Malaysian Society of Anaesthesiologists &

College of Anaesthesiologists, AMM

# ANNUAL SCIENTIFIC CONGRESS 2022

# MYANAESTHESIA 2022: FOCUS

# ABSTRACT BOOK

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# Table of Contents

# 1. Messages

## Dato' Dr Asmayani Khalib

*Deputy Director-General of Health (Medical), Ministry of Health, Malaysia*

I would like to thank the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia for inviting me to officiate the Annual Scientific Congress. I was informed that it has been three years since the last Congress was physically held in Ipoh, Perak in 2019. I am certain we are all grateful to be able to meet in-person after a long hiatus.

The last three years has been, without a doubt, a roller coaster ride of physical and mental emotions. From scrambling to organise our Intensive Care Units, to the vaccination exercises and many other responses throughout the pandemic, it goes without saying that we have learnt plenty along the way. Not the very least, the importance of working together for one common goal which brings me to the theme that is so aptly chosen by the Organising Committee, "MyAnaesthesia 2022: FOCUS - Forging Onwards to a Collaborative Unified Success". My sincere congratulations for setting the tone for what I hope would be the path ahead as we move towards the next phase of our healthcare response.

I am appreciative of the many efforts that have been taken by both the MSA and the CoA in aiding the Ministry of Health to combat the pandemic. My sincere gratitude goes to the many members who have been working tirelessly. In addition to the ongoing clinical work, the MSA and the CoA have also tirelessly conducted many webinars, produced up-to-date guidelines and numerous educational material that allowed for a systematic approach in battling the pandemic. For that, I take this opportunity to convey my admiration, on behalf of the Ministry of Health, to both the MSA Executive Committee and the CoA Council under the leadership of Professor Dr Ina Ismiarti Sharifuddin and Professor Dr Marzida Mansor, respectively.

I trust that the challenges of organising meetings via the online or hybrid method is no longer something that we fret upon. The advantages of hosting meetings via the online portal have allowed the participation of many beyond the confines of the conference halls. Nevertheless, the opportunity to reconnect and share ideas in person is something that many of us have missed over last three years. I hope the delegates will take time to appreciate the efforts of the respective committees for persevering in organising the Congress despite the challenges.

The scope and breadth of the scientific programme provides the backbone to the success of the Congress. The participation of many eminent local and overseas speakers will enable delegates to learn from their expertise and thus, help improve future patient care.

Finally, I would like to thank the biomedical industry for being instrumental in many of our responses during the COVID-19 pandemic. We hope the collaboration with the industry and the clinicians continue to be positively enhanced. I am happy to see many of them physically present on site showcasing the latest products and medications that can be of use to our clinicians.

## Professor Dr Ina Ismiarti Shariffuddin

*President, Malaysian Society of Anaesthesiologists*
*Organising Chairperson, MSA and CoA Annual Scientific Congress 2022*

I am pleased to welcome you to the Annual Scientific Congress 2022 of the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia. I would like to thank Dato' Dr Asmayani Khalib, Deputy Director-General of Health (Medical), for officiating this congress. MyAnaesthesia 2022 is the first hybrid meeting organised by the MSA and the CoA since Malaysia entered the endemic phase of COVID-19.

The theme of our congress is "MyAnaesthesia 2022: FOCUS - Forging Onwards to a Collaborative Unified Success". We have invited prominent international and local speakers to present, share and discuss scientific questions, achievements, issues and challenges relevant to Anaesthesia and Critical Care. I believe this premier congress offers exciting plenaries, symposia and cutting-edge pre and in-congress workshops. In addition, we hope MyAnaesthesia 2022 provides a good platform for our fraternity to network, meet and interact with distinguished experts, clinicians, researchers, educators and biomedical industry partners to share experiences, foster collaborations, make new friends, and rekindle acquaintances.

I would like to congratulate the Scientific Committee led by Dato' Dr Yong Chow Yen for the excellent academic content planned meticulously to cater to our precious participants' different needs. I would like to thank the Organising Committee and the secretariat for their ideas, dedication, and hard work in ensuring the smooth running of this congress.

My gratitude goes to all the biomedical industries that have continuously given us their support. I would like to express my most profound appreciation to all the faculty who took the time out of their busy schedules to share updates in their fields of expertise. Finally, I thank all of you, our delegates, for participating in this Congress. I wish all of you an engaging and productive conference participation!

## Professor Dr Marzida Mansor

*President, College of Anaesthesiologists, Academy of Medicine of Malaysia*
*Deputy Organising Chairperson, MSA and CoA Annual Scientific Congress 2022*

It is my great pleasure to welcome you to the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia Annual Scientific Congress 2022 (MyAnaesthesia 2022). After two years of battling the COVID-19 pandemic, many of us are looking forward to a physical MyAnaesthesia event. Hence, we have decided to organise a hybrid Congress to give the participants the choice of virtual or physical attendance, whichever suits them. I would like to thank Dato' Dr Asmayani Khalib, Deputy Director- General of Health Malaysia (Medical), for officiating this event.

This year's theme, "FOCUS: Forging Onwards to a Collaborative Unified Success", is apt because as anaesthesiologists' skill sets become increasingly specialised, collaboration as a practice becomes more important than ever. Collaboration can lead to a unified success when a group of people come together and contribute their expertise for the benefit of a shared objective or mission. It has been shown that organisations that collaborate well are more likely to be financially successful, culturally aligned and have higher engagement rates.

In line with the theme, we have added many topics in the scientific programme focusing on newer possible collaborative efforts such as Perioperative Medicine, Guideline Updates and Sustainability in Anaesthesia. There are many interesting and stimulating plenaries, symposia, problem-based learning sessions and refresher courses to choose from.

Please visit the physical and virtual booths supported by the biomedical industry that feature the latest information available in anaesthesia pharmacotherapy and technology, to participate in the lucky draws and so on. You can also take the opportunity to meet old friends and colleagues physically or virtually at this congress.

I would like to thank the Organising Committee for their hard work and creativity to make this congress a success. My special thanks also to the Scientific Committee led by Dato' Dr Yong Chow Yen, partners from the biomedical industry, the secretariat, the virtual platform provider and, last but not least, to all participants of the Congress.

I wish everyone a successful and enjoyable Congress.

## Dato' Dr Yong Chow Yen

*Scientific Chairperson MSA and CoA Annual Scientific Congress 2022*

Welcome to the 59th Annual Scientific Congress of the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia. Welcome to Kuala Lumpur.

In October 2021, the Scientific Committee was appointed and entrusted with the job of organising the academic content of this Congress. We were uncertain then whether the COVID-19 pandemic would be over by August 2022 or would we have to isolate ourselves at home again. We certainly hoped that our members and fraternity would return to some normalcy and have a face-to-face Congress and if the situation were to take a bad turn, we could rapidly switch to a virtual format. Thus, we conceptualised a hybrid meeting where our members who are on duty or are unable to travel, for some reasons, the opportunity to attend the congress virtually. Those who registered physically have the flexibility of joining via the virtual platform. Herein lies the philosophy of the MSA and the CoA that knowledge must reach out to our members using all technologies available and accessible as possible.

Nevertheless, it is our sincere wish that delegates who have registered as physical will attend in-person and fill up the conference halls to the brim. We hope you will take this opportunity to enjoy the fraternity comradeship and up-lifting conversations in the physical setting. After two and a half years of gruelling pandemic work, followed by clearing of surgical backlog, we strive to provide everyone a pleasant place to catch up with friends, colleagues, and industry partners.

There are four tracts in the scientific programme. Three tracts are hybrids, covering perioperative medicine, subspecialty anaesthesia, non-anaesthesia technical skills, well-being and professionalism. Physical participants have the option to attend the fourth track which consists of problem-based learning sessions and in-congress workshops. The objective of the physical-only tract is to provide more effective learning opportunities.

There are four pre-congress and three in-congress workshops to meet the delegates' varying interests and needs. Difficult airway, transoesophageal echocardiography, neuroanaesthesia monitoring modalities, erector spinae blocks and ultrasound guided vascular access aim to introduce new knowledge and refresh our skills.

Anaesthesiology trainers and trainees will have dedicated sessions. There are two precongress workshops (*i.e.*, Simulation and Work-based Assessment Train-the-Trainer workshops), and a Master and Parallel Pathway Trainee session, where trainees and trainers are given updates and the opportunity to interact with the panel.

The members of the Scientific Committee would like to express our sincere gratitude to our speakers, chairpersons and delegates for the overwhelming support. We wish the oral and posters presenters all the best in their presentations. I wish to thank my two able Co-Chairpersons, Associate Professor Dato' Dr Wan Rahiza Wan Mat and Associate Professor Dr Azarinah Izaham and members of the Scientific Committee for their hard work.

With these, we hope to provide a wide comprehensive, inclusive and, most of all, enjoyable programme. It is our aim that knowledge should be made accessible to our members as much as possible.

# 2. Malaysian Society of Anaesthesiologists

# Executive Committee 2021-2022

| | |
|---|---|
| President | Professor Dr Ina Ismiarti Shariffuddin |
| President-Elect | Dato' Dr Yong Chow Yen |
| Immediate Past President | Professor Dr Marzida Mansor |
| Chairperson | Datin Dr V Sivasakthi |
| Honorary Secretary | Dr Gunalan Palari Arumugam |
| Honorary Treasurer | Dato' Dr Seah Keh Seng |
| Committee Members | Associate Professor Dr Azarinah Izaham<br>Associate Professor Dr Loh Pui San<br>Dr Mohd Azizan Ghazali<br>Dr Kevin Ng Wei Shan<br>Dr Shahridan Mohd Fathil |
| Coopted Committee Members | Lt Col Dr Mohamad Azlan Ariffin<br>Associate Professor Dr Wan Mohd Nazaruddin Wan Hassan |

# 3. College of Anaesthesiologists, AMM

# Council 2021-2022

| | |
|---|---|
| President | Professor Dr Marzida Mansor |
| Vice President | Associate Professor Dr Muhammad Maaya |
| Honorary Secretary | Datin Dr Vanitha Sivanaser |
| Honorary Treasurer | Associate Professor Dato' Dr Wan Rahiza Wan Mat |
| Council Members | Associate Professor Dr Azarinah Izaham<br>Dr Gunalan Palari Arumugam<br>Dato Dr Jahizah Hassan<br>Professor Dr Rafidah Atan |
| Coopted Council Members | Dr Hasmizy Muhammad<br>Dato' Dr Yong Chow Yen |

# 4. Organising Committee

| | |
|---|---|
| Advisor | Datin Dr V Sivasakthi |
| Organising Chairperson | Professor Dr Ina Ismiarti Shariffuddin |
| Deputy Organising Chairperson | Professor Dr Marzida Mansor |
| Scientific Chairperson | Dato' Dr Yong Chow Yen |
| Honorary Secretary | Dr Gunalan Palari Arumugam |
| Honorary Treasurer | Dato' Dr Seah Keh Seng |
| Deputy Scientific Chairpersons | Associate Professor Dr Azarinah Izaham<br>Associate Professor Dato' Dr Wan Rahiza Wan Mat |
| Sponsorship & Trade | Dr Hasmizy Muhammad<br>Associate Professor Dr Wan Mohd Nazaruddin Wan Hassan |
| Publications | Associate Professor Dr Muhammad Maaya<br>Datin Dr Vanitha Sivanaser |
| Promotion & Publicity | Dato Dr Jahizah Hassan<br>Dr Shahridan Mohd Fathil |
| Social | Associate Professor Dr Loh Pui San<br>Dr Mohd Azizan Ghazali |
| AV / Technical Committee | Lt. Col Dr Mohamad Azlan Ariffin<br>Dr Kevin Ng Wei Shan |

# 5. Scientific Committee

| | |
|---|---|
| Scientific Chairperson | Dato' Dr Yong Chow Yen |
| Deputy Scientific Chairpersons | Associate Professor Dr Azarinah Izaham<br>Associate Professor Dato' Dr Wan Rahiza Wan Mat |
| Airway Anaesthesia | Associate Professor Dr Muhammad Maaya |
| Cardiac Anaesthesia | Dato Dr Jahizah Hassan |
| Critical Care / Simulation | Professor Dr Rafidah Atan |
| Education in Anaesthesia | Associate Professor Dr Wan Mohd Nazaruddin Wan Hassan |
| Field Anaesthesia | Lt. Col Dr Mohamad Azlan Ariffin |
| Neuroanaesthesia | Datin Dr Vanitha Sivanaser |
| Obstetric Anaesthesia | Dr Mohd Azizan Ghazali |
| Paediatric Anaesthesia | Professor Dr Ina Ismiarti Shariffuddin |
| Pain Management / Wellbeing | Professor Dr Marzida Mansor |
| Perioperative Medicine | Associate Professor Dr Loh Pui San<br>Dr Kevin Ng Wei Shan |
| Regional Anaesthesia | Dr Shahridan Mohd Fathil |
| Safety & Quality / Professionalism | Dr Gunalan Palari Arumugam |
| Ultrasound / Thoracic Anaesthesia | Dr Hasmizy Muhammad |

# 6. Original Article Abstracts

## ID: 003

### IMPROVING PERIOPERATIVE ACUTE PAIN MANAGEMENT WITH THE IMPLEMENTATION OF A PROTOCOL IN UNIVERSITY MALAYA MEDICAL CENTRE, PAIN OUT STUDY

**Nabilah Binti Abdul Ghani**, Marzida Mansor, Lim Siu Min

University of Malaya, Kuala Lumpur, Malaysia

Background

This study aimed at improving perioperative pain management and patient satisfaction in University Malaya Medical Centre (UMMC) by implementing a protocol which included preoperative patient education and perioperative pain management planning, multimodal analgesia techniques intraoperatively and postoperatively, and regular assessment of pain in the ward as well as assessment of patient reported outcome after surgery via patient outcome questionnaire.

Methods

Patients recruited with consent on postoperative day 1, were those who fulfilled the inclusion/exclusion criteria, followed the protocol and had undergone orthopaedics, gynaecological or surgical procedures. All data from this study was made anonymous and entered into the Pain Out registry for analysis as well as comparison through audit, feedback and benchmarking to improve quality of care. With the implementation of a protocol compared to the baseline audit done in UMMC some improvements were seen. Intraoperatively, more patients received peripheral nerve blockade for analgesia, and many received a wider range of non-opioids.

Results

In the recovery room, fewer patients required rescue analgesia with a reduction from more than 50% to 40%. In the ward, all patients received non-opioid analgesia and more patients from 50% to 66% received a form of opioid analgesia in which 23% received patient-controlled analgesia. Patient outcome after surgery improved, with

a reduction in maximum pain score from 5.82 to 4.75 and duration in severe pain reduced from 42% to 19%. The results also showed a reduction from 42% to 11% of patients who would like for more pain treatment than received. Patients' average satisfaction score in pain management received improved from 7.44 to 9.10.

## Conclusion

A protocol can act as a guide, but ultimately perioperative pain management has to be individualized and tailored accordingly.

## ID: 012

### OBSERVATIONAL STUDY: PREVALENCE OF PRE-OPERATIVE ANEMIA FOR ALL ADULT PATIENTS WHO NEED INTRAOPERATIVE OR EARLY POST-OPERATIVE TRANSFUSION

**J Ong**, TH Khoo

Hospital Pulau Pinang, Pulau Pinang, Malaysia

Background

Patient blood management (PBM) can prevent preoperative anaemia, but little is known about practice in Malaysia. To determine the proportion of pre-operative anemia in patients who need intra-operative or post-operative transfusion.

Methods

An observational study: data were collected from patient records. All data collected are anemic patient from Hospital Pulau Pinang underwent elective and emergency surgery from 26 Jan 2021 to 19 Feb 2021. A total of 100 anemic patients undergoing surgery age more than 18-year-old with male to female ratio 6 to 4. Prevalence of preoperative anaemia [haemoglobin (Hb) <13 g dl (male), Hb <12 g dl (female)] that required intra-operative or post-operative transfusion (primary endpoint), perioperative anaemia management, trigger for transfusion, postoperative Hb.

Results

Prevalence of anemic patient who required intra-operative or early post-operative transfusion is 15%. 40% of them from elective list and 60% from emergency list. Mean Hb preoperative 10.3 and drop to 9.4 post-operative. Perioperative anaemia correction all started intraoperative, and all patient transfused with homologous blood. Majority of patient was given 1 unit of blood upto 50%, 30% given 2 units, 20% given more than 2 units. 13% of patients who perioperative correction are those who had a repeated surgery. None of them preoperatively optimised. Various triggers contribute to perioperative correction. 50% due to low Hb intra-operatively, 40% due to hemodynamic instability, and 10% from other. 30% of these patients were treated with tranexamic acid perioperatively. Postoperative hemoglobin ranging from 7.4 to 13.1, with mean Hb 9.4

## Conclusion

Most patient underwent either elective or emergency surgery had a preoperative low Hb posted patient to a higher risk of perioperative correction. PBM measures such as and strategies to avoid transfusion still underused in Malaysia.

## ID: 021

### IMPACT OF DIABETES MELLITUS ON THE OUTCOME OF PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFT SURGERY

**Pravesh Arjan**, OSM Joanna

University Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Background

To study the impact of diabetes mellitus on the perioperative morbidity and mortality of patients undergoing coronary artery bypass graft (CABG) surgery.

Methods

We retrospectively reviewed the medical records of all patients who underwent elective CABG in University Kebangsaan Malaysia Medical Centre from year 2005-2021.

Results

Medical records of a total of 538 patients who underwent isolated elective CABG surgery with cardiopulmonary bypass and cardioplegia were reviewed. The mean age was 60.0 ± 8.7 years, predominantly male patients (82.3%). Overall, 53.7% of the patients were diabetics with 45.4% on oral hypoglycaemic agents and 8.4% on insulin therapy preoperatively. A significantly higher proportion of diabetics were smokers (p=0.040). There was also a significant correlation of diabetics with four comorbidities namely hypertension (p<0.001), history of previous acute myocardial infarction (p=0.020), peripheral vascular disease (p=0.010) and chronic kidney disease (p=0.001). The EuroSCORE II (predicts risk of in-hospital mortality after cardiac surgery) was also significantly higher among diabetics compared to non-diabetics (1.14% vs 0.89%, p<0.001). Postoperatively, we observed a significant higher rate of acute kidney injury requiring dialysis among the diabetics (6.9% vs 2.4%, p=0.001). The rate of postoperative complications such as chest reopen, arrhythmias, ventilation of more than 48 hours, reintubation, sepsis, and surgical site infection were also higher in the diabetic group.

## Conclusion

This study shows conclusively that diabetics in general have a higher perioperative morbidity and mortality following CABG surgery. Therefore, we suggest that extra precautionary steps and monitoring is required in the perioperative period for diabetics undergoing CABG.

## ID: 022

### EVALUATING THE RELIABILITY OF ACTA-PORT SCORE AS A PERIOPERATIVE BLOOD TRANSFUSION RISK PREDICTION TOOL FOR PATIENTS UNDERGOING CARDIAC SURGERY IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE

**WH Sahabudeen**, OSM Joanna

Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Background

Cardiac surgeries are high-volume consumers of blood due to concerns of bleeding and haemodilution during these procedures. The optimal perioperative haemoglobin concentration and specific transfusion triggers in cardiac surgery centres remain unclear. Recently, the ACTA-PORT score was devised from a large UK database showing good agreement between the predicted and observed probability of transfusion in UK cardiac surgery patients. The objective of the study was to evaluate the reliability of ACTA-PORT score in UKMMC cardiac surgery cohort.

Methods

Available medical records for patients who underwent elective CABG surgery with cardiopulmonary bypass over a 6-year period (2015-2020) were collected. The reliability of ACTA-PORT scores for our cohort were tested using the area under the receiver-operating characteristic (ROC) statistical test.

Results

Data from 303 patients (83.2% male) with average age of 60.1 years (range 30–85) were analysed. Mean preoperative haemoglobin concentration was 12.4 ± 1.8 g/dL. The proportion of patients receiving packed cell transfusion was 90.8% with average of 3.6 ± 2.4 packed cell units transfused per patient. The area under ROC curve from our dataset was 0.584 (95% CI 0.526, 0.642) showing a poor predictive ability of the scoring system for perioperative packed cell transfusion.

## Conclusion

Though it is a validated tool in the UK, the ACTA-PORT score is a weak predictor of packed cell transfusion for patients undergoing cardiac surgery in UKMMC. Further reliability test with larger sample size in Malaysian cardiac centres are required to determine its potential role in perioperative blood management strategies.

## ID: 027

### PREVENTION OF SHIVERING POST SUBARACHNOID BLOCK: COMPARISON BETWEEN DIFFERENT DOSES OF INTRAVENOUS MAGNESIUM SULPHATE

**RG Low**, A Izaham, J Md Zain, N Md Nor, HJ Low, AM Yusof

University of Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Background

Shivering is a common complication of a subarachnoid block (SAB). Magnesium sulphate has been proven to be effective in preventing shivering. This study aimed to compare the effectiveness and adverse effect in hemodynamic parameters between 50mg/kg and 30mg/kg of intravenous magnesium sulphate in the prevention of shivering post subarachnoid block.

Methods

Eighty-six patients scheduled for surgery under SAB, aged between 18 to 65 years old with American Society of Anesthesiologists physical status I and II were randomised into two groups. Group A received 50 mg/kg while Group B received 30 mg/kg of intravenous magnesium sulphate, given over 20 minutes following SAB. Shivering grades were recorded intraoperatively according to Crossley and Mahajan shivering scale. Mean arterial pressure (MAP), heart rate, tympanic temperature, oxygen saturation and the use of vasopressors were recorded.

Results

Forty-five percent of patients in Group A and 20% of patients in Group B did not exhibit shivering (p-value < 0.01). The high-grade shivering was observed in 12.5% in Group A and 40% in Group B, respectively (p-value 0.02). The MAP trend was lower in Group B (p-value < 0.01) but hypotension incidence was not significant in both groups. The use of vasopressors was also similar between groups. Group B showed a higher oxygen saturation trend (p-value 0.04). The trend of heart rate and tympanic temperature were not significant in both groups. No patient had episodes of bradycardia and oxygen desaturation.

## Conclusion

In this study, intravenous magnesium sulphate 50 mg/kg is the lowest effective dose in the preventing and treating high-grade shivering post SAB, without significant hemodynamic adverse events.

## ID: 028

### EFFECT OF EARLY HYPEROXIA IN CRITICALLY ILL AND NON-CRITICALLY ILL PATIENTS IN A TERTIARY HOSPITAL: A RETROSPECTIVE STUDY

**Kauthar Md Rashid,** Wan Rahiza Wan Mat, Ahmad Fairuz Abdul Shokri, Cheah Saw Kian, Jaafar Md Zain

Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Center, Malaysia

#### Background

To compare the clinical outcome of early hyperoxia in critically ill vs non-critically ill patients that they received in the first 24 hours of hospital admission.

#### Methods

This retrospective cohort study was conducted between January 2018 until March 2020. We included data from adult patients who received oxygen therapy in emergency department that had at least one arterial blood gas analysis performed. Patients who were <18 years-old or had chronic lung disease, acute myocardial infarction, had received oxygen therapy with the SaO2 < 88% or transferred to another hospital or discharged against medical advice were excluded. They were grouped into two groups, based on first 24 hours of partial oxygen arterial tension therapy (PaO2). Early hyperoxia group had PaO2 < 120 mmHg and normoxia group had PaO2 > 120 mmHg. They were further subclassified into critically ill and non-critically ill based on area of disposition from Emergency Department (critical care area vs non-critical care area).

#### Results

We recruited 912 patients and early hyperoxia occurred in 455 patients (49.9%) with 228 patients were disposed to critical area and 227 patients were transferred to non-critical area. Mortality was increased among patients who had early hyperoxia in the critical and non-critical area ($p < 0.001$). Following multivariable logistic regression analysis, early hyperoxia was an independent predictor for in-hospital all-cause mortality (adjusted OR 1.57 (1.04 – 2.37), p value = 0.032). Development of at least one organ dysfunction was statistically significant in hyperoxia group in non-critical

area. Of the organs assessed, patients with early hyperoxia in critical care had significantly higher dysfunction of the respiratory, cardiovascular, and renal systems.

## Conclusions

Early hyperoxia is associated with increased in-hospital all-cause mortality. The development of multiple organ dysfunctions such as respiratory, cardiovascular, and renal is increased in hyperoxic critically ill patients compared to non-critically ill patients.

## ID: 029

### A COMPARISON OF SYSTEMATIC VERSUS SUBDERMAL SURGICAL SITE INFILTRATION AFTER ABDOMINAL HYSTERECTOMY: A RANDOMISED CONTROLLED TRIAL

**Haridass Gunasegaran**[1], Wan Rahiza Wan Mat[1], Chew Kah Teik[2], Omar Sulaiman[3]

[1]Department of Anaesthesia and Intensive Care, Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Center, Malaysia; [2]Department of Obstetrics and Gynaecology, Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Center, Malaysia; [3]Department of Anaesthesia and Intensive Care, Hospital Sultanah Aminah, Johor Bharu, Johor, Malaysia

#### Background

To compare the effectiveness of two techniques of surgical site infiltration (SSI) after open abdominal hysterectomy with 0.2% ropivacaine.

#### Methods

A prospective randomised controlled double-blinded trial of systematic SSI versus subdermal SSI was performed. Patients who were ASA Physical Status I and II, aged 18 -70 years, weight > 45kg and had undergone abdominal hysterectomy for gynaecological indication were recruited. Patients were excluded if they had coagulopathy or bleeding disorder, a history of drug allergy to local anaesthetics or any component of multimodal analgesia which included paracetamol, non-steroidal anti-inflammatory drugs and morphine used in Patient Controlled Analgesia. Systematic SSI group received 120 mg of ropivacaine 0.2% that was infiltrated to the peritoneal, musculofascial and subdermal layer whereas 40mg of ropivacaine 0.2% was administered to subdermal layer in the subdermal SSI group. The outcome measures were postoperative cumulative morphine consumption, resting and dynamic pain score and incidence of postoperative nausea and vomiting (PONV). Pain score was assessed using Visual Analog Scale by assessors who were blinded to the SSI technique performed.

## Results

Forty patients were recruited; 20 patients had received systematic SSI and 20 had subdermal SSI. Cumulative morphine consumption over 24 hours postoperatively was significantly lower in systematic SSI compared to subdermal SSI group (median [IQR] 13.6 [9 – 17.75] vs 24.0 [20.0 – 30.0] mg, $p < 0.01$). Pain scores at rest and on movement at the surgical site were lower in the systematic SSI group at PACU, 2 and 6 hours postoperatively ($P<0.05$). The incidence of PONV were significantly less in systematic SSI group compared with subdermal SSI group ($p < 0.05$) throughout postoperative period except in post anaesthesia care unit.

## Conclusions

Infiltration of surgical wound with 0.2% ropivacaine systematically in three layers provided superior analgesia profile and opioid-sparing effect in open abdominal hysterectomy compared to subdermal infiltration.

## ID: 030

### PREVALENCE AND OUTCOMES OF NIGHT-TIME DISCHARGES FROM INTENSIVE CARE UNIT OF A TEACHING HOSPITAL

**Siti Nazirah Zaini**, Wan Rahiza Wan Mat, Rufinah Teo, Nadia Md Nor, Raha Abd Rahman

Department of Anaesthesia and Intensive Care, Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Center, Malaysia

#### Background

To look for the prevalence of night-time discharges, to compare the outcomes of night-time and daytime ICU discharges and factors affecting the outcomes.

#### Methods

This prospective study was conducted between 1st December 2020 to 31st October 2021 in a teaching hospital. Patients who were discharged alive from our general ICU (GICU) to our hospital's ward/other units were included. Patients that were issued do-not-resuscitate order after GICU discharge and readmitted to GICU after 72 hours were excluded. Patients were grouped according to the time when they were discharged. Night-time discharges occurred between 5:00 PM and 7:59 AM the next day whereas daytime discharges occurred between 8:00 AM and 4:59 PM of the same day. Readmission to GICU occurred within the 72 hours from GICU discharge. Rates of GICU readmission, lengths of hospital stay, and in-hospital mortalities were compared.

#### Results

There were 205 patients recruited and 116 patients were discharged from GICU during night-time. No significant differences in outcomes were detected between night-time and daytime discharges; readmission rate (p=0.141); length of hospital stays after discharge (p=0.564); in-hospital mortality (p=0.342). The rate of GICU readmission were significantly affected by the availability of post ICU follow up (p=0.002). The need for bed mobilisation to accommodate other GICU admission significantly affected the length of hospital stays (p=0.021) in patients that were discharged during night-time. Poorly controlled infection source (p=0.004), need for bed mobilisation

(p=0.001) and availability of post ICU follow-up (p=0.01) affected the rate of in-hospital mortalities among patients that were discharged at night-time.

## Conclusions

In general, there were no differences in outcomes when patients were discharged during the daytime or the night-time. The outcomes were specifically affected by factors such as poorly controlled source of infection, the need for bed mobilisation and availability of post ICU follow-up.

## DEVELOPMENT AND VALIDATION OF CREATININE-BASED ESTIMATES OF THE GLOMERULAR FILTRATION RATE EQUATION FROM CHROMIUM EDTA IMAGING IN THE MULTI-RACIAL MALAYSIAN POPULATION

**Chee Rong James Wong**[1], Ina Ismiarti Shariffuddin[1], Azrina Md Ralib[2], Sook Hui Chaw[1], Wai Yee Chan[3], Fatimah Dzaharudin[4], Nicetha Lily[1], Kevin Ng WS[1]

[1]Department of Anaesthesiology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; [2]Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang Malaysia; [3]Department of Biomedical Imaging, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; [4]Department of Mechanical Engineering Kulliyyah of Engineering, International Islamic University Malaysia, Gombak, Selangor, Malaysia

### Background

Glomerular filtration rate (GFR) is a reliable parameter for assessing kidney function. It is estimated from equations such as Cockcroft–Gault (CG), Modification of Diet in Renal Disease (MDRD), and Chronic Kidney Disease- Epidemiology Collaboration (CKD-EPI). However, these equations were derived using Western population demographic data and had different performances when applied to other populations. *Objectives.* We developed a new equation (NE) based on the $^{51}$Cr EDTA measured GFR that can be used explicitly in the Malaysian multiracial population.

### Methods

This was a cross-sectional study using the Electronic Medical Record (EMR) of patients who underwent $^{51}$Cr-EDTA imaging at the Nuclear Medicine Centre, University Malaya Medical Centre (UMMC), from 2013 to 2021. This study had obtained approval from the Medical Research Ethics Committee, UMMC.

### Results

Total data of 209 patients were recruited in this study. 105 were randomised in the development cohort, while 104 were in the validation cohort. A NE was developed based on data in the development cohort and then tested its performance in the validation cohort. The result showed that CKD-EPI had the highest correlation to $^{51}$Cr EDTA imaging measured GFR (r-value 0.82), followed by the NE (r-value 0.76). CG had

the lowest bias (mean bias of 2.49), followed by the NE (mean bias of 3.52). CKD-EPI had the highest precision in estimating GFR (SD of 22.04ml/min), followed by the NE (SD of 25.05ml/min). CKD-EPI also had the highest accuracy (85.58% in P30 and 100% in P50, followed by MDRD (81.73% in P30 and 96.15% in P50).

## Conclusion

The NE was less accurate than CKD-EPI and MDRD equation but generally has a relatively low bias of 3.52 ml/min. The limitation of the small sample size may limit the accuracy of the NE. Future studies with a larger sample size are needed to generate a more robust equation.

## ID: 035

### EFFICACY OF PC6 NEIGUAN ELECTROACUPUNCTURE IN THE PREVENTION OF NAUSEA VOMITING IN PARTURIENT UNDERGOING CAESAREAN DELIVERY UNDER SPINAL ANAESTHESIA - A RANDOMIZED DOUBLE-BLINDED CONTROLLED TRIAL

**CN Lee**, SY Chan

Hospital Raja Permaisuri Bainun (HRPB), Ipoh, Malaysia

Background

Nausea vomiting are common intraoperative and postoperative complications in parturient having Caesarean section (CS) under spinal anaesthesia with intrathecal morphine. To compare PC6 electroacupuncture vs sham acupuncture in the prevention of nausea vomiting in parturient undergoing CS under spinal anaesthesia.

Methods

Double-blinded randomised controlled trial to either PC6 group or sham group, approved by MREC, sample size 100 calculated using ScalexProp version 1.0.2. Sample collection was done in HRPB. Acupuncture needling was done after spinal anaesthesia then connected to electroacupuncture machine using 4 Hz and continuous wave for PC6 group. Assessor and patients were blinded. Anaesthesia was administered as per protocol. Intraoperative and postoperative nausea vomiting and requirement of rescue antiemetics were recorded. Data were analysed using IBM SPSS version 26.

Results

Postoperative nausea and vomiting (0-12hours post surgery) were statistically significant in sham group. The PC6 group required nearly 2 times less metoclopramide rescue compared to sham group (p=0.04). No adverse effects were reported.

## Conclusion

The PC6 electroacupuncture technique has significantly reduced the incidence of postoperative nausea vomiting up to 24 hours post CS under spinal anaesthesia. The requirement of rescue antiemetics also significantly reduced. This technique can be incorporated into part of multimodal approach in treating postoperative nausea vomiting, with its excellent safety profile to both mother and baby.

## ID: 041

### PERIOPERATIVE ANAEMIA MANAGEMENT IN ADULT PATIENTS WHO HAVE UNDERGONE ELECTIVE SURGERY (PAPES), IN SARAWAK GENERAL HOSPITAL (SGH)

**Soon Keong Khaw**[1], Samuel Ern Hung Tsan[2], Wan Er Teo[1], Tanisha Kaur[1], Ttarcini Engatramana[1], Peter Chee Seong Tan[1], Shu Ching Teo[1]

[1]Sarawak General Hospital, Sarawak, Malaysia; [2]Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Sarawak, Malaysia

#### Background

Preoperative anaemia is a common condition among patients undergoing elective non-cardiac surgery which is associated with an increased risk of morbidity and mortality. Patient blood management (PBM) is not well established in Sarawak General Hospital; therefore, identifying the prevalence of anaemia, and blood transfusion practice would be a stepping stone for future PBM planning.

The aims of the study were to determine the prevalence of anaemia, the perioperative transfusion rate among patient, and to identify groups of patients who have higher prevalence of preoperative anaemia.

#### Methods

This was a cross sectional study in the SGH Operation Theatres for all adult patients who underwent elective surgeries from October until November 2020. Information required in this study was extracted from patients' case note, laboratory results, anaesthetic record forms, and Integrated Blood Bank Management System software.

#### Results

Out of 394 elective cases done under general anaesthesia or regional anaesthesia, the prevalence of anaemia was 39.6%, while the overall perioperative transfusion rate was 14.2%. The mean age of patient from this cohort was 49.3(±17.0) years old, and 56% of them were female. Only 40.9% of the patients were seen at the anaesthetic clinic before elective surgeries. There was a significant relationship between anaemia and microcytosis ($p < .01$). Anaemia was also significantly related to more transfusion ($p < .01$). Gender had no significant relationship between anaemia ($p = .35$) and the rate of transfusion ($p = .32$). Patients with anaemia are mostly from the

department of Urology, Orthopaedics, and O&G. Transfusion were more prevalent among patients who underwent surgery under the department of Neurosurgery, Urology, and Orthopaedics.

## Conclusion

Anaemia among preoperative patients was common. There was a significant relationship between anaemia with microcytosis, and perioperative blood transfusion. Gender has no significant relationship between anaemia and the rate of transfusion.

## ID: 043

### EVALUATION ON EFFECTIVENESS OF ENTERAL FEEDING PROTOCOL IN IMPROVING FEEDING INTERRUPTION AND CLINICAL OUTCOMES IN CRITICALLY ILL PATIENTS

**BH Ng**, R Teo, WR Wan Mat, A Izaham, SN Mohamad Mahdi, J Md Zain, AM Yusof

University of Kebangsaan Malaysia, Kuala Lumpur, Malaysia

#### Background

Evaluation on the effectiveness of feeding protocol in improving feeding interruption (FI) and clinical outcomes in critically ill patients.

#### Methods

This was a single-center, ambi-directional cohort study evaluating the nutritional characteristics, assessment of energy and protein adequacy, its deficit as well as cumulative balance, the prevalence of FI and its causes before and after feeding protocol implementation. The correlation of FI duration with mechanical ventilation, length of stay in the Intensive Care Unit (ICU) and mortality were collected and analysed. The risk factor for ICU mortality also was identified. A $p$-value < 0.05 was considered statistically significant.

#### Results

A total of 430 patients were included, with 217 in pre-protocol and 213 in post-protocol group. EN was initiated earlier in post-protocol group (12 hours vs 10 hours, $p$ < 0.001). Energy and protein intake significantly improved and achieved full targeted nutrition after protocol implementation. There was more energy dense formula (29% vs 55.4%, $p$ < 0.001), protein supplement, (27.6% vs 56.3%, $p$ < 0.001) and prokinetic agent (38.7% vs 48.8%, $p$ = 0.034) prescribed in post-protocol group. There was no difference in the FI. Patients in post-protocol group were higher odds to ICU death, however statistically not significant (AOR 0.578, CI 0.197-1.699, $p$ = 0.319). The ICU mortality predictors were Covid-19 infection (AOR 31.669, CI 8.530-117.575, $p$ < 0.001), SOFA score (AOR 1.336, CI 1.182-1.511, $p$ < 0.001), underweight (AOR 5.408, CI 1.434-20.394, $p$ = 0.013), ICU length of stay (AOR 0.925, CI 0.864-0.990, $p$ = 0.002), energy deficit (AOR 1.001, CI 1.000-1.002, $p$ = 0.017) and illness related FI episodes (AOR 3.191, CI 1.543-6.600, $p$ = 0.002).

## Conclusion

The implementation of feeding protocol improved feeding strategies and overall nutritional intake; however, it did not improve FI. Achieving protein adequacy and prevention of energy deficit were protective against ICU mortality.

## ID: 051

### A RANDOMIZED CONTROLLED TRIAL COMPARING FULL GLOTTIS VIEW VS. PARTIAL GLOTTIS VIEW DURING INTUBATION USING CMAC D-BLADE VIDEOLARYNGOSCOPE IN SIMULATED CERVICAL INJURY PATIENT

**SY Ong**, CC Cheong, SH Chaw, SM Lim, WA Wan Zakaria, NA Mohd Omar

University of Malaya, Kuala Lumpur, Malaysia

#### Background

A hyperangulated videolaryngoscope blade provides a better glottis view; however, intubation time can be longer due to difficulty in negotiating the endotracheal tube pass vocal cord. Aim of this study is to clinically evaluate the time of tracheal intubation in relation to the full glottis view vs. partial glottis view which is deliberately obtained when using CMAC D-blade videolaryngoscopy in simulated cervical spine injury.

#### Methods

Randomized controlled trial done on 104 patients requiring oral intubation for surgery. Patients were randomized to either Group F (full glottis view was obtained) or Group P (partial glottis view obtained/percentage of glottis opening 50%). All patients applied on cervical collar to simulate cervical injury. All intubations were done by the same anaesthetist by using C-MAC D-blade videolaryngoscope. Association of glottis view against time to intubation, first attempt success rate, hemodynamic changes and airway complications during intubation were analyzed.

#### Results

The median time to achieve successful endotracheal intubation was 28.6 seconds (interquartile range, 9.79 seconds) in Group P and 34.2 seconds (interquartile range, 11.97 seconds) in Group F. The median difference time to intubation was 4.8 sec [95% CI 1.6 to 7.9 (p=0.0003)]. First pass success rate was 100% in Group P while 94.2% in Group F. There was no difference in hemodynamic changes and airway complications between both groups. At any given time, probability of patients successfully intubated in Group P is 1.5 times higher than Group F (Hazard ratio 1.5, 95% CI 1.0-2.3).

## Conclusion

Deliberately aiming a partial glottis view when intubating cervical immobilized patient using CMAC D-blade videolaryngoscope will reduce intubation time and maximize first attempt success rate intubation. Result of this study suggests that there no need to negotiate to a POGO 100% glottis view when intubation using CMAC D-blade videolaryngoscope in cervical immobilization.

## ID: 059

### SINGLE DOSE INTRAVENOUS IRON ISOMALTOSIDE VS ORAL IRON MONOTHERAPY IN PATIENTS WITH ANAEMIA AFTER POSTPARTUM HAEMORRHAGE

**Ainina Zulkeplee**[1], Carolyn Yim CW[1], Intan Syafiqah Ikram Shah[1], Doris Ng SW[2], Aizura Syafinaz Ahmad Adlan[2]

[1] Department of Anaesthesiology, University of Malaya, Kuala Lumpur, Malaysia; [2]Department of Obstetrics and Gynaecology, University of Malaya, Kuala Lumpur, Malaysia

#### Background

To compare effectiveness of intravenous (IV) iron isomaltoside versus oral iron in correcting postpartum anaemia, replenishing iron stores, and improving maternal fatigue without major adverse reactions.

#### Methods

Single-centre, randomized controlled trial conducted between January to May 2021. 30 postpartum anaemic patients randomized into two groups: IV iron and oral iron. IV iron group received IV iron isomaltoside 1000mg. Oral iron group received 100ml normal saline over 20 minutes and started on iron tablet 5 days after intervention.

A phone call follow-up was done at 2 weeks postpartum to assess anaemic symptoms and adverse reaction. Participants completed the Multidimensional Fatigue Inventory (MFI), and haematological and iron parameters were measured at 6 weeks post-partum.

#### Results

A significant rise in haemoglobin levels seen in both groups after 6 weeks ($p<0.122$) however efficiency of IV iron in increasing mean haemoglobin level was greater by approximately 1g/dL higher than oral iron group (mean difference 0.73 g/dl).

Mean ferritin and iron levels were significantly higher in IV iron at 6 weeks postpartum, from mean ferritin baseline of 45.19 to 179.15 ($p<0.001$) and mean iron level baseline of 5.36 to 14.48, ($p=0.0014$).

In oral iron group treatment, mean ferritin level reduced from baseline 58.38 to 37.53 ($p<0.001$) and inadequate restoration of mean iron level seen baseline 7.12 to 10.09 (p value =0.239).

No statistically significant difference in the MFI scores in both groups. One-episode of mild urticaria was reported with IV iron administration. No major adverse events were reported and no rescue blood transfusion needed.

## Conclusion

IV iron is effective in increasing haemoglobin levels more than oral iron, almost 1g/dL higher, in postpartum anaemic women with a significant replenishment of iron stores. There is no significant difference in improving MFI bearing the fact that it was conducted during the COVID 19 pandemic.

## ID: 060

### PERIOPERATIVE PAIN OUTCOME IN AN ORTHOPAEDIC SPECIALIST CENTRE: AN AUDIT

**ZY Beh**, RS Suppiah, P Kandiah, MSS Surinder Singh, KY Chan, BP Lim, CM Lee, CS Chew, GN Solayar, CC Tai

OSC Orthopaedic Specialist Centre, Subang Jaya, Selangor, Malaysia

#### Background

OSC Orthopaedic Specialist Centre is a leading private hospital in Malaysia dedicated exclusively to orthopaedic care. The team comprises of highly experienced orthopaedic surgeons, all of whom are leaders in their field. In terms of anaesthesia and pain management, patients would receive multimodal analgesia, regional anaesthesia and analgesia as mainstay whenever indicated.

#### Methods

We conduct a first-year audit [1st December 2020 until 30th November 2021] to evaluate the perioperative pain outcome in all patients who underwent surgeries which required anaesthetic service. This audit received approval from the National Medical Research Centre (NMRR ID-22-01097-470).

#### Results

A total of 104 surgeries were performed during the interval, in which 42.3% were joint arthroplasty [bilateral TKR (13), single TKR (15), bilateral UKR (1), single UKR (4), THR (11)]; 20.2% knee scopes (included meniscus repair, debridement, chondroplasty, ligament reconstruction); 12.5% shoulder surgery; 13.5% fracture fixation and the rest were for tumour resection, toilet suturing, etc. The median patient's age was 66 years old [IQR, 54.25-73.00]. Majority were female (65.4%) and ASA physical status II (60.6%). The median BMI was 24.10 kg/m$^2$ [IQR, 22.10-27.30]. Patients mostly received GA combined with regional techniques (61.5%) and some had neuraxial anaesthesia combined with regional PNB (31.7%). Pain score was evaluated by documented 5th vital signs (numerical rating scale, NRS) in the nursing chart (electronic medical records) and we identified the minimum and maximum pain score of the day. The median pain score for the day 0 (same day after the surgery) for all surgical procedures were minimum, 0.00 [IQR, 0.00-0.00] and maximum, 0.50 [IQR, 0.00-1.75].

For day 1 after surgery, the median pain scores were minimum, 0.00 [IQR, 0.00-0.00] and maximum, 1.00 [IQR, 0.00-2.00]. Likewise for day 2 after surgery, the median pain score was minimum, 0.00 [IQR, 0.00-0.00] and maximum, 1.00 [IQR, 1.00-2.00].

## Conclusion

This audit underpins a comprehensive effort to demonstrate excellent post-operative pain control with utilization of multimodal analgesia spearhead by regional anaesthesia and analgesia for orthopaedic surgeries.

## ID: 062

### ASSESSMENT OF THE QUALITY OF CHEST COMPRESSIONS ON MANIKIN WITH AND WITHOUT AUDIO-VISUAL FEEDBACK AMONG ANAESTHETIC TRAINEES WORKING IN THE INTENSIVE CARE UNIT

**Tan Eng Thye**, Raha Abdul Rahman, Jaafar Md Zain, Maryam Budiman, Siti Nidzwani Mohamad Mahdi, Joanna Ooi Su Min, Muhammad Maaya

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

#### Background

The use of audio-visual feedback devices on chest compression metrics such as the rate, depth and recoil has been proven to improve resuscitation quality. This study compared the quality of chest compressions performed by anaesthetic trainees on manikin with audio-visual feedback and subsequent skill retention without the feedback.

#### Methods

The chest compressions metrics measured, were the compression rate and depth recorded by a ZOLL® defibrillator and reviewed by RescueNet® Code Review software, which produced compression in target. Fifty participants performed two minutes of chest compressions without audio-visual feedback (CC1), followed by another two minutes of chest compressions with audio-visual feedback (CC2), separated by five minutes of rest in between. Those who achieved compressions in target of at least 70% during CC2 were asked to perform another 2 minutes of chest compressions without audio-visual feedback at 30 minutes (CC3) and 5-7 days (CC4) later.

#### Results

The baseline compressions in target during CC1 was 14.43 ± 20.18% ($p<0.001$), with a significant improvement to 81.80 ± 7.61% ($p<0.001$) with the audio-visual feedback (CC2). Forty-five (90%) participants achieved compressions in target of at least 70% during CC2. Without the feedback, the compressions in target significantly reduced to 56.33 ± 27.02% ($p<0.001$) and 48.32 ± 33.86% ($p<0.001$) at 30 minutes (CC3) and 5-7 days (CC4) later, respectively.

## Conclusion

The use of audio-visual feedback device significantly improves chest compressions performance which was not retained fully when chest compressions were performed without the device afterwards. Therefore, the utilisation of real-time audio-visual feedback devices in the ICU may ensure better chest compressions performance.

## ID: 065

### PROGNOSTIC UTILITY OF MONOCYTE DISTRIBUTION WIDTH IN CRITICALLY ILL PATIENTS

Soo Ki Yang,[1] Nurfariza Ramly[1], **Azrina Md Ralib[1]**, Jerry Liew Ee Siung,[2] Norlelawati A Talib,[3] Mohd Basri Mat Nor[1]

[1]Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia; [2]Department of Pharmacy, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia; [3]Department of Pathology and Laboratory Medicine, Kulliyyah of Medicine, International Islamic University Malaysia

#### Background

Sepsis is one of the leading causes of intensive care unit (ICU) admission and mortality in Malaysia. Delayed recognition of sepsis is associated with increased morbidity and mortality. Monocyte distribution width (MDW) represents the width of a set of monocyte volume values, which increases as infection progress in severity. Its measurement is one of the haematologic parameter of complete blood count, hence, it does not incur added cost and is widely available. We evaluated the prognostic accuracy of MDW.

#### Methods

This was a prospective cohort study of 100 patients who are grouped into sepsis and non-sepsis according to the Sepsis-3 definition. This study enrolled adults, age 18 years and above, whose evaluation included a complete blood count with differential upon admission to ICU. Exclusion criteria included patient refusal to join the study, readmission to ICU within 12 hours and prior study enrolment. MDW and WBC were collected on admission to ICU and for subsequent 3 days. The study had obtained approval from the IIUM Research Ethics Committee (Number 2020-079).

#### Results

A total of 100 patients were recruited in the study. Twenty-three patients (23%) died within 30 days of ICU admission. MDW were predictive of 30-day mortality with a cut-off point of 25.97. Patients with on admission MDW higher than this cut-off point were more likely to die with 30 days compared to those with lower value. WBC on admission and throughout 3 days were not predictive of 30-day mortality.

## Conclusion

MDW is an effective prognosis tool of mortality upon admission to ICU. As part of the differential in CBC, MDW makes a cost effective and widely available test at present. Early prediction of death allows for risk stratification for patients admitted to the ICU.

## ID: 066

### A MANNEQUIN STUDY ON INTUBATION USING DIRECT LARYNGOSCOPY VERSUS C-MAC WITH MAYFIELD HEADFRAME IN IIUMMC

**Nadiah H**[1], Suhaila N[1], Mohd Basri MN[1], Abdul Hadi M[1], Kok Weng L[2]

[1]International Islamic University Malaysia, Pahang, Malaysia; [2]Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Background

Airway management is a crucial procedure in the Anaesthesia field which can determine the morbidity and mortality of a patient. Intubation is already very challenging, and it is made difficult by being in prone position with a fixed stereotactic headframe. Therefore, a definitive airway adjunct should be ready in the event of accidental extubation to secure the airway the fastest and the safest way possible.

Methods

This study compared intubation with direct laryngoscopy (DL) compared to video laryngoscopy (VL) with a stereotactic headframe in supine and in prone positions. This is a randomised observation study whereby a total of 48 participants took part which consisted of medical officers, Anaesthesia trainees and Anaesthetists. Each participant was asked to performed intubation on a mannequin in 4 methods: in supine with DL; in prone with DL; in supine with VL; and in prone with VL. The outcomes were successful intubation, intubation time (in seconds) and Ease-Of-Use between these two airway adjuncts.

Results

There was a highly significant difference present in intubation time using DL compared to C-MAC in supine ($p<0.001$) and prone position ($p=0.001$). The intubation time was significantly longer using C-MAC compared to DL at both supine and prone positions. There was also a highly significant difference present in Ease-Of-Use score using DL compared to C-MAC in supine and prone positions ($p<0.001$). The Ease-Of-Use score was significantly higher using C-MAC compared to DL at both supine and prone position.

## Conclusion

DL is a faster and easier airway adjunct to be used in the event of airway emergency with a stereotactic headframe. Due to the familiarity of DL, even if C-MAC offers better laryngeal view with a more angular vision, it does not guarantee a successful intubation.

## ID: 069

### PREOPERATIVE FASTING EXPERIENCE OF PATIENTS WHO UNDERWENT ELECTIVE SURGERY IN UNIVERSITY MALAYA MEDICAL CENTRE (UMMC)

**Ahmad Faris**, Jeyaganesh Veerakumaran

Universiti Malaya

Background

Recent evidence-based practice guidelines have suggested movement from old fasting paradigm of standard approach of *'Nulla per Os'* (NPO) started from midnight to more patient friendly strategy which allowing elective patient to consume clear fluids up to two hours prior to surgery. This study describes the preoperative fasting experience of patients who underwent elective surgery in UMMC and current practice in prescribing preoperative fasting by practitioner in this hospital.

Methods

Descriptive cross-sectional study involving randomly selected 250 patients, ASA I to II category patients, who underwent elective surgery in UMMC from April 2021 to November 2021. Consented participant had received self-administered structured questionnaire while waiting for surgery and the data was analysed via SPSS software to explore their sociodemographic characteristics, preoperative fasting knowledge, presents of complain and their willingness to go through this preoperative fasting experience again in the future.

Results

Majority of the patients were asked to start their *Nil per Os* (NPO) since 2am in the morning (N=147, 60.2%), followed by 12Midnight (N=83) and 4 am (N=14) respectively. 38.1% of the patients (N=93) started their NPO as per recommended time given (<2 Hour descrepancy). Among those who fasted more than required, the mean extra fasting hours was 4.25 hours (sd+/-0.14), with minimum more than 2 hours extra, and maximum of 10 hours extra. Mean actual duration of fasting was 13.37 hours (sd +/- 0.21), with minimum of 8 hours and maximum of 21 hours and 114 participants (44.8%) fasted more than 12 hours period. A total of 14.8% of respondents com-

plained some degree of nausea (n=37), 20.4% of respondents reported this symptom either mild, moderate, or severe (n=51). 62.8% of respondents reported some degree of hunger (n=157). Among the responses, 60.4% (n=83) reported to be thirsty during fasting. 21.2% responses reported lethargic (n=53). 15.2% (n=38) reported had headache at various degree of severity. Among the factors examined, knowledge adequacy appeared to be the only factor that was significantly associated with duration of fasting. Those who had inadequate knowledge on fasting were 2.24 times the odds of fasting more than 12 hours compared to those who had adequate knowledge on fasting (p value <0.05). In terms of willingness to fast again, majority was very willing to fast again, with total responses of 167 (66.8%).

## Conclusion

Majority of elective patients in UMMC had started their NPO earlier than recommended time prescribed and the contributing factors to the cause of the prolonged fasting period before surgery and the emergence of various fasting -related symptoms with varying degrees of severity in which had been described by patients as moderately challenging experience while waiting for surgery.

## ID: 070

### A SURVEY OF STRESS LEVELS, STRESSORS AND COPING MECHANISMS AMONGST POSTGRADUATE ANESTHESIA TRAINEES

Nur Fazhlina Zainudin[1], Nadia Md Nor[2], Yeoh Chih Nie[2], Syarifah Noor Nazihah Sayed Masri[2], Qurratu'Aini Mustafa[2], Raha Abdul Rahman[2], **Azarinah Izaham[2]**

[1]Department of Anaesthesiology and Intensive Care, Hospital Selayang, Selangor, Malaysia; [2]Department of Anaesthesiology and Intensive Care, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

#### Background

The postgraduate anaesthesiology training program can be challenging and stressful. This survey was conducted to investigate the level of stress, common stressors, and coping mechanisms among Universiti Kebangsaan Malaysia postgraduate anaesthesia trainees.

#### Methods

This electronic questionnaire survey was disseminated via email to all trainees. Data on demographics, psychological wellbeing assessed using the Kessler Psychological Distress Scale (K10), and questions on depression, anxiety, exacerbating stressors, personal healthcare and stress management strategies were collected.

#### Results

Out of 154 surveys sent, a total of 126 respondents (response rate 81%) had their results analysed. Those with K10 scores ≥22 indicating high and very high distress levels was 48.5%, while K10 scores 16-21 indicating moderate distress was 28.6%, and K10 score 10-15 indicating low distress was 23.0%. Multivariate linear regression analysis was performed to assess the relationship between various stressors with K10≥22. Major stressors were excessive workload [p=0.002,AOR 5.113,( 95% CI 1.790-14.609)], working beyond one's experience [p=0.010, AOR 6.189 (95% CI 1.537-24.9180], critical clinical incidences [p=0.014,AOR 4.219 (95% CI 1.333-13.348)], future job prospects which caused moderate to severe stress [p=0.004, AOR 0.004 (95% CI 1.665-14.311)], and duration of 1 to 3 weeks of annual leave in the past year [p=0.008,AOR 7.048 (95% CI 1.661-29.897)], [p<0.001,AOR 17.099 (95% CI 1.661

-29.897)], [p=0.002,AOR 9.688 (95% CI 3.328-40.315)]. There was no specific coping mechanism that was statistically significant.

## Conclusion

Anesthesiology trainees were highly distressed, with major stressors being excessive workload, working beyond one's level of experience, critical clinical incidences, future job prospects and less than 3 weeks annual leave.

## ID: 071

### COMPARISON OF PROGRAMMED INTERMITTENT EPIDURAL BOLUSES (PIEB) VERSUS CONTINUOUS EPIDURAL INFUSION (CEI) AS IDEAL MAINTENANCE REGIMEN FOR LABOUR EPIDURAL ANALGESIA

**JC Chin**[1], ML Lee[2], Ariff Osman[1]

[1]Department of Anaesthesiology, International Islamic University Malaysia, Kuantan, Malaysia; [2]Department of Anaesthesiology, Hospital Pulau Pinang, Pulau Pinang, Malaysia

#### Background

Continuous Epidural Infusion combined with Patient Controlled Epidural Analgesia (CEI+PCEA) is commonly practiced worldwide for maintenance of labour epidural analgesia. Recently, a newer technique called Programmed Intermittent Epidural Boluses (PIEB) was introduced and advocated to be a better alternative to CEI. Instead of an infusion, the epidural solution is given as intermittent boluses at a scheduled fixed interval. We aim to assess whether PIEB+PCEA is associated with better analgesia, maternal and neonatal outcomes when compared to CEI+PCEA for maintenance of labour epidural analgesia.

#### Methods

This was a retrospective record study at Penang General Hospital, involving parturients who received labour epidural service over one year period. To maintain labour epidural analgesia, the epidural solution was administered either as CEI 10mls per hour, intermittent 10mls bolus every 60 minutes (PIEB60) or intermittent 8mls bolus every 40 minutes (PIEB40). The epidural solution consisted of Ropivacaine 0.05% and Fentanyl 2 mcg per ml. All parturients received similar additional on demand Patient Controlled Epidural Analgesia (PCEA), 10mls bolus with lockout interval 10 minutes for breakthrough pain. Analgesia, maternal and neonatal outcomes were explored.

## Results

There were no significant differences in mean time-weighted Ropivacaine usage, number of PCEA usage, time to first PCEA usage and incidence of clinician rescue event. Although not statistically significant, the study suggested that PIEB regimens resulted in lesser Ropivacaine consumption, lesser PCEA requirement, and longer time to first PCEA demand. No significant differences were observed for duration of labour and mode of delivery. Similarly, no significant differences were noted for Apgar scores at 1$^{st}$ and 5$^{th}$ minute between PIEB and CEI regimens.

## Conclusions

The study was unable to prove that PIEB+PCEA is superior to CEI+PCEA as reported in many studies. Further studies to confirm the advantages of PIEB+PCEA are encouraged. In particular, the optimal setting for PIEB remains a myth.

## ID: 076

### FIBRINOGEN CONCENTRATE AND BLEEDING IN CHILDREN: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

**Vinod Laxmikanth**[1], Iwadh Rashid[2], Ina Ismiarti Shariffuddin[1], Ka Ting Ng[1], Chaw Sook Hui[1], Kevin Ng WS[1]

[1]Department of Anaesthesiology, University of Malaya, Kuala Lumpur, Malaysia; [2]Department of Anaesthesiology, University Malaya Medical Center, Kuala Lumpur, Malaysia

#### Background

Fibrinogen is the key final component in the clotting cascade and the first clotting component to reach critically low levels in major bleeding. Fibrinogen concentrate was shown to potentially reduces post operative blood loss in adult. However, the evidence on the efficacy and safety of fibrinogen concentrate use among bleeding children remain unclear.

The primary aim of this review was to investigate the effect of fibrinogen concentrate on allogenic blood product transfusion ~~in~~ bleeding children.

#### Methods

Systematic review and meta-analysis. Databases of MEDLINE, EMBASE and CENTRAL were searched from their start date until November 2021.The eligibility criteria, all randomised controlled trials comparing intravenous fibrinogen concentrate and placebo/control in bleeding children were included, regardless of the context of bleeding. Observational studies, case reports, case series and non-systematic reviews were excluded.

#### Results

Seven trials (*n = 546)* were included in this review. Compared to placebo or inactive control, children who received fibrinogen concentrate showed no significant difference in the number of allogenic blood product transfusion and volume of allogenic blood product transfused. No significant differences were demonstrated in the amount of blood loss, mortality, and postoperative thrombosis.

## Conclusions

In this meta-analysis, low level of evidence, with small sample size and substantial heterogeinity suggests that fibrinogen concentrate is a viable substitute to allogenic blood product transfusion in bleeding children. In view of the potential benefit and avoidance of risks associated with allogenic blood product transfusion, further well-designed studies of adequate power should be pursued.

## ID: 084

### AIRWAY MANAGEMENT IN PATIENTS UNDERGOING THYROIDECTOMY: A FIVE-YEAR RETROSPECTIVE ANALYSIS

CL Tan, **KWS Ng**, YX Foong

University of Malaya, Kuala Lumpur, Malaysia

Background

Airway management in thyroid surgery is challenging, particularly with the involvement of large retrosternal goiters with tracheal compression. The incidence of difficult airway among patients who have undergone thyroidectomy has rarely been studied especially in the Malaysian population, and evaluation of predictive factors linked to a difficult airway is limited to a few studies. Our study aims to investigate preferred techniques of airway management in thyroidectomy surgery, as well as the incidence of difficult airway and to identify predictors of difficult airway in this population.

Methods

A retrospective study was conducted on 371 patients who underwent thyroidectomy in University Malaya Medical Centre (UMMC), Kuala Lumpur over a five-year period, from July 2015 to June 2020. A univariate analysis was performed to identify potential factors predicting a difficult airway, followed by a multivariate analysis.

Results

Difficult airway was reported in 46 patients with the incidence of 12.4%. Presence of pressure symptoms, Mallampati class, thyromental distance, neck range of movement, retrosternal extension, tracheal deviation or compression, critical tracheal narrowing on Computerized tomography (CT) scan and weight of thyroid gland were identified as potential difficult airway risk factors in the univariate analysis. With multivariate analysis, four criteria were recognized as independent predictors for difficult airway (presence of pressure symptoms, thyromental distance <6.5 cm, neck range of movement <90 degrees and weight of thyroid gland >400 g).

## Conclusion

We conclude that airway management in thyroidectomy is straightforward in the majority of cases and can be managed successfully using conventional methods. However, from our study, the presence of compression symptoms, reduced thyromental distance (<6.5cm), limited neck range of movement and a large thyroid gland was predictive of a difficult airway and thus should alert the anaesthesiologist for additional preparation to manage this anticipated difficulty in order to minimise the potential complications.

## ID: 095

### GLYCOCALYX LEVEL IN PATIENTS UNDERGOING PANCREATECTOMY WITH HUMAN ALBUMIN 5% VS GELATIN-BASED COLLOID IN A GOAL-DIRECTED FLUID MANAGEMENT STRATEGY: A RANDOMIZED CONTROLLED TRIAL.

**Tan BW[1],** Wong WK[1], Retna Gowri[2], Koh PS[2], Loh PS[1]

[1]Department of Anaesthesiology, Universiti Malaya, Kuala Lumpur, Malaysia; [2]Department of Surgery, Universiti Malaya, Kuala Lumpur, Malaysia

#### Background

On the surface of every cellular membrane lies the glycocalyx. Its integrity maintains homeostasis and may play a role in postoperative pancreatic fistula (POPF), a serious complication after pancreatic surgery linked to tissue inflammation and oedema. Little is known of a suitable colloid solution to preserve the integrity of the endothelial glycocalyx which may be benefit this group of patients. Primarily to determine the association of glycocalyx degradation with two types of colloids (human albumin 5% vs gelatin-based Gelaspan®) given during pancreatic surgery for pancreatic cancer. Secondly, the incidence of POPF were analyzed for both colloids.

#### Methods

Prospective randomized controlled trial in ASA 1-3 patients undergoing elective pancreatectomy in a tertiary university hospital who were randomized to either human albumin 5% or Gelaspan® groups. Protocolized goal directed fluid management guided by stroke volume variation on cardiac output monitoring with pulse contour analysis (FloTrac®) was implemented in both groups intraoperatively and continued for the first 24 hours. Serum syndecan-1 and heparan sulfate as markers of glycocalyx degradation were measured preoperatively, postinduction, immediate, days 1,3 and 7 postoperatively.

#### Results

Eighteen patients (n=9 in each group), mean age 59.3 years (SD±11.3), mean body mass index 23.9 (SD±4.8 kg/m$^2$) were recruited. There was no statistical difference in serum syndecan-1 and heparan sulfate levels between the groups but, a significant trend of rise after surgery was observed in both. The rate of POPF was lower in hu-

man albumin 5% group as compared to Gelaspan® (33.33% vs 66.67%, p = 0.475) but this finding was not powered for significance as a secondary objective.

## Conclusion

Results showed significant trends in both glycocalyx markers in a temporal relationship to surgery. Potential benefit of human albumin in a goal directed fluid therapy as compared to gelatin-based colloids in reducing POPF need to be explored further.

# 7. Oral Abstracts

## ID: 063

### EVALUATION OF THE CLINICAL FRAILTY SCALE IN PREDICTING POSTOPERATIVE ADVERSE OUTCOMES: A PROSPECTIVE STUDY

**Kevin Tan Teck Meng**, Azarinah Izaham, Joanna Ooi Su Min, Jaafar Md Zain, Cheah Saw Kian, Muhammad Maaya

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

Background

Frailty is a state of decreased physiological reserve and vulnerability to adverse outcomes. The Clinical Frailty Scale (CFS) is one of several methods of assessing frailty. The CFS has value in predicting morbidity in both community-living and postoperative patients. This study evaluated the CFS in predicting postoperative adverse outcomes in scheduled non-cardiac surgery in elderly patients.

Methods

This prospective study recruited 315 patients aged 65 and older undergoing scheduled non-cardiac surgery. Operations were graded based on Operative Severity. Both CFS and American Society of Anesthesiologists physical status were assessed, and the postoperative complications were evaluated based on the Clavien-Dindo classification.

Results

A total of 109 patients (34.6%) were frail with a CFS ≥ 4. Frailty was significantly associated with severe postoperative complications ($p$<0.001). Frail patients had significantly longer postoperative and total in-hospital stay compared to non-frail patients, with a median of 5 [2 – 8] vs 3 [1 – 5] and 10 [5 – 17] vs 5 [3 – 9] days respectively ($p$<0.0001). Multivariate logistic regression also showed that CFS ≥ 4 (OR, 6.15; CI 2.24–16.88; $p$<0.0001) and major operation (OR, 9.13; CI 3.69 – 22.56] were good predictors of severe postoperative complications. Cox proportional hazard regression

model indicated that CFS ≥ 4 and major operation predicted longer postoperative and total in-hospital stay days ($p$<0.0001).

## Conclusion

Frailty measured with the clinical frailty scale and major operations independently predicts severe postoperative outcomes and longer total and post-operative in-hospital stay in scheduled non-cardiac operations on elderly patients.

## ID: 044

### ULTRASONOGRAPHY ASSESSMENT OF NECK ANATOMY FOR PREDICTION OF DIFFICULT MASK VENTILATION IN OBESE PATIENTS

**Ignatius Wong Hsun-Hong**[1], Raha Abdul Rahman[1], Muhammad Maaya[1], Siti Nidzwani Mohamad Mahdi[1], Azlina Mazdar[1], Aliza Mohamad Yusof[1], Nur Yazmin Yaacob[2], Azarinah Izaham[1]

[1]Department of Anaesthesiology and Intensive Care, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia; [2]Department of Radiology, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

#### Background

Effective mask ventilation is essential in ensuring adequate oxygenation and ventilation. However, predicting difficult mask ventilation (DMV) using bedside clinical tests remains a challenge due to its poor sensitivity. Our objective was to determine the correlation of preoperative ultrasonography of anterior neck anatomy to DMV in different classes of obesity.

#### Methods

This prospective, observational study recruited 90 adult obese patients (classified into three classes of obesity) who underwent general anaesthesia from December 2020 to November 2021. The Mallampati assessment and ultrasonography measurements of the distance from the skin to the following structures: hyoid bone (DSHB), epiglottis (DSEM), anterior commissure of the vocal cords (DSAC), thyroid isthmus (DSTI), trachea at the jugular notch (DSTJ) were recorded. The difficulty of bag mask ventilation was graded using the Han scale. Kendall Tau correlation coefficient was used to correlate the different ultrasonography parameters to DMV. Receiver-operating characteristic curves were used to determine the sensitivity and specificity of the measured ultrasonography distances and Youden index was used to calculate the optimal cut-off values.

## Results

A total of 20 patients (22.2%) were categorised as DMV. There was a statistically significant increase (p=0.011) between the number of patients with Mallampati II in class III compared to class I obesity. DSHB showed statistically significant and strong correlation with DMV in patients in class II (p=0.002, r=0.464) and class III obesity (p=0.002, r=0.475). DSHB cut-off value of 1.35 cm had a sensitivity of 83.3% and specificity of 78.8% for class III obesity. DSTJ cut-off value of 1.13 cm has a sensitivity of 83.3% and specificity of 66.7% for class III obesity.

## Conclusion

DSHB measurement is both specific and sensitive in predicting DMV in Class II and III obesity while DSTJ measurement is sensitive only in Class III obesity.

## ID: 031

### A PILOT STUDY COMPARING SUCCESSFUL INTUBATION USING APA™ VIDEO LARYNGOSCOPE AND GLIDESCOPE IN PATIENTS WITH ANTICIPATED DIFFICULT AIRWAY BY ANAESTHETISTS.

**CL Wong**, LW Luah, TBK Eric

Hospital Pulau Pinang, Pulau Pinang, Malaysia

Background

Various video laryngoscopes were designed over the years to aid difficult airway intubation, one of it being the highly portable APA™ video laryngoscope (Venner Medical, Singapore). It has proved to be superior to Macintosh laryngoscopy and had a significantly faster intubation time when compared to the familiar Glidescope®. Our primary objective was to compare the rate of successful intubation between both devices in patients with anticipated difficult airway.

Methods

We conducted a single-blinded, randomised controlled pilot study involving 65 subjects (33 subjects in Glidescope group, 32 subjects in APA group) involving experienced anaesthetists with at least 5 years' experience). A successful endotracheal intubation attempt was considered when the endotracheal tube passes through vocal cords within 120 seconds, and results were analysed using Mann-Whitney U test. We also compared the duration to successful endotracheal intubation, haemodynamic stability and degree of post-operative throat soreness and dysphagia.

Results

All patients in Glidescope group (100%, n=33) were successfully intubated on 1st attempt as compared to only (90.6%,n=29) in APA group.(p=0.114**).** Median time to successful intubation was slower with APA scope (30.84s vs 23.99s). Both airway devices usage did not result in any significant hemodynamic instability. There was a significant increase in lip trauma in APA scope group (p=0.024) with 5 patients (15.6%) suffering from lip trauma, 1 patient (3.1%) with gum trauma. Dysphagia and sore throat rate were similar in both groups.

## Conclusion

First attempt intubation success rate was lower in APA group with a slightly longer median time to successful intubation. There was also a higher incidence of lip trauma when using APA scope. However, the incidence of dysphagia, sore throat and haemodynamic stability were similar with both airway devices. With more user training and familiarity, APA scope can be considered as an alternative to Glidescope in patients with anticipated difficult airway.

## ID: 034

### DEVELOPMENT AND VALIDATION OF CREATININE-BASED ESTIMATES OF THE GLOMERULAR FILTRATION RATE EQUATION FROM CHROMIUM EDTA IMAGING IN THE MULTI-RACIAL MALAYSIAN POPULATION

**Chee Rong James Wong**[1], Ina Ismiarti Shariffuddin[1], Azrina Md Ralib[2], Sook Hui Chaw[1], Wai Yee Chan[3], Fatimah Dzaharudin[4], Nicetha Lily[1], Kevin Ng WS[1]

[1]Department of Anaesthesiology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; [2]Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang Malaysia; [3]Department of Biomedical Imaging, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; [4]Department of Mechanical Engineering Kulliyyah of Engineering, International Islamic University Malaysia, Gombak, Selangor, Malaysia

#### Background

Glomerular filtration rate (GFR) is a reliable parameter for assessing kidney function. It is estimated from equations such as Cockcroft–Gault (CG), Modification of Diet in Renal Disease (MDRD), and Chronic Kidney Disease- Epidemiology Collaboration (CKD-EPI). However, these equations were derived using Western population demographic data and had different performances when applied to other populations. *Objectives.* We developed a new equation (NE) based on the $^{51}$Cr EDTA measured GFR that can be used explicitly in the Malaysian multiracial population.

#### Methods

This was a cross-sectional study using the Electronic Medical Record (EMR) of patients who underwent $^{51}$Cr-EDTA imaging at the Nuclear Medicine Centre, University Malaya Medical Centre (UMMC), from 2013 to 2021. This study had obtained approval from the Medical Research Ethics Committee, UMMC.

#### Results

Total data of 209 patients were recruited in this study. 105 were randomised in the development cohort, while 104 were in the validation cohort. A NE was developed based on data in the development cohort and then tested its performance in the

validation cohort. The result showed that CKD-EPI had the highest correlation to $^{51}$Cr EDTA imaging measured GFR (r-value 0.82), followed by the NE (r-value 0.76). CG had the lowest bias (mean bias of 2.49), followed by the NE (mean bias of 3.52). CKD-EPI had the highest precision in estimating GFR (SD of 22.04ml/min), followed by the NE (SD of 25.05ml/min). CKD-EPI also had the highest accuracy (85.58% in P30 and 100% in P50, followed by MDRD (81.73% in P30 and 96.15% in P50).

## Conclusion

The NE was less accurate than CKD-EPI and MDRD equation but generally has a relatively low bias of 3.52 ml/min. The limitation of the small sample size may limit the accuracy of the NE. Future studies with a larger sample size are needed to generate a more robust equation.

## ID: 045

### ULTRASOUND-GUIDED QUADRATUS LUMBORUM BLOCK (QLB) FOR POSTOPERATIVE ANALGESIA IN PAEDIATRIC SURGICAL PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

**Mayura H Damanhuri**, Ina I Shariffuddin, Huey Nee Ng, Ka Ting Ng, Sook Hui Chaw

University of Malaya, Kuala Lumpur, Malaysia

#### Background

The analgesic efficacy of QLB has been demonstrated in adults, but its performance and safety in the paediatric population has yet to be fully elucidated. The aim was to evaluate the efficacy and safety of QLB compared to different types of control: no block, other peripheral nerve blocks (PNBs) and central nerve block (CNB).

#### Methods

Data sources: Ovid MEDLINE, EMBASE and CENTRAL were systematically searched from its inception until August 2021.

#### Results

We included nine studies (n=505 patients). Overall, QLB improved postoperative pain scores (PS) at PACU, 3 to 4, 6, 12, and 24 hours, by a standard mean difference (SMD) of [-0.44 (95% CI -1.08, 0.21); $I^2$=90%], [-0.79 (95% CI -1.55, 0.03); $I^2$=91%], [-0.78 (95% CI -1.63, 0.07); I2=90%], [-1.08 (95% CI -1.92, -0.24); I2=92%] and [-0.53 (95% CI -1.05, -0.01); $I^2$=82%] respectively. QLB delayed the time to first rescue analgesia [mean difference (MD) 2.63 hours 95% CI (-0.05, 5.31); $I^2$=84%] and reduced fentanyl requirement in PACU [MD -0.25 mcg/kg CI 95% (-0.49, -0.01); $I^2$=82%]. No significant difference in parental satisfaction was observed [MD 0.39 95% CI (-0.08, 0.86); $I^2$=87%]. Analysis according to type of control revealed QLB as superior to no block in reducing 24-hour PS after hip surgery [SMD -1.97 (95% CI -2.35, -1.60); $I^2$=61%]. QLB is comparable to CNB in reducing pain immediately after surgery [SMD -0.03 (95% CI -0.43, -0.37); $I^2$=0%], while at later time points, QLB improved PS [SMD -0.44 (95% CI -0.84, -0.03); I2=0%] at 3 to 4 hours and [-0.17 (95% CI -1.01, 0.66); $I^2$=76%] at 24 hours. No serious or permanent adverse events after QLB were reported.

## Conclusion

QLB is an effective regional anaesthetic technique for reducing postoperative pain scores and providing long-lasting analgesia in children. The current evidence is however limited by the small number of RCTs.

## ID: 067

### IMPLEMENTATION OF BUNDLE OF PRE-OPERATIVE ANAESTHETIC CARE IN IMPROVING ITS EFFICIENCY AND QUALITY OF PATIENT CARE

**Janice TM Goh**, Woon L Lim, Sook H Chaw, Mohd F Z Abidin, Siti N Yunus, Wei K Tan, Carolyn CW Yim, Alvin JH Foo, Mohd N M Zaki, Ummu Y Hamid, Nurulain A Rahman

University of Malaya, Kuala Lumpur, Malaysia

#### Background

The pre-anaesthetic clinic (PAC) serves as a centre to assess, optimize and plan peri-operative management for patients undergoing elective surgeries. An ideal PAC should serve high volume of patient load, with low patient waiting time. In order to achieve both efficacy and quality, we implemented Bundle of Pre-Operative Anaesthetic Care to revamp work flow at our PAC.

#### Methods

This study was conducted over a 7-months period, comprising 2 cycles: 3-monthly set with 1-month adjustment period in between. During both cycles, we recorded the time flow for each patient at our PAC. After obtaining the baseline data, we started 4 interventions which consisted of: (1) ensuring availability of investigations during PAC review, (2) patient questionnaire during booking to risk stratify according to American Society of Anaesthesiologists (ASA) physical status and surgical risk, (3) appointment duration and seniority of physician allocated based on Total Operative Risk Stratification (TORS), as well as (4) scheduling system modification to allow free slots for walk-in patients.

#### Results

We noted that with our intervention, total time spent at PAC was significantly reduced from mean of 159 to 109 minutes ($p<0.001$), contributed by lowered total waiting time from mean of 120 to 72 minutes ($p<0.001$). The improved efficacy came from shorter waiting times for (1) registration ($p<0.001$), (2) doctor consultation ($p<0.001$), (3) obtaining investigation ($p<0.001$), and (4) exiting PAC ($p=0.036$) compared to baseline group. We also found that total review time was correlated to patient's ASA physical status with longer time for ASA II ($p=0.010$) and III ($p=0.030$) compared to

ASA I patients. Furthermore, total doctor assessment time was correlated to need for referral, feedback or second PAC review ($p<0.001$).

## Conclusion

Bundle of Pre-Operative Anaesthetic Care was able to relieve clinic congestion, by reducing the total waiting time for patients, which would translate to a more competent PAC.

## ID: 064

### DIAGNOSTIC AND PROGNOSTIC PERFORMANCE OF SERIAL CREATININE, CYSTATIN C AND NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN IN FOR ACUTE KIDNEY INJURY IN CRITICALLY ILL PATIENTS WITH SEPSIS

**Azrina Md Ralib**[1], Fatimah Dzaharudin[2], Muhammad Rasydan Abd Ghani[1], Mohd Basri Mat Nor[1]

[1]Department of Anaesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia; [2]Department of Mechanical Engineering, Universiti Malaysia Pahang

#### Introduction

Acute kidney injury (AKI) is an independent risk factor that contributes to morbidity and mortality in critically ill patients. Plasma Creatinine is the current marker used to diagnose AKI; however, it is delayed biomarker. Newer marker has been shown to have a faster diagnostic utility. Plasma Cystatin (CysC) is a new functional marker, whereas Neutrophil Gelatinase-Associated Lipocalin (NGAL) is injury marker for AKI. We evaluated the diagnostic and prognostic performance of Creatinine, Cystatin C, and NGAL in critically ill patients with sepsis.

#### Methods

This is a secondary analysis of a prospective observational study of critically ill patients. Inclusion criteria were patients older than 18 years old with sepsis, defined as clinical infection and increase in SOFA score>2, and plasma procalcitonin>0.5 ng/ml. Plasma creatinine, Cystatin C and NGAL were measured on ICU admission and daily for 3 days.

#### Results

A total of 70 patients were recruited, of which 39 (55.7%) had AKI. Plasma Creatinine had the highest diagnostic performance for AKI throughout the first 3 days of ICU admission with AUC of 0.72 to 0.85. Plasma CysC was diagnostic on Day-1 and Day-2 only, with AUC of 0.76 and 0.77, respectively. Plasma NGAL was diagnostic for AKI throughout the 3 days, with AUC of 0.67 to 0.75. Day-2 Plasma NGAL were independently predictive of 30 days mortality with odds ratio of 9.76 (1.02 to 93.13), p=0.048.

## Conclusions

Plasma Creatinine, CysC and NGAL measured during the first 3 days of ICU admission were diagnostic of AKI. However, only Day-2 Plasma NGAL was independently predictive of 30-day mortality, with optimal cut-off point of 435 ng/ml.

## ID: 078

### SURGICAL WAITING LIST AND SLOT ASSIGNMENT: ENSURING FEASIBILITY OF SCHEDULING USING SATURATION DEGREE METHOD

**Mohamad Khairulamirin Md Razali**[1], Abdul Hadi Abd Rahman[2], Masri Ayob[2], Razman Jarmin[3], Liu Chian Yong[4], Muhammad Maaya[4], Azarinah Izaham[4], Raha Abdul Rahman[4]

[1]Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia; [2]Center for Artificial Intelligence Technology, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia; [3]Department of Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; [4]Department of Anaesthesiology and Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

#### Background

Strategic surgical scheduling determines the allocation of operating theatre (OT) time is a complex scheduling system and are often done manually. The availability of operating time, operating theatres, equipment, surgeon, anaesthesiologist, and nurse must match the service demand in order to minimise waiting time. This simulation study compared the effect to the surgical waiting list and slot assignment, using of algorithm-generated compared to the manually constructed OT schedule.

#### Methods

A constructive heuristic that considers the surgery duration to allocate each surgical group's slots was proposed and, a redistribution mechanism is adapted to avoid infeasibility. The Saturation Degree heuristic is applied to increase the probability of finding feasible solutions while maximizing the number of times a surgical group is assigned to its preferred slot. The algorithm was applied to three-month retrospective surgery bookings dataset where manual scheduling systems has been used for scheduling and, both master plans then were compared.

#### Results

The proposed algorithm could reduce the difference between the highest and lowest average waiting times from 85.47 days (107.30 - 21.83 days) to 65.76 days (93.09 - 27.33 days). The average waiting time has also decreased from 67.36 days to 64.56

days. The algorithm showed increased the preferred slot assignment from 39 times versus 41 times in the manually constructed. The same surgical team was more likely to get assigned to the same OT and operating day (16 to 21 times and 21 to 29 times respectively), requirement of equipment has to be shared more frequently reduced (8 to 3 times) throughout the planning horizon.

## Conclusion

The developed algorithm based on Saturation Degree method able to reduce the surgical waiting list to match the demand and maximised the preferred slot assignment.

# 8. Case Report Abstracts

## ID: 004

### CASE REPORT: HYPNOSIS AS A NON-PHARMACOLOGICAL APPROACH FOR CONSCIOUS SEDATION DURING AN ANGIOPLASTY PROCEDURE

**Anand Chandrasegaran**, Shahrul Zuraidi Bin Idris

Columbia Asia Hospital, Klang, Selangor, Malaysia

Background

This is a case report describing clinical hypnosis as a non-pharmacological approach for conscious sedation, during an angioplasty procedure. Stress or anxiety reducing strategies are useful in patients undergoing cardiac catheterisation procedures.

Case description

The patient in this case, had prior angiograms where he experienced extreme anxiety and pain prior and during those procedures. For this procedure, the patient was given clinical hypnosis intervention as conscious sedation approach. There are three phases in the hypnosis process, starting with induction, followed by therapeutic suggestions and concluded by emergence from the hypnotic state. During the induction phase, the patient was guided to relax by imagining a peaceful scene and become more focused on a “daydream”. The second phase involves providing suggestions that are to help the patient to be comfortable. For example, telling the patient that he will feel calmer or less bothered by those feelings. Emergence from hypnosis means helping the patient to get back into a normal state of consciousness. The crucial factor in hypnosis is the use of suggestion. Patients exposed to hypnosis relaxation practises have described various phenomena such as alterations in body image, time distortion, dissociation, feelings of relaxation and peace and increased positive affectivity, but diminished self-awareness and memory. Visual analogue score for pain and anxiety were recorded every 10mins with the attending anaesthetist monitoring the patient throughout the procedure. The patient was given the assurance that, he will be given pharmacological agent for pain or sedative if requested. This patient tolerated the 90 min angioplasty procedure well with hypnosis method only.

## Discussion and Conclusion

This report shows that, there is a role in using clinical hypnosis method in easing patient's anxiety as a modality in multi modal approach to medical procedural pain and anxiety.

## ID: 011

### CONGENITAL APLASIA OF LEFT LUNG

**BJ Ng**, SC Teo

Sarawak General Hospital

### Background

We present a case of left sided pulmonary agenesis (PA) with esophageal atresia (EA) and tracheoesophageal fistula (TEF) with surgical repair via right thoracotomy.

### Case description

Transferred from district hospital with nasal prong 2L/min, a one-day-old(D1) 37 weeker, presented with copious oral secretion since birth and features suggestive of Treacher Collin syndrome. His CXR showed Ryles tube coiled at level-T1 and opacification of left hemithorax. A diagnosis of EA-TEF with left lung collapse was made and he underwent ligation of TEF and gastrostomy at D3 after rigid bronchoscopy to identify level of fistula. He remained intubated post operatively. Right thoracotomy and delayed primary anastomosis of oesophagus was completed at D19. Intraoperatively, he experienced brief periods of desaturation requiring high FiO2 and was relieved by adjustment of retractors. He experienced respiratory acidosis post-operatively requiring high-frequency-jet ventilation until D34. CECT D36 showed rudimentary left main bronchus, absent left lung, absent left pulmonary vessels compensated with hypertrophied right lung herniating to left hemithorax. He was extubated to nasal IMV at D36 and later weaned to nasal prong 0.25 L/min. Oral feeding was started at day 52 of life combined with gastrostomy-feed.

### Discussion and Conclusion

Incidence of EA-TEF is 1 in 2500–4000 live births, while unilateral PA 1 in 10–50,000. Unilateral PA associated with EA-TEF is rare, reported to date 14 patients (all right PA) survived beyond newborn period. The ability to achieve prenatal diagnosis is important for initial postnatal intensive treatment for improved prognosis. Right thoracotomy is the usual approach for TEF unless associated with right aortic arch. It is arguable in our case whether left thoracotomy should be used if PA was diagnosed pre-operatively although technically more challenging. Right thoracotomy in

our case created periods of hypoxemia due to the compression of the only lung, nevertheless it is still a feasible approach.

## ID: 013

### ANAESTHETIC CHALLENGES IN PARTURIENT WITH CEREBELLOPONTINE ANGLE (CP) TUMOUR WITH NEUROLOGICAL DEFICIT FOR CAESAREAN DELIVERY

**SY Chan**

Hospital Raja Permaisuri Bainun, Ipoh, Malaysia

#### Background

CP angle tumours in pregnancies are infrequent and may worsen maternal child outcome. The tumour takes aggressive course during pregnancy with worsening of symptoms.

#### Case description

A 27-year-old Gravida 2 Para 1 at 34 weeks of gestation presented with recurrent CP angle vestibular Schwanomma for Caesarean delivery followed by tumour debulking 1 week later. She was diagnosed since 2017 and had tumour debulking with ventriculoperitoneal (VP) shunt inserted. Currently, she presented with worsening headache, unsteadiness and blurring of vision and diplopia for past 1 week. She had left hearing impairment, tinnitus, and experienced choking sensation occasionally. She had cerebellar signs, left cranial nerves IV, V, VII, VIII palsy. Cough and gag are weak. Power of left proximal muscle are reduced. After discussion with neurosurgical team together with the patient and her husband, epidural anaesthesia was chosen. Surgery and anaesthesia went on smoothly. Baby is nursed in NICU for 1 day in view of prematurity. Post operatively, she was monitored in Maternity HDU and her neurology returned to her pre-operative condition.

Regional anaesthesia gives an opportunity for the mother to nurse her baby and this gives her motivation. As most of her cranial nerves are impaired especially involving the gag and cough reflexes, it was best to avoid general anaesthesia as she might not be extubatable and required intensive care unit (ICU) stay until her brain surgery. She eventually needed a tracheostomy post tumour debulking.

## Discussion and Conclusion

Regional anaesthesia can be done safely for patients with intracranial pathology with neurological deficit. Multidisciplinary approach with a specific anaesthetic plan is needed, keeping in mind the safety requirements of both the mother and baby.

## ID: 014

### PERSISTENT LEFT SUPERIOR VENA CAVA: A CASE REPORT AND DISCUSSION

**HL Cheang,** Naimah Tahir, ZS Lee

Hospital Seberang Jaya, Pulau Pinang, Malaysia

#### Background

Persistent left superior vena cava (PLSVC) is a rare anomaly yet the most common congenital malformation of the thoracic venous return. It is present in 0.3 to 0.5% of individuals in the general population with a normal heart, and 4.5% in individuals with congenital heart diseases.

#### Case description

We are reporting an incidental finding of PLSVC in one of our ICU patients during central venous catheter placement. A 64-year-old Chinese lady with underlying Diabetes Mellitus, hypertension and dyslipidemia was admitted to ICU, treating for Acute liver failure with coagulopathy complicated with Acute Kidney Injuries with metabolic acidosis requiring continuous venovenous haemofiltration (CVVH). On day 9$^{th}$ of ICU admission, she was due for femoral and central venous catheter change. Right femoral catheter guide wire exchange and new left internal jugular vein (IJV) central venous line (CVL) was inserted. Left IJV CVL was inserted using ultrasound guidance. However, there was difficulty to advance guide wire. After few attempts the procedure was successful. CXR post CVL insertion noted CVL in eccentric position. CT Thorax (CTA and CTV) revealed that patient has double superior vena cava.

#### Discussion and Conclusion

Most people with PLSVC remain asymptomatic. This is majorly dependent on drainage site of PLSVC, side effects of enlarged coronary sinus and associated congenital cardiac anomalies. Regardless of the major asymptomatic group, PLSVC still poses significant clinical challenges. Such challenges include difficulty in placement of future catheters, pacemakers, or implantable cardioverter defibrillator. In conclusion, central catheters should be removed if assessment of patient's cardiothoracic anatomy has not been assessed. Further imaging can reveal association of complex cardiac pathologies and may result in significant clinical implications

## ID: 016

### SCHIZOPHYLLUM COMMUNE, MUSHROOM SPECIES WITH ANTIVIRAL EFFECT AGAINST CORONAVIRUS (COVID-19)?: A CASE REPORT

S Luth**, A Amran,** NA Zahrin, S Kasbolah

Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

#### Background

COVID-19 and co-infection with fungal are described widely in a recently published journal. The characteristic of COVID-19 itself together with treatment with high dose corticosteroids makes the patients in the immunocompromised state. The early identification and characteristics of fungal infection presentation would be a bonus to the physician if able to start early antifungal treatment and prevent morbidity and mortality.

#### Case description

This case report discusses a case of COVID-19 Pneumonia Stage 5 co-infected with a fungal infection named Schizophyllum commune, a rare species causing pulmonary mycosis. The patient is a fit, middle-aged gentleman with underlying well-controlled hypertension but unfortunately had contracted the coronavirus during the third wave of the pandemic. The result for fungal identification was Schizophyllum commune using conventional and polymerase chain reaction (PCR) methods from his endotracheal tube (ETT) specimen sent for fungal culture and sensitivity (C&S).

#### Discussion and Conclusion

Whether Schizophyllum commune has antiviral effects against COVID-19 which need further study as this is rare species causing pulmonary mycosis and co-infection with COVID-19.

## ID: 017

### HAPPY HYPOXAEMIA AND METABOLIC ACIDOSIS IN PREGNANT WOMEN WITH COVID-19: TWO CASE REPORTS

S Luth**, SN Hamzah,** LM A Karim, S Kasbolah

Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

Background

Coronavirus disease 2019 (COVID-19) has been declared an epidemic by WHO (World Health Organization) on March 11, 2020. It is caused by a novel coronavirus (SARS-CoV-2) which were emerged in Wuhan, China in late 2019. In the pregnant patient, the presentation is similar to the nonpregnant patient; fever, cough, shortness of breath and lymphopenia. On top of hypoxia and acidosis, pregnant women are prone to thromboembolic risk as in hypercoagulability state, high mortality, and higher rates of admission to intensive care compared to the normal population. As a high-risk population during the pandemic, pregnant women and their fetuses are vulnerable to be contracted with the virus in a more severe illness. The physiological, immunological, and mechanical changes during pregnancy contribute to more rapid deterioration in the cardiorespiratory system.

Case description

We present two cases of maternal, both were in the third trimester, have gestational diabetes mellitus on diet control and presented with metabolic acidosis and hypoxia, required intubation then proceeded with emergency lower segment caesarean section secondary to worsening acidosis. Both babies survived but one of the mothers succumbed during the course secondary to superimposed bacterial infection while the other one had a pulmonary embolism and was on anticoagulant after discharged home. Prompt recognition and timely management with multidisciplinary input are key to reducing the danger of adverse maternal and fetal outcomes.

Discussion and Conclusion

Hypoxia can induce anaerobic metabolism and lactate production as a result of impaired gas exchange caused by COVID-19. COVID-19 infection can progress into acute respiratory distress syndrome (ARDS), increase the length of hospital stay, and mortality even in the younger patient as its ability to precipitate ketosis.

## ID: 018

### TOTAL INTRAVENOUS ANAESTHESIA IN NEONATAL SURGERY: A CASE SERIES ON TARGET-CONTROLLED INFUSION OF PROPOFOL USING ELEVELD MODEL

**W.K. Chan,** S. Mohtar, S.C. Teo

Sarawak General Hospital (SGH), Kuching, Sarawak

#### Background

The use of total intravenous anaesthesia (TIVA) target-controlled infusion of propofol (TCI-propofol) during neonatal surgery was limited by the lack of appropriate pharmacokinetic-pharmacodynamic model and safety concerns, particularly hypotension. This is due to the physiological differences between adult and neonatal populations and inter-individual pharmacodynamic variation among neonates. Eleveld is the latest propofol pharmacokinetic model commercially available and the only model that has included the neonatal population in its algorithm design.

#### Case description

We present a case series of six neonates that underwent neonatal surgery (two tracheoesophageal fistula repairs, two colostomies, one laparotomy and duodeno-duodenostomy and one omphalocele minor repair) in our institution under TIVA TCI-propofol utilising the Eleveld pharmacokinetic model from November 2021 to January 2022 (Table 1). All neonates were extubated well in the operating theatre and recovered uneventfully. There was no observable clinically significant hypotension, especially during induction and maintenance of anaesthesia with TCI-propofol.

Careful titration of TCI-propofol was necessary for timely emergence and maintaining haemodynamic stability. Clinical vigilance, understanding of pharmacokinetic models of TIVA and inter-individual variability in pharmacodynamic response are essential to minimise undesirable side effects such as clinically significant hypotension and delayed emergence. Additionally, TIVA minimises the risk of inadequate anaesthesia due to inefficient delivery of volatile agents, especially during the procedure, avoids theatre air pollution, and fewer airway complications such as laryngospasm due to insufficient depth of anaesthesia.

## Discussion and Conclusion

These demonstrated suitable and desirable anaesthetic effects using TCI-propofol in neonatal surgery without undesirable short-term side effects, especially clinically significant hypotension.

## ID: 019

### INTRAOPERATIVE CONTINUOUS RENAL REPLACEMENT THERAPY IN PATIENT WITH SEVERE HYPERKALAEMIA SECONDARY TO COMPARTMENT SYNDROME CAUSING RHABDOMYOLYSIS

W.K. Chan, **Y.W. Tan**, K.S. Cheng, S. Mohtar, S.C. Teo

Sarawak General Hospital (SGH), Kuching, Sarawak

#### Background

Rhabdomyolysis is a potentially fatal illness that occurs when massive amounts of muscle tissue necrosis cause hyperkalemia and other electrolyte abnormalities, similar to tumour lysis syndrome. Patients with severe hyperkalemia who do not respond to medical treatment might consider haemodialysis. Emergency fasciotomy is usually performed in patients with compartment syndrome to release the tension in the muscle compartment that precipitates rhabdomyolysis. We present a case of polytrauma with haemorrhage into thigh muscle causing compartment syndrome and rhabdomyolysis, which leads to severe hyperkalaemia.

#### Case description

Our patient was a previously healthy middle-aged man who sustained polytrauma after a motor vehicle accident. He was stabilized in a district hospital and transferred to a tertiary hospital for further management. He underwent a second surgery - wound exploration, debridement and revision of external fixation of right tibia and fibula - which subsequently was complicated with compartment syndrome leading to rhabdomyolysis and acute kidney injury. He had severe metabolic acidosis and refractory hyperkalaemia despite aggressive pharmacological interventions. An emergency fasciotomy was planned with intraoperative continuous renal replacement therapy (CRRT) to anticipate worsening hyperkalaemia. He successfully underwent the two-hour operation and was discharged home subsequently.

#### Discussion and Conclusion

Intraoperative CRRT required meticulous preparation and technically skilled operators to oversee the overall process. Relevant expertise (personnel), equipment (portable CRRT machine) and environment (adequate theatre space) must be present. Safety, feasibility, pharmacokinetics changes and benefits over risks must be

weighed. Alteration in pharmacokinetic-pharmacodynamics of the anaesthetic drug needs to be considered. CRRT circuit added extra distribution volume while unbound drugs, low molecular weight drugs, and drugs with a small volume of distribution are removed via CRRT. Hence, anaesthetic dosages should be titrated by depth-of-anaesthesia monitoring.

Multidisciplinary effort and communication among anaesthesiologists, nephrologists, surgeons, nurses, and the ICU team are paramount to ensure a smooth intraoperative CRRT.

## ID: 025

### INTRA-OPERATIVE MONITORING AND MANAGEMENT FOR SUPRA-AORTIC BYPASS AND THORACIC ENDOVASCULAR AORTIC REPAIR

**SC Tham**, Lily Ng, Benjamin DK Leong

Hospital Queen Elizabeth II, Kota Kinabalu, Malaysia

#### Background

Thoracic Aortic Aneurysms (TAA) are a rare occurrence, often asymptomatic during early presentation. Aneurysm of the aortic root and ascending aorta account for about 60% of the cases, while the descending aorta 40% and aortic arch 10%. Irregardless of its location, all TAAs pose a high mortality risk and in time, most patients usually require surgical intervention. However, very few reports in the anaesthetic literature discuss the intraoperative management in aortic surgeries which involve carotid clamping.

#### Case description

Two patients with multiple co-morbidities who underwent surgical repair will be discussed in this case report. The first patient had disseminated melioidosis complicated with a myocotic aneurysm of the ascending thoracic aorta. Whilst the second patient was incidentally found to have a saccular aneurysm of the aortic arch during his medical workup for chronic lung disease. Both cases were treated with hybrid surgical techniques through an open supra-aortic bypass and thoracic endovascular aortic repair (TEVAR) by the vascular team under general anaesthesia. Intra-operatively, the patient was monitored including invasive blood pressure monitoring. In addition, cerebral oximetry was instituted to minimize the risk of ischaemia during the period of carotid clamping. In both cases, their carotid arteries were clamped for approximately half an hour to facilitate the arterial anastomosis. Fluid resuscitation and inotropic support were given as required to achieve optimum blood pressure. There was no evidence of cerebral ischaemia reported in both cases.

## Discussion and Conclusion

The targeted intra-operative blood pressure and cerebral oxygen saturation will be discussed in detail. In conclusion, a tight blood pressure control and strategic resuscitation must be maintained throughout the procedure to ensure adequate cerebral perfusion especially during the carotid clamping.

## ID: 026

### A CASE OF EPIDURAL BLOOD PATCH FOR POSTDURAL PUNCTURE HEADACHE IN A PATIENT WITH CORONAVIRUS DISEASE 2019

**Dinakren B**, Norliza MN

Department of Anaesthesia and Intensive Care, Hospital Selayang, Selangor Darul Ehsan, Malaysia

#### Background

Epidural blood patch (EBP) is a treatment choice for postdural puncture headaches. However, the safety of epidural blood patch in patients with coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is unknown. To date , there is little conclusive literature on the effects of autologous blood causing seeding of the virus on the central nervous system.

#### Case description

We report our first case of EBP to treat a postdural puncture headache in a woman after spinal anaesthesia for caesarean delivery. We decided to perform EBP after conservative treatment failed to alleviate her postdural puncture headache. Meticulous planning had to be done to ensure safety of the healthcare providers and the patient while performing the procedure. The patient's headache was relieved, and she did not develop and other neurological symptoms. Although this patient appears to have benefited from EBP, at this point of time, we cannot guarantee the safety of this procedure and further studies are needed to support it.

## ID: 032

### ULTRASOUND-GUIDED SUPERFICIAL CERVICAL PLEXUS BLOCK (SCPB) COMBINED WITH CLAVIPECTORAL FASCIA BLOCK (CPB) FOR REMOVAL OF LEFT CLAVICLE IMPLANT – A CASE REPORT

**Bosco,** CK Hor, KW Tan, NH Khairani, A Lim, SA Kesut, A Anita

Hospital Tuanku Ja'afar, Seremban, Malaysia

#### Background

Clavipectoral fascia block is a novel technique providing regional anaesthesia for clavicular fracture because terminal branches of sensory nerves like suprascapular, subclavian, lateral pectoral and long thoracic nerves pass through this plane. Compared to brachial plexus block, CPB is much safer as the plane of injection is more superficial with clavicle serving as a natural safe endpoint.

#### Case description

In this case study, we reported a successful removal of left clavicle implant using regional technique of SCPB with CPB in a 37-year-old ASA I gentleman. With informed consent, patient was placed in the supine position, head slightly elevated and turned away from the operative site. Under aseptic technique, the ultrasound was placed at the posterior margin of the sternocleidomastoid muscle (SCM) at the level of fourth cervical vertebrae and the plexus was visualized as hypoechoic structure surrounded by hyperechoic fascia. 50mm 22G needle was inserted in-plane under the SCM and 5mls 0.375% ropivacaine was deposited. Subsequently, ultrasound probe was placed on the anterior surface of the clavicle, identifying the anatomical landmarks of the CPB. 20mls 0.375% ropivacaine (10mls medial and lateral to the implant) was injected in between the clavipectoral fascia and the periosteum of the clavicle with the same needle. Intraoperatively, patient was given sedation with the ASA sedation score of moderate. No additional analgesic required. Procedure was uneventful.

## Description and Conclusion

SCPB combined with CPB can be an alternative anaesthesia technique for clavicle surgeries. This technique may provide benefits to patients with difficult airways and with risk of respiratory complications such as in trauma patients with rib fractures and pneumothorax. SCPB combined with CPB may serve as adequate regional anaesthesia technique for clavicle surgeries.

## ID: 033

### ULTRASOUND GUIDED PECS 1 BLOCK AS ANALGESIC ADJUNCTS IN AESTHETIC BREAST AUGMENTATION SURGERY IN A DAY-CARE SETTING: A CASE SERIES

**ZY Beh**[1,2], KS Lee[1,3]

[1]LifeCare Diagnostic Medical Centre, Bangsar South, Kuala Lumpur, Malaysia. [2]OSC Orthopedic Specialist Centre, Subang Jaya, Selangor, Malaysia. [3]The M Clinic – Plastic & Cosmetic Surgery Clinic, Penang, Malaysia

#### Background

The analgesic benefits of using pectoral nerve block as regional analgesia in breast cancer surgery has been widely published. However, its use in aesthetic breast surgery remains under-reported. Aarab et al (Anesthesiology, 2021) recently demonstrated in a double-blinded randomized controlled trial that pectoral nerve block with multimodal analgesia provides effective perioperative pain relief after aesthetic breast surgery and is associated with reduced opioid consumption over the first 5 postoperative days.

#### Case description

In this case series, we reported five consecutive ladies underwent breast augmentation surgery in a daycare setting since December 2021. 2 of the ladies had breast augmentation revision with removal of old implants. 5 patients had submuscular implant with minimal incision inframammary approach while another patient had periareolar approach (due to previous old implant was inserted via periareolar approach). All of them received general anesthesia with multimodal intravenous analgesic including low dose opioid (fentanyl, pethidine), paracetamol and parecoxib plus anti-emetics dexamethasone and ondansetron. Ultrasound guided PECS1 block was administered post induction with chirocaine 0.25% 10 ml each side. The patients' median age was 40 years-old (interquartile range, 31.0 – 49.5) and mean BMI was 22.35 (±1.63). The mean implant volume for each breast was 380.00±45.06 ml. All patients had excellent analgesia with zero pain score at recovery area and during daycare ward review. None had postoperative nausea vomiting. They were allowed home within 6 hours after surgery, ambulate without assistance during discharge. All patients received regular oral analgesics Panadeine and Arcoxia postoperatively. Prior to the implementation of PECSI block, patients in the pre-intervention cohort commonly complained of chest soreness with tightness after the surgery due to the

high-volume breast implant, especially on the first night and few days after the surgery. Current cohort of patients experienced minimal chest discomfort on the first night after the surgery.

## Discussion and Conclusion

The use of ultrasound guided PECS1 block in the context of multimodal analgesia has further enhanced the recovery experience in patients undergoing aesthetic breast augmentation surgery.

## ID: 036

### CAN INTUBATE BUT CANNOT VENTILATE POST ENDOTRACHEAL INTUBATION!

**SY Chan**

Hospital Raja Permaisuri Bainun Ipoh, Malaysia

### Background

Tracheomalacia (TM) is a frequent complication of surgical repair of trachea-oesophageal fistula (TEF), developing in 30 to 40 percent of cases. It is due to the antero-posterior collapse of the cartilaginous wall.

### Case description

A 16-month-old child, presented for excision of sinus tract at S4/S5 and repair of meningocele requiring prone position, airway needed to secure with endotracheal tube (ETT) and paralysis. Patient had a background history of TEF with anorectal malformation, repair of TEF was done at day 2 of life, followed by PSARP at 5 months and closure of colostomy at 7 months old. For current operation, inhalational induction with sevoflurane and paralysis with rocuronium was done, able to mask ventilate. Intubation was done using ETT 4.5 anchored at 12 cm, however, unable to ventilate, no chest expansion and no capnography detected. Placement of ETT confirmed via direct laryngoscopy. ETT removed and laryngeal mask airway (LMA) was inserted, able to ventilate. Saturation maintained throughout the procedure. After discussion with the neurosurgical team, patient was reversed with sugammadex. Patient was then referred to ENT team and bronchoscopy done under spontaneous respiration and noted tracheomalacia at the level 1.5 cm below true vocal cords extending till the left main bronchus with elements of left bronchomalacia.

### Discussion and Conclusion

Trachea collapse on the ETT under conditions where the extraluminal pressure exceeds the intraluminal pressure during muscle paralysis preventing ventilation. Patients should be evaluated by a multidisciplinary team and for non-urgent surgeries, operation should only be done after 2 years old as they usually demonstrate resolution of TM by 2 years of age as the airway grows and the cartilage matures.

## ID: 042

### WHAT DOES RED MEAT ALLERGY HAVE TO DO WITH CARDIAC SURGERY? A CASE REPORT OF THE ALPHA-GAL SYNDROME

**Soon Keong Khaw**[1*], Mohammed Faizal Bakhtiar[2*], Hanafi Bin Sidik[1], Hasmizy Bin Muhammad[1]

[1]Sarawak Heart Centre, Kota Samarahan, Sarawak. Malaysia; [2]Allergy & Immunology Research Center, Institute for Medical Research, National Institutes of Health, Shah Alam, Selangor, Malaysia

#### Introduction

Anaphylaxis to succinylated bovine gelatin (SBG) colloid has been reported during the perioperative period relatively uncommonly. The allergenic element may be secondary to the gelatin component which carries a narrower implication compared to the wider ranging consequence of alpha-gal syndrome involving many medical products of animal origin.

#### Case description

A 52-year-old lady with severe mitral regurgitation was referred to the Sarawak Heart Centre for mitral valve repair. She has underlying hypertension, dyslipidaemia, and bronchial asthma which were well controlled. She has no known drug or latex allergies but gave a history of red meat allergy which causes urticaria and difficulty breathing when she was younger. This patient had undergone routine anaesthesia with midazolam, rocuronium, remifentanil, dexmedetomidine and intravenous bovine-derived heparin for a mitral valve repair surgery with cardiopulmonary bypass (CPB) without issues. Postoperatively, she was maintained on SBG infusion as a plasma volume substitute and transferred to the cardiac intensive care unit. About 20 minutes following the infusion, she developed hypotension, bronchospasm, and generalized urticaria. Suspected as anaphylaxis, the SBG was immediately removed. She was appropriately treated and managed, and made good clinical recovery. Bloods were sent for tryptase levels, specific IgEs (sIgE) to alpha-gal, bovine gelatin, latex, and chlorhexidine. The sIgE to alpha-gal was significantly raised (20.3 kUA/L). Baseline tryptase was normal (8.20 mcg/L). The rest were undetectable (<0.1kUA/L). Based on the anamnestic history of red meat allergy and in-vitro test results, she was diagnosed with alpha-gal syndrome and other causative agents were ruled out.

Further recommendations were made for her to avoid mammalian-derived medical products in future which included bio-prosthetic heart valves.

## Discussion and Conclusion

Red meat allergy seemed trivial and suspicion of SBG cross sensitization should be expected. However, alpha-gal syndrome needed to be ruled out which carries a far-reaching implication, particularly in cardiac surgery

## ID: 046

### A POLYTRAUMA PATIENT WITH TOOTH ASPIRATION IN A DISTRICT HOSPITAL: A CASE REPORT

**NS Ismail,** CM Chan

Hospital Kajang, Selangor, Malaysia

#### Background

Tooth aspiration may be rare; however, it is frequently associated with maxillofacial injuries or procedures.

#### Case description

We present a case of a 35-year-old male who was brought to a district hospital due to polytrauma with unsure mechanism of injury via ambulance call. He arrived at the hospital with a Glasgow Coma Scale of 9 and underwent emergency intubation for airway protection. He sustained multiple facial injuries besides fractures of the pelvis and left femur. Examination by the oral and maxillofacial surgery team revealed that he had fracture of the mandible, bilateral condyles, Le Fort II maxillary fracture, and avulsion of the upper front six teeth. It was only until two days post intubation while he was managed in the intensive care unit that noted in his chest x-ray there was a 'tooth' shaped radio-opaque lesion at the bronchus of the right lower lobe of the lung. Case was referred to respiratory team of a tertiary hospital. Flexible bronchoscopy was done by the visiting respiratory physician and found 2 pieces of teeth at the lateral basal segment of the right lower lobe bronchus, successfully removed via forceps. In this case, the patient was able to be ventilated with relatively low ventilator settings prior to teeth removal, with no signs of lung collapse or pneumothorax. However, in correlation with the finding of missing teeth, we should've looked harder in an urgent manner to rule out any tooth aspiration as the complication of it could've been disastrous if left undiagnosed and not intervened for longer.

## Discussion and Conclusion

We need to have a proper oral and airway assessment, thorough reviewing of a chest x-ray with high index of suspicion to rule out tooth aspiration especially when it involves an emergency airway procedure with underlying multiple facial injuries and the finding of missing teeth.

## ID: 047

### HYPOXIA DUE TO LUNG ATELECTASIS AFTER COMBINE SPINAL EPIDURAL ANAESTHESIA

**Chong Kok Wah**, Kartina Hanora, Safuraa Salihan

Universiti Putra Malaysia (UPM), Malaysia

#### Background

Postoperative pulmonary complications are higher in patients under general anaesthesia compared to regional anaesthesia. High spinal or total spinal is a common complication seen after central neuraxial blockade leading to intraoperative hypoxia. However, lung atelectasis leading to hypoxia intraoperatively due to central neuraxial blockade is often neglected.

#### Case description

A 74-year-old male patient with underlying diabetic mellitus, hypertension and dyslipidaemia was scheduled for right total knee replacement for osteoarthritis of knee. His BMI was 26.5 kg/m2. Patient was sat up and combined spinal epidural anaesthesia was performed at the level L3-L4. 2.6ml heavy bupivacaine 0.5 % with fentanyl 20 mcg was given in the subarachnoid space. Epidural catheter was inserted 5 cm in the epidural space and anchored at 10cm and confirmed by loss of resistance to saline and drop test. The procedure was uneventful. Patient was put on supine position and sensory block achieved at T10. Soon after patient was on supine position, his oxygen saturation range was between 93–94%. Post operatively, patient was dependent on oxygen therapy and chest X- ray showed left basal haziness and it resolved after application of high flow nasal cannula.

#### Discussion and Conclusion

Central neuraxial blockade render the ability to maintain spontaneous breathing thus avoiding respiratory complications associated with general anaesthesia. Lung atelectasis was one of the complications of central neuraxial blockade that should not be underestimated.

Central neuraxial blockade such as spinal or epidural anaesthesia can cause lung atelectasis and oxygen desaturation although no airway manipulation is involved. Early recognition to rule out other life-threatening causes of hypoxia is important to prevent further deterioration. Application of high flow nasal cannula intraoperatively may have a role in patient suspected of lung atelectasis under central neuraxial blockade.

## ID: 048

### ACUTE PAINFUL PRIAPISM WITH BROWN SEQUARD SYNDROME POST SCOLIOSIS CORRECTION

**Collins Chong Chi Hun**, Kartina Hanora, Chong Kok Wah

Universiti Putra Malaysia (UPM), Malaysia

#### Background

Priapism is a persistent erection unrelated to sexual stimulations. Acute priapism pain following a spinal cord injury (SCI) is due to an unopposed increase of parasympathetic tone and constant blood flow into the penile corpora cavernosa. However, it is rare in Brown Sequard Syndrome (BSS). Nevertheless, priapism pain is devastating to the patient if left untreated. Often, it is self-limiting and resolves after hours. We present a case of acute painful priapism in a patient with BSS post scoliosis correction surgery.

#### Case description

A 15-year-old boy with increasing back pain intensity was diagnosed with adolescent idiopathic scoliosis and scheduled for scoliosis correction surgery. Preoperative blood investigations were unremarkable. Spine X-ray indicates Lenke 1CN with cobb angle T5-T11 and T11 -L4 was 63 degrees and 61 degrees, respectively. MRI showed thoracic dextroscoliosis and thoracolumbar levoscoliosis. Surgery was complicated. He required reopening and clot evacuation within 12 hours post-surgery. Neurologically, he showed loss of ipsilateral L2-S1 motor function and loss of sensation to pain, temperature, and light touch from the level of T7 at the contralateral limb. It is complicated with priapism pain on post-operation day 3, increasing pain intensity for one week.

#### Discussion and Conclusion

Neurological manifestations following SCI are diverse and may include urological symptoms such as priapism. It can happen following incomplete SCI at any level. Pain due to acute priapism can manifest as part of Brown Sequard Syndrome progression. A proper assessment by the urology team is needed to rule out types of priapism. If related to SCI, it is often high-flow or non-ischemic type and can be managed conservatively.

## ID: 049

### INADVERTENT UVULA INJURY

**Shahmini Ganesh**, Chong Kok Wah, Sarah Aliah

Universiti Putra Malaysia (UPM), Malaysia

### Background

Postoperative sore throat is a common complication following general anaesthesia. However, postoperative sore throat related to uvula injury is rare. Uvula necrosis is a result of iatrogenic uvula injury apparent only after patient is extubated and presents with abnormal sensation, dysphagia, or sore throat. Although the management of uvula necrosis is usually conservative, but the complication of uvula injury resulting in pharyngeal dryness and discomfort may be distressing to the patient.

### Case description

A 46-year-old gentleman with recent history of percutaneous coronary intervention done 3 months ago was scheduled for right above knee amputation for necrotising fasciitis under general anaesthesia. He was intubated in a single attempt using video laryngoscope and bougie assisted. Ryles tube was inserted. Vital signs intraoperative remained stable. Post extubation day 1, patient complained of abnormal sensation and dryness over the throat. Direct visualization of throat showed elongated erythematous yellowish uvula. Dexamethasone, oral gargle, and adequate analgesia was prescribed to the patient. Subsequent follow up showed complete resolution of uvula injury.

### Discussion and Conclusion

Uvula is a conic projection which hangs freely from the soft palate and vulnerable to trauma from airway equipment during airway manipulation. During anaesthesia, uvula injury can occur unknowingly during insertion of oropharyngeal airway or supraglottic airway device, direct trauma from blade of laryngoscope, blind oral pharyngeal suctioning, Ryles tube or throat pack insertion.

Gentle airway manipulation and performing oral suctioning under direct visualization during anaesthesia may prevent the occurrence of uvula injury. Early detection and prompt treatment can lead to full recovery with no morbidity. Simple treatment of symptoms such as analgesia, steroids and gargle are all that are required to reassure the patient.

## ID: 050

### PAN-CARPAL ARTHRITIS IN AN ANAESTHESIOLOGY RESIDENT WITH AN ANATOMICAL VARIANT OF SCAPHOID

**Chong Kok Wah**, Collin Looi Seng Kim

Universiti Putra Malaysia (UPM), Malaysia

#### Background

Occupational injuries to healthcare workers are common. Upper limb disorders among anaesthetists have been reported with disorders affecting shoulder the highest followed by disorders associated with the hand. Improper intubation techniques may contribute to work-related injuries. We report a case of an anesthesiology resident who developed left wrist pain after repetitive intubation using an inappropriate technique.

#### Case description

A 28-year-old, 2nd year anesthesiology resident presented with a six-month' history of left wrist pain. It was progressive in nature and aggravated with intubation. It gradually became so severe that she was no longer able to intubate with a laryngoscope. She required daily analgesia and had since changed to a different department due to the pain. She denied any history of trauma to her wrist. Clinically, there was mild swelling and left radial sided wrist tenderness. MRI of left wrist showed the anatomical variant of the left scaphoid and delineating arthritic changes of the scaphoid-trapezium-trapezoid. The pain resolved with adequate physiotherapy and splinting. However, it recurred when she returned to her daily routine of intubation.

#### Discussion and Conclusion

We noticed that our patient intubated with wrist radial flexion. The incorrect technique causes inappropriate load transmission which speeds up the degenerative changes of the wrist joint. Besides that, the repetitive movement of radial flexion leads to increased vascularity and subsequently inflammation.

The diagnosis of an anatomical variant of the scaphoid bone is not apparent until symptoms appear. High index of suspicion is needed when symptoms do occur in cases whereby nature of work frequently involves movement of the wrist joint. Young trainees should be trained with right intubation technique and perhaps with the use of the videolaryngoscope, to develop the right habit and hence reducing occupational health hazards.

## ID: 052

### CONTINUOUS FEMORAL CATHETER BLOCK, ANALGESIC OPTION FOR TOTAL KNEE REPLACEMENT

**Gee Ho Siew**, Chee Sian Quah, Haji Mohd Rohisham Zainal Abidin

Hospital Tengku Ampuan Rahimah, Klang, Malaysia

#### Background

Total knee arthroplasty (TKA) is a common surgery to help improve mobility and quality of life. However, postoperative recovery is often accompanied by moderate-to-severe pain which hinders joint function rehabilitation. Multiple modalities for post-operative pain management includes epidural analgesia, PCA opioids and regional nerve blocks. Continuous femoral nerve block (CFNB) provides longer extended duration of post operation analgesic efficacy in comparison to epidural analgesia with less adverse events such as urinary retention and hypotension.

#### Case description

In Hospital Tengku Ampuan Rahimah, Klang, epidural analgesia remains as the primary modality of post-operative pain control for TKA. Hence, we are reporting 2 cases who received CFNB for TKA as an alternative to epidural analgesia.

**Case 1:** P, 67-years-old Chinese lady with diabetes mellitus and rheumatoid arthritis was electively admitted to ward for the right TKA. Procedure was performed under subarachnoid block and CFNB. Femoral nerve block infusion was started 1 hour post operatively and patient was subsequently discharged to the ward with pain score 0-2. In ward, patient was given CFNB infusion for up to 32 hours and reported her pain score from 0-2. Prior to discharge, she was ambulating well with a walking frame and had good range of movement (ROM). In subsequent clinic follow up, patient was able to demonstrate good ROM over right knee of 0-120 degrees with minimal pain.

**Case 2:** H, 65-year-old Malay lady with premorbid history of hypertension, dyslipidemia, rheumatoid arthritis, and morbid obesity was electively admitted for left TKA. Procedure was performed under subarachnoid block and CFNB. Post operative pain was well controlled with pain score 0-3 on femoral nerve block infusion and oral analgesics. Physiotherapy and rehabilitation were initiated on the following day and she was ambulating well with pain score 0-2 and had good ROM. Total duration of

CFNB infusion was 43 hours. She was then discharged with oral analgesia. In subsequent clinic follow up, she was ambulating well with left knee ROM at 0-110 degree with tolerable pain.

## Discussion and conclusion

The early retrospective case series suggests that it is feasible to effectively manage TKR postoperative pain with CFNB in combination with single-injection subarachnoid block. CFNB provide optimal pain control compared with epidural analgesia while enable patient for early ambulation and rehabilitation

## ID: 053

### A RARE CASE OF PSEUDOMONAS PUTIDA VENTRICULITIS IN INTENSIVE CARE UNIT– A CASE REPORT

**Mohammad Nizam Mokhtar**, Izzuddin Azaharuddin, Farah Hanim Abdullah, Azarinah Izaham, Raha Abdul Rahman

Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

#### Background

Pseudomonas putida is a member of the fluorescent group of pseudomonads. It is a gram-negative bacillus bacterium that are seen in soil, water, and moist environments. Pseudomonas putida is a rare pathogen leading to nosocomial and central nervous system infections. Despite its low virulence, it has the capability to evolve into multidrug resistant organisms than can lead to mortality and morbidity in the intensive care setting.

#### Case description

We report a case of ventriculitis with Pseudomonas putida occurring in an immunocompetent 64-year-old male domestic worker, who was admitted in our intensive care unit after an extra ventricular drain (EVD) insertion procedure for hydrocephalus following a rupture of the posterior communicating artery aneurysm with intraventricular haemorrhage. On day 10 of admission, patient became more septic and was treated for a ventilator associated pneumonia evident by Acinetobacter sp isolated from tracheal aspirate and was treated with intravenous unasyn. Despite resolution of the pneumonia after 1 week evident by negative cultures from the tracheal aspirates and blood cultures, he had persistent temperature spikes and was unable to be weaned off ventilatory support. Cerebral spinal fluid (CSF) culture was taken from the indwelling catheter of the EVD and was found to be positive for a ceftazidime sensitive strain of Pseudomonas putida. Following treatment with intravenous ceftazidime for a one-week course, the patient was subsequently recovered and able to be weaned off ventilation. He was discharged from ICU care to the ward with supplemental oxygen.

## Discussion and Conclusion

It is necessary to be aware of the possibility of nosocomial Pseudomonas putida infection especially in patients with indwelling catheters and to consider the early initiation of appropriate antibiotic regimens once detected as well as strict precautions in hygiene during management of these patients to avoid further development of MDR strains.

## ID: 054

### SPINAL MYOCLONUS FOLLOWING COMBINE SPINAL-EPIDURAL ANAESTHESIA – A CASE REPORT

**Mohammad Nizam Mokhtar**, Izzuddin Azaharuddin, Farah Hanim Abdullah, Azarinah Izaham, Raha Abdul Rahman

Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

#### Background

Focal involuntary muscular contractions of spinal myoclonus have been associated with neoplastic, infectious, traumatic, and degenerative lesions of the spinal cord. Spinal myoclonus is a rare neurologic movement disorder following central neuraxial anesthesia and only a few cases has been reported.

#### Case description

We report a case of a 31-year-old gentleman with underlying nephrotic syndrome underwent combine spinal-epidural (CSE) for an elective left ankle arthroscopic diagnostic & debridement with Brostrom-Gould procedure. The procedure was uneventful and he was discharged to the ward. Approximately 4 hours after anaesthesia, patient developed involuntary myoclonic movement localized at the right upper limb. He remains conscious, alert and calm. The event lasted for about 3 hours and aborted spontaneously without any medical treatment.

#### Discussion and Conclusion

Spinal myoclonus is a rare event and it can be segmental or propriospinal, reflecting spinal segmental organization and the presence of propriospinal pathways that connect different spinal segments. The possible pathophysiology of spinal myoclonus includes abnormal hyperactivity of local anterior horn neurons, aberrant local dorsal horn re-excitation, loss of inhibitory function of local dorsal horn inter-neurons and loss of inhibition from suprasegmental descending pathway. In this patient, loss of inhibitory function in the spinal cord may account for the myoclonus, as its occurrence was when the spinal anaesthesia was wearing off. The diagnosis of spinal myoclonus can be difficult to elicit. Myoclonus or myoclonic-like involuntary movement can have various causes such as epilepsy, drug-induced, biochemical changes, infection, and any focal neurologic pathologies. Thus, basic testing for myoclonus is

essential such as electrolytes, glucose level, renal function, drug and toxin screening, imaging of spine and brain and electroencephalogram. We need to keep in mind that spinal myoclonus is a rare complication of central neuraxial block and it is important to rule out other possible differential diagnosis with appropriate investigations.

## ID: 055

### POSTPARTUM PREECLAMPSIA FOLLOWING SYNTOMETRINE INJECTION IN UTERINE ATONY

**Nur Zila Md Mukhtar**[1,2], Muhamad Rasydan Abd Ghani[1,2], XY Pok[1,2], Azrul Shahnazir Ab Rahman[2]

[1]Department of Anesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia; [2]Sultan Ahmad Shah Medical Centre @ IIUM, Department of Anesthesiology and Intensive Care, International Islamic University Malaysia, Kuantan, Malaysia

#### Background

Syntometrine is a second-line uterotonic agent used during caesarean section (CS) to prevent postpartum hemorrhage. It produces peripheral vasoconstriction via alpha adrenergic receptors and can precipitate new-onset postpartum hypertension-preeclampsia. This case report aims to highlight the effect of Syntometrine in causing postpartum preeclampsia in an undiagnosed gestational hypertension. We also would like to highlight on the satisfactory outcome of combination of intrathecal morphine (ITM) and bilateral transversus abdominis plane (TAP) block for postoperative pain control in CS.

#### Case description

We report a case of a parturient with Diabetes Mellitus complicating pregnancy underwent CS for 2 previous scars. Subarachnoic block and ITM were given. IM Ergometrine was added to Pitocin infusion post-delivery due to the presence of uterine atony. Total operative time was 60 minutes with estimated blood loss of 700mls. She was given bilateral TAP block postoperatively. 25 minutes post-Syntometrine, blood pressure increased ranging between 170 to 200/110 to 130 mmHg and she complaint of headache. She was started on Labetolol infusion up to maximum of 80mg/h after not responding to boluses of IV Labetolol and oral Nifedipine. Labetolol infusion was off 9 hours post-Syntrometrine administration and BP was controlled with oral labetolol afterwards. Diagnosis of preeclampsia was established postoperatively based on urine protein-to-creatinine ratio of 97.9 mg/mmol. In terms of pain control, as compared to 2 previous operations done under ITM, current pregnancy has better pain controlled.

## Discussion and Conclusion

While Syntometrine is important in uterine atony, its potential role in precipitating preeclampsia must be considered. Furthermore, combination of ITM and bilateral TAP block is better than ITM only in managing pain post CS.

## ID: 056

### CONTINUOUS FEMORAL NERVE BLOCK (CFNB) FOR MORE THAN 14 DAYS - IT IS FEASIBLE

**XY Pok**[1,2], Muhamad Rasydan Abdul Ghani[1,2], Che Ainun Nasihah Ismail[1,2], Nur Zila Md Mukhtar[1,2], ET Ong[1,2]

[1]Department of Anesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia; [2]Sultan Ahmad Shah Medical Centre @ IIUM, Department of Anesthesiology and Intensive Care, International Islamic University Malaysia, Kuantan, Malaysia

#### Background

Continuous femoral nerve block (CFNB) is a technique that can be used to provide postoperative analgesia after knee surgery and to facilitate physiotherapy.

#### Case description

In this case report, we present a case of a 36-year-old male with post-traumatic right knee arthrofibrosis following a motor vehicle accident 8 months prior who underwent a right knee surgery. Postoperatively he was placed on CFNB. The CFNB catheter site was covered by antimicrobial dressing. He was reviewed daily by the acute pain service (APS) team for adequacy of analgesia (at rest and during physiotherapy) and signs and symptoms of catheter infection.

#### Discussion and Conclusion

To date, there is still no official guideline or recommendation with regards to maximum time period for continuous peripheral nerve block catheter. However, it is recognized that infectious complications increase with increased duration of infusion. In our case report, there was no infectious complication and the patient was discharged well from hospital. He was on CFNB for a total of 18 days. Meticulous aseptic technique during CFNB catheter insertion, choice and technique of catheter insertion, daily review for infectious complications and usage of antimicrobial dressing may have made prolonged CFNB possible.

In conclusion, CFNB can be safely and effectively employed as an analgesic technique for postoperative pain and physiotherapy.

## ID: 057

### BENEFITS OF CURL CATHETER FOR CONTINUOUS INTERSCALENE BLOCK ON POSTOPERATIVE PAIN SCORES AND REDUCTION OF DISLOCATION RATE DURING PHYSIOTHERAPY

**Seng Fatt Lim**[1,2], Muhamad Rasydan Abd Ghani[1,2], Khairul Anam Mansor[1,2], Muhammad Salman Borhan[2]

[1]Department of Anesthesiology and Intensive Care, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia; [2]Sultan Ahmad Shah Medical Centre @ IIUM, Department of Anesthesiology and Intensive Care, International Islamic University Malaysia, Kuantan, Malaysia

#### Background

The current practice in Malaysia for continuous interscalene nerve catheter is by using a straight catheter.

#### Case description

This case is about the employment of curl interscalene catheter which is rarely documented in local setting. A 35-year-old gentleman with bone cyst of right humerus underwent manipulation under anaesthesia, ultrasound guided biopsy, extended bone curettage and bone grafting of right humerus in the beach chair position. A postoperative interscalene nerve block consisting of 8ml Chirocaine 0.25% was given, followed by placement of interscalene nerve curl catheter using 100mm SonoLong Curl Echo 18G with 50cm catheter under direct ultrasound guidance while patient was under general anaesthesia. The purpose of the interscalene nerve curl catheter was to facilitate physiotherapy of right shoulder by providing analgesia. Self limiting Horner's Syndrome developed with bolus 8ml Chirocaine 0.25% over 10 minutes, however it resolved with a lower dose of 5ml Chirocaine 0.25% over 15 minutes. The curl catheter was placed in the patient for a duration of 5 days and no other catheter related complication occurred. 5 days of physiotherapy with low pain scores was achieved. After 5 days, the catheter was removed. In the use of straight catheter, there is a risk of catheter tip migration regardless of anterior or posterior approach and whether there are changes at the skin markings. In patients with catheter migration, worse pain scores were reported.

## Discussion and Conclusion

By employment of curl characteristics of the catheter, there was no dislodgement in this patient despite active movement during physiotherapy. This resulted in consistent low pain scores during physiotherapy and overall good patient satisfaction.

## ID: 058

### ULTRASOUND GUIDED DUAL SUBSARTORIAL BLOCK FOR PAIN CONTROL IN TOTAL KNEE REPLACEMENT SURGERY– A CASE REPORT

**P Kumaran**, AAAK Khadaied, JH Liew, KW Tan, CK Hor, SA Kesut, A Alias

Hospital Tuanku Ja'afar, Seremban, Malaysia

#### Background

Total Knee Replacement (TKR) is one of the most commonly performed arthroplasty today as it offers the patient a life-changing experience due to increased joint mobility and painless ambulation. However, one deterrent which preclude patients from undergoing TKR, is the significant immediate postoperative pain.

#### Case description

We performed a Dual Subsartorial Block (DSB) postoperatively for a 69-year-old lady, who underwent a right TKR for knee osteoarthritis. The DSB combines two subsartorial blocks, the distal femoral triangle block and the adductor canal block. With informed consent, patient was placed in supine position with hip abducted and thigh externally rotated. A linear ultrasound probe was placed horizontally over the anteromedial aspect of the thigh. The apex of the femoral triangle was identified where the medial border of sartorius overlies the medial border of adductor longus, forming a sign of '3' or 'kissing Sign'. A 100 mm Stimuplex needle was inserted in-plane from the lateral aspect of the thigh towards the intermuscular plane between vastus medialis and sartorius where 15mls of 0.375% ropivacaine was given. Adductor Canal block is then given by inserting the needle from lateral to medial direction in the plane between sartorius and vastus medialis and 15mls of LA was deposited next to the femoral artery.

#### Discussion and Conclusion

DSB involves blockade of saphenous nerve, nerve to vastus medialis, subsartorial plexus, the medial half of the peripatellar plexus, and the popliteal plexus. Pain score post-op was consistently less than 4. DSB provided excellent analgesia and aided in early ambulation by covering all the procedure-specific innervations hence provided us with a useful case report, highlighting the various prerequisites for a successful rollout of a new modality.

## ID: 061

### ANAESTHETIC MANAGEMENT FOR PAEDIATRIC DRUG-INDUCED SLEEP ENDOSCOPY IN HOSPITAL TUANKU JA'AFAR SEREMBAN– A CASE REPORT

**M Mazlan,** KW Tan, NM Sharip, AK Saiful, A Anita

Hospital Tuanku Ja'afar, Seremban, Malaysia

#### Background

Drug-induced sleep endocopy (DISE) is a diagnostic procedure to study the area of upper airway obstruction in patient with obstructive sleep apnea (OSA). A number of protocols with target-controlled infusion (TCI) systems have been reported. In recent years, dexmedetomidine (DEX) has claimed a role as a potential alternative.

#### Case description

We reported our first paediatric DISE of a 9-year-old 40kg BMI 24 with OSA (AHI 6.2) and recurrent tonsillitis, planned for DISE and Adenotonsillectomy. Discussion was made with pediatric ENT team, we performed this procedure with the usage of TCI DEX in combination of ketamine. Patient was placed supine position with no pillow under the head and neutral positioning with nasal prong 3 L/min and standard monitoring applied. TCI DEX is administered with loading dose of 1 mcg/kg over 10 minutes, continued with titration of 1-2 mcg/kg/hr. Ketamine at 1 to 2 mg/kg was given intravenously after completion of loading dose of DEX. Induced snoring was achieved after 8 minutes of onset with adequate depth of sedation and maintained spontaneous breathing. No desaturation occurred during the procedure in which flexible endoscope was inserted along the upper airway and level of obstruction recorded. Upon completion of DISE, patient induced under conventional general anaesthesia for adenotonsilectomy and extubated well.

#### Discussion and Conclusion

DEX in combination of ketamine replicates non-REM sleep and provides adequate depth of sedation with induced snoring achieved and good safety profile.

In the future, a single-center study can be done to compare the effectiveness of dexmedetomidine protocol with others such as propofol. Good communications among teams are crucial to ensure the success of the procedure.

## ID: 068

### AUTOIMMUNE MANIFESTATIONS IN ACQUIRED IDIOPATHIC SPLENIC ATROPHY PRESENTED WITH TOXIC SHOCK SYNDROME: A CASE REPORT

**ZL Song**, YH Poh, Gaithridevi V. Singam, SY Tan, Koo Thomson, Adlihafizi Ab Aziz, CH Lim

Hospital Pulau Pinang

#### Background

The most frequent causes of adult-onset recurrent infections in Asia are primarily secondary states of immunodeficiency, such as human immunodeficiency virus (HIV) infection, Hepatitis infection, malignancy, and autoimmune diseases. Acquired, non-surgical, functional asplenia is a rare cause. Although acquired asplenia and/or hyposplenism have been commonly associated with sickle cell disease and celiac sprue, autoimmune disease such as Sjögren's syndrome to lesser extent, are usually restricted to laboratory findings such as Howell-Jolly bodies or thrombocytosis.

To the best of our knowledge, no case of Toxic Shock Syndrome in a patient with acquired splenic atrophy and autoimmune disease has previously been reported in Asia.

#### Case description

We report a case of 25-year-old Indian woman who presented to us with intraabdominal sepsis and Streptococcal Toxic Shock Syndrome. She was subsequently diagnosed with radiological splenic atrophy, as well as Systemic Sclerosis. Her disease has been complicated with distal right upper limb compartment syndrome, pericardial effusion, recurrent pleural effusion, abdominal collection, and bilateral pyelonephritis.

## Discussion and Conclusion

Acquired splenic atrophy is a rare condition that may be revealed by chronic isolated thrombocytosis after resolution of sepsis induced thrombocytopenia. Pathophysiological mechanism of splenic atrophy in the context of autoimmune disorders remain unknown. High index of suspicion towards evaluation of splenic function is required if patient presented with community acquired encapsulated organism bacteraemia. Vaccination against encapsulated bacterial agents should be performed.

Hyposplenism should be suspected in patients with adult-onset infections caused by encapsulated bacteria, especially if autoantibodies are present. Early diagnosis can help to prevent potentially life-threatening sepsis. Puzzling associations between splenic atrophy and autoimmune disorders are discussed.

## ID: 072

### ULTRASOUND GUIDED COMBINATION OF FEMORAL NERVE BLOCK AND INFILTRATION BETWEEN THE POPLITEAL ARTERY AND THE CAPSULE OF THE POSTERIOR KNEE (IPACK) FOR ARTHOROTOMY WASHOUT AND STRUCTURAL REPAIR OF KNEE - A CASE REPORT

**Dr Rajasekaran,** Dr Arif

Hospital Tuanku Ampuan Najihah (HTAN), Kuala Pilah, Malaysia

#### Background

An arthrotomy is surgical exploration of joint, which should include inspection of the cartilage, intra-articular structures, joint capsule, and ligaments. Arthrotomy washout can be painful. There are various methods of anaesthesia for arthrotomy washout and structural repairs of knee joint. Instead of the classical Subarachnoid block or Combination Femoral and Sciatic Nerve Block, we performed a combination of Femoral Nerve Block and Infiltration between the Popliteal Artery and the Capsule of the posterior Knee (iPACK) for a 27-year-old gentleman who underwent arthorotomy washout and structural repair of left knee for deep laceration wound of left knee.

#### Case description

The articular branches after arising from the main trunks of the tibial and obturator nerves, travels through tissue space between the popliteal artery and the femur to innervate the posterior capsule of the knee. The nerve can be blocked by infiltrating this tissue plane with local anesthetic solution. With informed consent, patient was placed in supine position with the operative leg supported and knee joint flexed. Curvilinear ultrasound probe is placed transversely just above the popliteal crease to visualize the femoral condyles and the popliteal artery. At this level, the femoral condyles appear as discontinuous, curved hyper-echoic lines. The posterior capsule of the knee is located between the femoral shaft and the popliteal artery. An 80 mm Stimuplex needle was inserted in-plane and 20mls of 0.3% ropivacaine was given.

#### Discussion and Conclusion

The goal of Combination Femoral nerve and iPACK is to selectively block only the innervation of the posterior knee joint while sparing the main trunks of tibial and common peroneal nerves.

Combination Femoral nerve block and iPACK provided excellent analgesia and aided in early ambulation by maintaining the sensorimotor function of the leg/foot.

## ID: 073

### WHERE IS THE GUIDEWIRE?! AND WE ARE IN A DISTRICT HOSPITAL.

**Nor Hidayah Zainool Abidin**[1], Rosfadhilah Mohd Desa[2], Ivo Rina Crusna Salammon[1], Sakhtiumaiyal a/p Nallavan[1], Lim Chin Li[1]

[1]Hospital Seberang Jaya; [2]Hospital Bukit Mertajam

#### Background

Central venous line insertion is a part of an important procedure for intravenous access, especially in an unstable critically ill patient. However, one of the devastating complications that may happen is guidewire dislodging into the patient's circulation. It can be intra-arterial or intra-venous which carries sets of subsequent problems and difficulty with the worst outcome of iatrogenic death.

#### Case description

We present a 58-year-old gentleman with underlying COPD presented to the hospital with AECOAD secondary to Pneumonia complicated with AF and SVT. He was subsequently intubated and admitted to ICU. The Anaesthesia team decided to insert femoral Central venous line (CVL) insertion because of high sedation and increasing vasopressor requirement. Right femoral CVL inserted through anatomical landmark, single attempt and secured. However, upon disposing of the CVL set, noted guidewire was missing. Done repeated CXR and AXR, able to visualize the guidewire inside the jugular vein, the tip of the guidewire inside the vena cava & jugular vein.

#### Discussion and Conclusion

A valuable lesson was learned during teamwork management of this patient involving house officer, medical officers, and specialist, for patient management of guidewire dislodgment in ICU District Hospital. These can be from breaking bad news to the relatives and inter-hospital referral with very tight ICU bed in the other hospital and transfer process. Hassles and hiccups happen, then how do we keep calm and troubleshoot from this experience that counts.

## ID: 074

### DIFFICULT TRACHEOSTOMY: MINEFIELD WITH MISSION IMPOSSIBLE MADE POSSIBLE

**MS Ng**, Norfarhanah Z, Noorfidah AR, Zayuah MS, Rahimah H

Department of Anaesthesiology and Critical Care, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang

#### Background

Management of difficult airway has always been a major concern and integral as core skill for all anaesthetists. The problems related to it are known to be primary causes of life-threatening consequences. Although the improvement in patient monitoring, airway devices, clinical protocols and adequate training have reduced the risk associated with a difficult airway, these changes have not reduced the incidence of unanticipated difficult airway in clinical practice.

#### Case report

37 years old female, presented with thyroid storm (Burch-Wartofsky score 45) and post covid-19 syndrome associated with pulmonary embolism requiring ventilator support due to respiratory distress. Presence of large right thyroid mass with mediastinal extension causing tracheal stenosis at T3 level. Because of multiple comorbidities associated with respiratory system affliction, it has resulted in prolonged intubation and difficult weaning requiring tracheostomy. Decision for tracheostomy was made after thorough discussion with surgeon, anticipating difficult airway procedure. Initial tracheostomy was done in OT with flexible tracheostomy tube and confirmation of placement was done using fiber-optic visualization. However, difficulty in ventilation and oxygenation persist, possibility due to trachy-tube migration. Multiple reinsertion and readjustment of tracheostomy tube was done in OT in order to get optimum tube placement by using direct visualization, fiber-optic and I/I guidance. Subsequently able to wean patient from ventilator and transferred to general ward.

## Discussion and Conclusion

As conclusion, choosing an appropriate technique for management of both anticipated and unanticipated difficult airway should be execute wisely and precisely with ideal airway devices. Thorough knowledge and skill in all the techniques should be mastered as mismanaged difficult airway can lead to disastrous consequences. The key to success in managing and securing difficult airway include adequate preparation and planning,

## ID: 075

### PARATRACHEAL MASS AND RECURRENT BLOCKED TRACHEAL TUBE. HOW AGGRESSIVE AIRWAY MANIPULATION CAN BE? AND HOW FAR WE SHOULD GO?

**Nor Hidayah Zainool Abidin**, Lee Fenky, Adawiyah A Bakar, Mohd Asmat Abdul Rahabudeen

Hospital Seberang Jaya, Malaysia

#### Background

The most devastating condition that may happen from a mediastinal mass is airway obstruction and obstructive shock from the mass effect on the venous return. The cooperation and close communication between anaesthetist and ear nose and throat (ENT) surgeon are the core factors in airway management.

In our case, an old man presented with an aggressive tracheal tumour and had an episode of difficult intubation requiring awake tracheostomy. Later, the mass regrew within 2 days and obstruct the tracheal tube resulting in recurrent airway emergencies. Among the challenges that happened was difficult tracheal tube insertion requiring multiple times changing ETT size and types even under a direct scope, also on and off difficult ventilation possibly due to intra-luminal mass obstruction.

After multifactorial consideration, ENT team and anaesthetist attempted to change the armoured tracheal tube to a proper tracheal tube using flexible bronchoscopy a few days later and were successful. The biopsy result came back as aggressive squamous cell carcinoma in the paratracheal region and thus the patient was put under palliative therapy which patient succumbed 3 weeks later.

#### Discussiona and Conclusion

The correct ETT size, the internal diameter (ID) and the outer diameter (OD) were very significant knowing that ETT and tracheal tube have different OD. Despite many textbook discussions about the experience in handling difficult obstructive airways, it remains as a continuous learning experience for each of us case by case basis. Regardless, anaesthesiologist skills, courage and strong insight remain the key to successful airway management.

## ID: 077

### SPONTANEOUS RETROPERITONEAL HAEMORRHAGE IN ANTICOAGULATED COVID 19 PATIENTS: A REVIEW OF RISK FACTORS AND TREATMENT MODALITIES

**Farah Hanim Abdullah**, Mohammad Nizam Mokhtar, Izzuddin Azaharuddin, Cheah Saw Kean, Wan Rahiza Wan Mat, Azarinah Izaham, Raha Abdul Rahman

Department of Anaesthesiology & Intensive Care, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

#### Background

Spontaneous retroperitoneal haemorrhage is a rare complication following COVID-19 infection mainly due to the anticoagulant treatment used in the management of thromboembolism risk associated with COVID-19. Emerging number of cases have been reported which mostly are associated with significant morbidity and mortality.

#### Case description

A 65-year-old lady admitted to our intensive care unit for COVID-19 infection following an acute respiratory distress. She was ventilated for 72 hours and started on immunomodulators, high dose intravenous corticosteroids, and a treatment dose of 1 mg/kg of enoxaparin. She was extubated to high flow nasal cannulae, and markedly improved oxygenation with mild hyperlactatemia with no acidosis. Two hours post-extubation, she complained of abdominal pain which was associated with tachycardia and hypotension, worsening metabolic acidosis with hyperlactataemia and reintubation was performed. A bowel ischaemia was suspected and CT Angiogram was performed which revealed a spontaneous retroperitoneal haemorrhage 17x18x28 cm in size originating from the common and left internal iliac arteries. Haemoglobin level reduced from 9.7 to 5.2 g/dL. Conservative medical management was offered as the patient was too hemodynamically unstable for any radiological or surgical intervention. Despite aggressive resuscitation including bloods and blood products for correction of coagulopathy the patient did not survive.

#### Discussion and Conclusion

Anticoagulation is a double-edged sword in the management of COVID-19. It is the high clinical suspicion cause of spontaneous retroperitoneal haemorrhage. Early detection may lead towards early interventions via angiographic embolisation how-

ever in this patient, detection was late, resulting in rapid patient's condition deterioration despite the availability of our resources. This highlights the importance of surveillance in COVID-19 patients who are subjected to anticoagulation treatment. Anaemia and abdominal pain may indicate early warning signs of spontaneous retroperitoneal haemorrhage and prompt clinical detection is important in order to improve outcome and prevent mortality.

## ID: 082

### CASE REPORT: THE PREGNANT LADY WITH COMPLETE HEART BLOCK

**Sheela DR,** ML Lee

Hospital Pulau Pinang, Pulau Pinang, Malaysia

#### Background

Complete maternal heart block are rare occurrences which can pose significant challenges to the healthcare team managing the patient. While some may remain asymptomatic, others may present with symptoms as their heart and circulatory system undergoes adaptations during the pregnancy period. These patients will require close monitoring and interventions either during the antepartum, peripartum and postpartum period to avoid hemodynamic compromise secondary to the cardiovascular stress from pregnancy.

#### Case description

We present a maternal case of a 27-year-old primigravida, with complete heart block who underwent elective lower segment caesarean section (LSCS) at 38 weeks of gestation. Patient relayed a history of complete heart block with junctional rhythm first diagnosed at 18 years old. However, pacemaker was never inserted, and patient defaulted follow up until she presented again during her antenatal booking. A multidisciplinary team was roped in early for her antenatal care and discussions about the indication and timing of pacemaker placement were weighed. Patient subsequently underwent an atropine response test during her second trimester and her heart showed an appropriate response to atropine. She was then planned for elective caesarean delivery with a temporary transvenous pacemaker (TPM) insertion prior to her caesarean delivery. Patient had an uneventful surgery under combined spinal and epidural (CSE) anaesthesia, and stable hemodynamics were maintained throughout the surgery. Post-operatively she was monitored in the intensive care unit until the TPM was weaned off. Her recovery was uneventful, and she was discharged five days later. She was planned for cardiology follow-up after her postpartum period.

## Discussion and Conclusion

Parturients with complete heart block in pregnancy presenting for elective LSCS can be safely managed with a diligent peri-operative strategy as well as a combined team effort from the anesthesiologists, cardiologist, and obstetricians.

## ID: 083

### MAC LIMBO – HOW LOW CAN YOU GO? A CASE REPORT FOR LOW MAC ANAESTHESIA FOR PAEDIATRIC EMERGENCY LIVER TRANSPLANT GUIDED BY SEDLINE®

**AF Elias**[1], CS Mok[2], KWS Ng[1], VL Balasundra[1], II Shariffuddin[1]

[1]University of Malaya, Kuala Lumpur, Malaysia; [2]University of Malaya Medical Centre, Kuala Lumpur, Malaysia

#### Background

The minimum alveolar concentration (MAC) has been used as the gold standard for the monitoring of the depth of inhalational anaesthesia during surgery.

#### Case description

MAC has its limitations, and we demonstrate this in a case of a 5-year-old boy with post COVID acute hepatitis, requiring an emergency living donor liver transplant. He was intubated in the paediatric intensive care unit from 09/03/2022 due to worsening hepatic encephalopathy. Preoperatively he was kept sedated with a midafentanyl infusion and was transferred to the operating theatre for surgery on 30/03/2022. The Masimo SedLine® was applied and the baseline Patient State Index (PSI) was 21.

Balanced anaesthesia was maintained with sevoflurane in an oxygen / air mixture. Sevoflurane was titrated to maintain the PSI between 25 to 50. Throughout the surgery, it was observed that the PSI was maintained with a MAC of 0.4. The low MAC allowed for a more stable hemodynamics, reduced requirements for fluids boluses and vasopressor support normally seen in previous patients without the SedLine® monitoring. The surgery took a total of 9 hours, and patient remained stable throughout with a normal blood gas at the end of surgery.

## Discussion and Conclusion

The low requirements for sevoflurane could be explained by the encephalopathy that the child had prior to surgery. In encephalopathy, there is a reduction in alpha and beta waves, with an increase predominance in the theta and delta waves. This waveform changes reflect the decreasing conscious levels in an encephalopathic patient. As MAC was initially studied in healthy volunteers, the MAC dose would expectedly be lower in the encephalopathic brain. This report highlights the usefulness of using the SedLine® monitoring to titrate depth of anaesthesia over MAC in an encephalopathic patient, and opens the question of MAC Limbo – How low can you go?

## ID: 085

### ANAESTHETIC CHALLENGE FOR CAESAREAN SECTION IN AN ACHONDROPLASTIC PARTURIENT

**KC Lim**, ML Lee

[1]Hospital Pulau Pinang, Pulau Pinang, Malaysia

#### Background

Parturient with achondroplasia pose great challenges to the anaesthetist to deliver the ideal anaesthetic management for caesarean section. Achondroplasia patient has the characteristic craniofacial, spinal anomalies and long bone shortening due to premature ossification, and they commonly require caesarean delivery due to the accompanying cephalopelvic disproportion. Additionally, physiological changes during pregnancy further amplifies the risks for anaesthesia in this group of patients.

#### Case description

We present a case of a parturient with achondroplasia who underwent general anaesthesia for elective caesarean section following failed attempts at regional anaesthesia. She was 103cm in height with advanced maternal age. Anaesthesia related risks for both general anaesthesia and regional anaesthesia were discussed with patient and her partner during pre-operative assessment. Effective communication and thorough preparation are essential components in our anaesthetic management.

## ID: 090

### ANAESTHESIA FOR TRANSORAL LAPAROSCOPIC THYROIDECTOMY: A LOCAL HOSPITAL EXPERIENCE

**Nor Hidayah Zainool Abidin**, Tai Siu Chun, Siti Sarah Nordin

Hospital Seberang Jaya, Pulau Pinang, Malaysia

#### Background

Transoral Laparoscopic Thyroidectomy (TOET) is a relatively new technique worldwide, especially in Malaysia. Despite the aesthetic benefits of minimal scar and less pain, the main challenging aspect is shared airway surgery and insufflation of the neck area with carbon dioxide (CO2) gas. Close cooperation between Anaesthesiologist and Surgeon is necessary to avoid the serious event. The important concerns during shared airway surgery, kinking or dislodgement of the tracheal tube due to multiple instruments inserted intraoral approach like trocar and camera. Not to forget about the risk of pneumothorax or pneumomediastinum intraoperatively and airway oedema and neck hematoma post-operatively.

#### Case description

We present two cases of TOET for hemithyroidectomy performed in our centre. A 55-year-old lady with a right thyroid nodule was done under general anaesthesia using a volatile agent and another case of a 33-year-old gentleman with goitre was under Total Intravenous Anaesthesia (TIVA) with similar outcomes.

Among factors for consideration are peak airway pressure and End-tidal CO2 monitoring preferably should be able to be visualized by the surgeon at all times. Anaesthetists and the team should alert immediately the surgical team about incoming intraoperative issues. The reinforced tracheal tube was secured with a suture to prevent dislodging ETT or rupturing the ETT cuff during the procedure which can be very devastating as the need to de-sufflate the neck and remove the suture and reintubation would take extra time. Both patients were monitored longer in the recovery area to ensure patients were completely comfortable and safe from the listed risks.

## Discussion and Conclusion

Other than good knowledge, skill and experience in the management of this novel procedure, without doubt, teamwork among medical officers, anesthesiologists, surgeons, scrub nurses and other OT staff is what determines successful peri-operative management. Indeed, this can minimize risk and complications for patients' overall benefits.

## ID: 091

### A KID'S TRAUMATIC EXPERIENCE WITH CIRCUMCISION: A CASE REPORT OF HYPOXIA IN OBESE PAEDIATRIC PATIENT

**JC Chin**, Eugene Lai, Khadijah Zulkifli

Hospital Sultan Abdul Halim, Kedah, Malaysia

Case description

An 11-year-old boy underwent an elective ritual circumcision under general anaesthesia. He has underlying epilepsy, bronchial asthma and attention-deficit/hyperactivity disorder (ADHD). He is clinically obese, weight 57 kg with potential obstructive sleep apnoea which he defaulted follow-up. Baseline investigations and Covid screening prior to operation were unremarkable. He was preoxygenated, subsequently induced with IV Fentanyl 100 mcg and IV Propofol 200 mg. Supraglottic device was inserted uneventfully in single attempt. There was no issue with ventilation and oxygenation. IV Morphine 3 mg, IV Paracetamol 1 g, and penile block were administered. Operation was completed uneventfully. Emergence and removal of supraglottic device were uneventful and he saturated well on facemask 5 L/min. At recovery bay, he was noticed to be drowsy, desaturated down to 75% under facemask 5 L/min with central cyanosis. He was otherwise not tachypnoeic and no stridor, wheezing or respiratory recessions noticed. On auscultation, air entry was equal with transmitted sounds. Positive pressure ventilation via manual bag-mask was initiated and IV Naloxone 0.4 mg was given with an impression of potential upper airway obstruction with opiod oversedation. Subsequently he was alert, weaned off oxygen support and discharged well to ward. Two hours in ward, he developed respiratory failure again, needing ICU admission and intubation. An urgent chest x-ray and subsequent CT scan revealed features of pulmonary oedema. Covid-PCR and pneumonia workouts were all negative. Echocardiogram was normal. Intraoral examination noticed tonsils grade II bilaterally. A final diagnosis of negative pressure pulmonary oedema secondary to upper airway obstruction was concluded. He was successfully extubated and discharged to ward after 6 days in ICU.

## Discussion and Conclusion

This case acknowledged the importance of judicious opiod usage in patient with risk of upper airway obstruction. Negative pressure pulmonary oedema as a sequela of upper airway obstruction should be included in differentials and anticipated in perioperative hypoxic obese paediatric patients.

## ID: 092

### DIALYSIS SPARRING OPEN ANEURYSMECTOMY, INLAY GRAFT REPAIR AND LEFT RENAL ARTERY REIMPLANTATION MYCOTIC JUXTSRENAL ABDOMINAL AORTIC ANEURYSM: A CASE REPORT

**GPB Velusamy**, MAZ Zukifli, SL Low, R Hussain, M Ahmad, R Kanapathipillai, SA Kesut, A Alias

Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

#### Background

Mycotic juxtarenal abdominal aortic aneurysms account for a small percentage of abdominal aortic aneursyms (AAA). It is an extremely rare and life-threatening condition that requires immediate surgical intervention followed by intensive care to minimize post operative risks and prevent further complications. Most cases undergo partial or complete nephrectomy and requires post operative dialysis for the management of acute kidney injury (AKI). A deterrent that precludes patients from early post operative mobilization is the significant immediate postoperative pain due the the nature of the major laparotomy operation.

#### Case description

A 62-year-old gentleman presented with severe abdominal pain, constipation, and loss of appetite to a district hospital. The patient was transferred to our facility for further management and underwent an emergency open aneurysmectomy, inlay graft repair and left renal artery reimplantation for mycotic juxtarenal AAA. Urgent CT abdomen findings were suggestive of subacute on chronic contained rupture of abdominal aortic saccular aneurysm with periaortic hematoma. Intraoperatively the estimated blood loss was around 3.5 L and the patient required inotropic support and was transfused with a total of 6 pints of packed cell and 1 cycle of Disseminated Intravascular Coagulation (DIVC) regime. Post operation, the patient was admitted to our High Dependency Ward for two days and was sent back to the district hospital for continuation of care.

## Discussion and Conclusion

We report a case of perioperative resuscitation and intensive care management for aforementioned case that, with the aid of the Surgical team was able to limit complications such as postoperative dialysis and heavy sedation. Early and prompt resuscitation and possible recommendations of regional anesthesia such as thoracic epidural, transversus abdominis plane (TAP) or rectus sheath blocks for postoperative pain management are keys to limiting morbidity and mortality associated with AAA. For elective cases, patients would highly benefit from Enhanced Recovery After Surgery (ERAS) protocols to achieve earlier recovery.

## ID: 094

### SPINAL ANAESTHESIA FOR OPEN HEPATIC RESECTION SURGERY

**CJ Ngen**, MH Khan, SC Teo

Hospital Umum Sarawak, Kuching, Malaysia

#### Background

Subarachnoid blocks (SABs) can be employed for infraumbilical and most recently, upper abdominal surgeries. We report our experience with SAB for upper abdominal surgery.

#### Case description

A 58-year-old gentleman, ASA II, BMI 26.9 kg/m$^2$ with hypertension, COPD and post-lower lung lobectomy, was scheduled for wide local excsion of segment 6 metastatic liver lesion and was planned for continuous spinal anaesthesia (CSA) with monitored sedation. CSA was performed at L3/L4 level via BBRAUN CSE SET Espocan Tuohy needle 18G. Subarachnoid space was successfully catheterised on second attempt; catheter was not able to be advanced at first attempt. 5ml of levobupivacaine 0.5% was injected intrathecally. Block height achieved at T2. Post-SAB transient hypotension was treated with IV ephedrine bolus (total 60mg) and 300ml of crystalloid, which subsequently stabilised. Surgery started 20 minutes post SAB. During Pringle manoeuvre, the surgeons noticed reduced bleeding than usual. The surgical duration was 133 minutes with an estimated blood loss of 200ml. Intrathecal morphine 0.2 mg was given prior to removing the spinal catheter. He experienced post-dural puncture headache (PDPH) on post-operation day 2, delaying his discharge. When conservative treatment failed, sphenopalatine ganglion block was given twice, reducing the PDPH. On post-operation day 4, he was discharged.

## Discussion and Conclusion

In our experience, 4ml of levobupivacaine for SAB reliably achieved T4 block height, mimicking the findings of Helmi, M. et al. 5 ml levobupivacaine 0.5% was given to achieve T2 block height to reduce discomfort from abdominal traction. PDPH occurred on post-operative day 2, likely due to inadvertent double dural puncture. A notable finding is the reduced blood loss during the Pringle manoeuvre, likely due to a combination of low central venous pressure (CVP) and absence of positive pressure ventilation.

SAB is a possible feasible alternative anaesthetic technique for hepatic segmentectomy surgery.

## ID: 096

### INCIDENCE OF SEVERE HYPOCALCEMIA IN DUODENAL METASTATIC NEUROENDOCRINE TUMOUR (NETS) WITH OVERZEALOUS BOWEL PREPARATIONS

**S Mohd Hafiz Nazmi**, AA Suhaimi

Department of Anaesthesiology and Critical Care, Hospital Selayang, Selangor, Malaysia

#### Background

NETs are neoplasms that release hormones in response to signals from the nervous system. They commonly occur in the intestines, can also be found in the pancreas, lungs, and the rest of the body.[1] NETs may release higher-than-normal amounts of hormones[2], which can cause many different symptoms e.g., diarrhea.

#### Case description

We like to report a case of 44-year-old lady with a rectal Neuroendocrine Tumours (NETs). She presented with symptoms of rectal polyps, frequent diarrhea, weight loss and increasing levels of Chromogranin A (CgA). CT scan showed metastatic gastrointestinal NETs with two enhancing pancreatic lesions-stomach and small bowel involvements. She was scheduled for Classical Whipple's procedure. Preoperatively the patient was given bowel preparation of oral fleet 45ml with 1 liter of water twice. Prior to induction of anaesthesia, patient complaint of spasms of all four limbs, associated with twitching of bilateral eyes – both Chvostek's and Trouusseau signs were positive. Initial rapid ABG showed ionised serum calcium 0.76mmol/L with no prolonged QT on ECG. She was then given a total of 6g calcium gluconate 10%. Subsequently, repeated ionised serum calcium increased to 1.24mmol/L with marked improvement in patient's clinical condition. Thus, proceeded with induction of anesthesia.

#### Discussion and conclusion

Hypocalcemia is an electrolyte derangement which can result from many disorders.[3] Treatment depends on causes, severity, and chronicity. In severe acute symptomatic hypocalcemia, rapid treatment with calcium infusion is indicated. In this case, the causes of hypocalcemia were due to NETs and overzealous bowel preparation, which commonly causes electrolyte imbalances.

Acute hypocalcemia can be life-threatening, as patients may present with tetany, seizures, cardiac arrhythmias, laryngeal spasm or altered mental status.[4] The goal should be to raise the serum ionized calcium concentration and control the patient's symptoms.[5]The decision to treat is dependent on presenting symptoms, severity, and rapidity at which hypocalcemia develops.