopic treatment.

In both cases, the patients belonged to high-risk groups for laparoscopic surgery. In case 1, the patient had a history of cardiovascular disease in the form of congenital heart disease which included DORV with VSD, malposition of the great arteries, PDA, and severe TR. Meanwhile, in case 2, the patient experienced stage I hypertension on treatment, stage C FC II heart failure, moderate pericardial effusion without cardiac tamponade, mild mitral regurgitation (MR), mild aortic regurgitation (AR), mild pulmonary regurgitation (PR), anaemia, and kidney failure in routine haemodialysis therapy.

Learning point

Hemodynamic monitoring, ventilation, oxygenation, and perfusion are used to prevent cardiovascular complications during laparoscopic surgery. The patients did not experience any complications from laparoscopic surgery

Conclusion

Anaesthetic management of patients who have cardiac abnormalities presents a significant challenge for anaesthesiologists. Laparoscopic surgery causes haemodynamic changes that can increase the mortality of patients with cardiac abnormalities.

ID 080

CASE SERIES: ANAESTHESIA MANAGEMENT OF CESAREAN SECTION IN WOMAN WITH PERIPARTUM CARDIOMYOPATHY

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Introduction

Peripartum cardiomyopathy (PPCM) is a cardiomyopathy that occurs in late pregnancy or within 5 months of delivery without existing cardiac isues before pregnancy, with the rate of recovery of cardiac function and normalisation of left ventricular ejection fraction varying considerably. PPCM can lead complications such as severe pulmonary oedema, cardiogenic shock, arrhythmia, and thromboembolism.

Case description

Case 1: A 34-year-old female patient with mild mitral regurgitation, mild tricuspid regurgitation, mild pulmonary regurgitation, intermediate probability pulmonary hypertension, hypertensive heart failure, and obesity underwent Caesarean section. Anaesthesia was performed using combined epidural and low-dose spinal techniques with ropivacaine and bupivacaine.

Case 2: A 26-year-old female patient with a diagnosis of PPCM and mild mitral regurgitation underwent Caesarean section. Anaesthesia was performed using combined epidural and low-dose spinal technique with ropivacaine and bupivacaine.

Case 3: A 26-year-old female patient with PPCM, thrombocytosis, and hypoalbuminemia underwent Caesarean section. Anaesthesia was performed using epidural technique with ropivacaine and fentanyl.

Case 4: A 30-year-old female patient with PPCM, marginal placenta previa, uterine myoma, and severe myopia underwent Caesarean section. anaesthesia was performed using epidural technique with ropivacaine and fentanyl.

Conclusion

The use of epidural anaesthesia with or without combined low-dose spinal technique causes no or minimal haemodynamic changes in patients.

ID 081

LOW-DOSE SPINAL COMBINED EPIDURAL: AN ANESTHETIC TECHNIQUE FOR PARTURIENTS IN PATIENTS WITH CONGENITAL HEART DISEASE

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Introduction

Heart disease in pregnant women can be rheumatic heart disease, cardiomyopathy, and congenital heart disease. A low-dose spinal combined epidural is effective in Caesarean delivery with minimal side effects and reasonable outcomes in parturients with cardiac disease. We describe the successful use of a low-dose spinal combined epidural anaesthesia in a parturient with congenital heart disease for Caesarean section. The primary anaesthetic management in patients with congenital heart disease during Caesarean delivery is combined low-dose spinal anaesthesia, which has been proven effective in providing adequate analgesia while having minimal effects on the cardiovascular system.

Case description

This case series involved 14 patients with various congenital heart conditions who underwent Caesarean section. Lower anaesthetic doses optimise dose control with rapid analgesia and reduce the risk of excessive cardiac stress. They also reduce the risk of side effects, such as a decrease in blood pressure or respiratory problems, which are a major concern in pregnant women with vulnerable heart conditions. Additionally, mothers can recover more quickly from anaesthesia effects, which supports a faster recovery process. All 14 patients were discharged in good condition after surgery.

Conclusion

Combined low-dose spinal epidural anaesthesia has proven the best option for mothers with congenital heart disease undergoing Caesarean delivery with good results and minimal risk of side effects.

ID 082

JET VENTILATION IN MANAGEMENT OF INTRAOPERATIVE TRACHEAL INJURY

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Introduction

Although rare, intraoperative tracheobronchial injury is a life-threatening complication that may be caused by dissection of the surgical site or introduction of an endotracheal tube.

Case description

A 61-year-old lady with a known case of colorectal adenocarcinoma was planned for right video assisted thoracotomy and right lower lobe basilar segmentectomy. She was intubated with a left-sided double lumen tube (DLT) sized 37Fr, placement was confirmed with fibreoptic guidance which had no resistance and was uneventful. Anaesthesia was maintained with sevoflurane. Intraoperatively, the surgeon noticed air collection in the paratracheal region post segmentectomy. A second look with fibreoptic bronchoscopy revealed a linear tracheal tear along the posterior wall 5 cm above the carina. An immediate thoracotomy and tracheal repair were performed. Anaesthetic management was converted to ManuJet ventilation and TIVA providing better access for tracheal repair. A Cook's airway replaced the DLT by rail route method placed into the left main bronchus. Jet pressure given with a hand trigger between 1.5-2 bar while observing adequate chest rise and fall.

Learning point

By using a smaller lumen tube, for example, a microlaryngeal tube (MLT), flexometalic tube (reinforced), or laser resistant tube, and in this case a Cook's airway for a tubeless field, Jet ventilation provides better surgical site exposure and less direct mucosal trauma than endotracheal tubes. Pitfalls are degree of gas exchange are unknown throughout jet ventilation. It does not provide airway protection against aspiration from surgical debris. This device lacks airway pressure and end-tidal carbon dioxide monitoring. Inhalational agents are unable to be administered though this route. Main complication is barotrauma where air trapping causes subcutaneous emphysema, pneumothorax, pneumopericardium, or pneumomediastinum.

Conclusion

Due diligence in providing the most appropriate treatment for a tracheal injury is communication between anaesthetist and surgeon. Surgeon's experience and prospective challenges by surgeon should be taken into consideration.

ID 085

MANAGING A DIFFICULT PAEDIATRIC AIRWAY IN DISTRICT HOSPITAL

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Introduction

An emergency referral of difficult intubation, especially in the syndromic paediatric population, is a nightmare scenario for anaesthesiologists. Even worse if it occurs when there are limited resources. It poses a challenge as it has relatively more difficulties in the technique of endotracheal intubation and restricted manipulation as compared to adults.

Case description

We present here a case of a 2-month-old baby boy with underlying Pierre Robin syndrome, who was admitted for bronchopneumonia and required invasive ventilation due to impending respiratory collapse. Trial of intubation attempted by the paediatric team at NICU was unsuccessful. We were also not able to intubate him despite using Bougie-assisted intubation and video laryngoscope. We decided to insert LMA and ventilate him using LMA while waiting for tracheostomy. Definitive surgical airway was done in OT with the presence of visiting paediatric anaesthesiologist and paediatric ENT surgeon. Prior to tracheostomy, we intubated the patient by using TIVA and hybrid airway technique: fibreoptic intubation through LMA Supreme size 1.5. Ideally this case should be better managed in a tertiary healthcare facility with qualified personnel, including paediatric anaesthesiologists, appropriate surgical support, and adequate equipment.

Conclusion

When confronted with a paediatric difficult airway, it is essential to have a team of experienced specialists and staff to conduct a complete evaluation and implement appropriate management strategies.

ID 087

ROLE OF EARLY PROTHROMBIN COMPLEX CONCENTRATE IN THE MANAGEMENT OF DISSEMINATED INTRAVASCULAR COAGULATION SECONDARY TO AMNIOTIC FLUID EMBOLISM

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Introduction

Amniotic fluid embolism (AFE) is a potentially fatal complication of pregnancies and a known sequalae of AFE is disseminated intravascular coagulation (DIC) and uncontrolled haemorrhage.

Case description

We report a case of AFE that developed sudden unexplainable tonic clonic seizures, hypoxia, and cardiorespiratory arrest post-delivery of baby via LSCS. Patient revived after immediate cardiac resuscitation. Bedside echocardiography showed a dilated right ventricle. Post resuscitation was complicated by overt DIC. The initial INR was 5.6 and APTT > 180 with clinical evidence of continuous oozing from the surgical site. The patient was transfused 1 cycle of DIC regime. However, postoperatively in the ICU, there was still evidence of intraperitoneal bleeding from the rapid filling up of abdominal drain and dropping haemoglobin. The drawback in the management was the unavailability of a point-of-care (POC) viscoelastic testing that could assist in the recognition of the depleted coagulation factors. The type and amount of blood product to transfuse had to be determined clinically as laboratory investigations can be delayed. Transfusion of prothrombin complex concentrate (PCC) at this point of time instead of massive amount of blood products seemed reasonable as there was already evidence of compromised right ventricle. A total of 6 vials of PCC in addition to 13 pint of packed cells, 30 units of cryoprecipitate, 18 units of fresh frozen plasma, and 12 units of platelets were given. The patient responded and was extubated the next day with no neurological deficit.

Learning point

POC coagulation assay is a valuable tool in the management of severe DIC that is often seen as a sequelae of AFE. PCC transfusion can be considered in patients with severe DIC as this may negate the need of massive transfusion of blood products with the attending complications.

Conclusion

Good outcome is probable from AFE if the patient is diagnosed early and managed aggressively by a multi-disciplinary team.

ID 095

A CASE REPORT OF FORAMEN MAGNUM DECOMPRESSION IN A CHILD WITH SHWACHMAN-DIAMOND SYNDROME

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Introduction

Shwachman-Diamond syndrome is a rare autosomal recessive disorder. SDS is characterized by exocrine pancreatic insufficiency, bone marrow dysfunction, and skeletal deformities.

Case description

This case report describes a 6-year-old girl who underwent foramen magnum decompression + C1 laminectomy + duraplasty for syringomyelia with Chiari Type 1 malformation. The child was diagnosed with Shwachman-Diamond syndrome at the age of 2.5 years in view of failure to thrive with anaemia and thrombocytopenia. The diagnosis was confirmed with whole-exome sequencing. She was noted to have scoliosis at the age of 6 years, with MRI of the whole spine done, noted syringomyelia, and basilar invagination, likely Chiari Type 1 malformation.

Upon hospital admission, she weighed 10.1kg (< 1 percentile) and requiring total parenteral nutrition to build up her weight for operation. On the day of surgery, her body weight was 11.6kg (< 1 percentile) and height 98 cm (< 1 percentile). Her platelet count was 79 x 106/L on the day prior to surgery.

Intraoperative monitoring used included standard monitoring as per Malaysian guidelines, intra-arterial blood pressure monitoring, urine output and temperature. During induction of anaesthesia, she was given IV lignocaine 5 mg, IV fentanyl 10 mcg, IV propofol 40 mg, and IV rocuronium 15 mg. The patient was intubated with a flexometallic endotracheal tube size 4.5 mm uncuffed using Glidescope blade 2. Anaesthesia was maintained with sevoflurane with oxygen and air as carrier gas, MAC maintained at 0.9-1.0. Intraoperative ventilation was uneventful using pressure-controlled ventilation FiO_2 0.5, IP 14 cmH_2O, respiratory rate 28/min, PEEP 5 cmH_2O and I:E 1:1.5. In view that the operation involved a closed space neurosurgery, she was transfused 10 ml/kg platelet concentrates post-induction of anaesthesia. She was given IV dexamethasone 1.5 mg and IV ondansetron 1.5 mg as postoperative nausea vomiting prophylaxis. Analgesia was maintained with IVI remifentanil at 0.1-0.15

mcg/kg/min intraoperatively, IV paracetamol 15 mg/kg, and local anaesthesia infiltration given by surgeon at skin closure. The operation lasted for 3 hours in prone position. Postoperatively, the patient was extubated and sent to paediatric intensive care unit for close monitoring. Patient was not in pain and recovered well.

Conclusion

This case highlighted the importance of multidisciplinary team management in preparing the patient for surgery, from early ward admission by the paediatric gastroenterology team for building up her body weight, haematological team involvement for pancytopenia, and paediatric intensive care unit for close postoperative monitoring. Airway management should be taken with care in patients with Shwachman-Diamond syndrome, especially in this case.