

Anesthesiologi



- Malaysian Society of Anaesthesiologists
- College of Anaesthesiologists, Academy of Medicine of Malaysia



Message from the President of the MSA

Professor Dr Marzida Mansor

It has been three months since I last wrote the President's message and I was hoping things will be different now. I was wishing that we would be over and done with the COVID-19 pandemic but instead we are grappling with the third wave of the pandemic in Malaysia and, this time round, Sabah is the worst hit. As such, once again we have decided to extend a helping hand immediately to the anaesthesiologists in Sabah who are facing difficult times by providing Personal Protective Equipment (PPE) to hospitals in Tawau and Lahat Datu. We would like to also thank our members who have volunteered their services to Sabah during this trying time. We hope by working together, Sabah and Malaysia as a whole will eventually win this war against the virus.

While we are busy fighting the COVID-19 pandemic, life must go on in the new norm and so should the activities of the Society. Allow me to share with you some of the Society's activities since July 2020.

ANNUAL GENERAL MEETING 2020

On 16th August 2020, we managed to conduct the Annual General Meeting (AGM) at the Le Meridien, Kuala Lumpur. The event was attended by 38 members. The appropriate SOPs were adhered to strictly during the AGM. It was preceded by a Webinar on The New Norm in Airway management, organised by the Airway SIG and the launching of a book by Professor Emeritus Datuk Dr Alex Delilkan entitled "Memoirs of Alex Delilkan - The Conjoined Careers. Scholastic and Sports". I would like to congratulate and welcome the new line-up of the MSA Executive Committee and to thank the previous Executive Committee for sacrificing their precious time and effort, working for the Society.

NATIONAL ANAESTHESIA DAY CELEBRATIONS 2020

The World Anaesthesia Day (WAD) is celebrated yearly on the 16th October to commemorate the birth of Anaesthesia. This year we have gone to town to spread the word about the crucial contributions of anaesthesiologists in fighting the pandemic in the front line and the impact of the pandemic on the physical and mental health of the anaesthesiologists. We have been on all social media platforms including facebook, newspapers, radio and television. In tandem with the theme of WAD celebrations this year which is the "Occupational Wellbeing of the Anaesthesiologists", we highlighted to the anaesthesiologists as well as the public, the strong link between occupational wellbeing and patient safety.

On the national front, the National Anaesthesia Day (NAD) was celebrated virtually by streaming live on the MSA facebook on 17th October 2020. The NAD had been launched by the Yg Bhg Dato' Dr Rohaizat bin Hj Yon, Deputy Director-General of Health. We conducted the Webinar on Occupational Wellbeing and Patient Safety. This was followed by the launching of the MSA Yearbook 2019/2020 with the theme "Embracing the Challenge", focusing on the huge challenges anaesthesiologists are facing in looking after patients undergoing complex surgery and who are critically ill. Compliments to the Editors, Associate Professor Dr Wan Nazaruddin Wan Hassan and Dr Wan Fadzlin Wan Muhd Shukeri who have worked really hard at crafting this year's scintillating edition.

The highlight of the celebration was a short video competition on "Occupational Wellbeing and Patient Safety" which has obtained unprecedented responses from members as we received 15 entries from hospitals around Malaysia. Congratulations to the team from Hospital Muar for winning the first prize of RM1000. The video competition has mostly displayed the solidarity of anaesthesiologists as a specialty. The full report of the celebration is available in this issue of Berita Anesthesiologi. The Society would also like to thank all the other hospitals that have joined in the celebration at their own premises. We are truly grateful for your untiring effort to spread the good word about our fraternity and unwavering support in improving the safety and quality of our work.

K INBASEGARAN RESEARCH GRANT

Nine applications, which has been the highest number of applications so far, were received at the closing date for applications on 30th September 2020. This is encouraging as this could indicate that the research culture amongst our members is blooming. A special committee has been set up to evaluate all the applications and the results will be out next month.

MSA/CoA SERIES OF WEBINARS

The following have been conducted and scheduled:

- | | |
|---------------------------------|-----------------------------------|
| 16 th August 2020 | - A New Norm in Airway Management |
| 26 th September 2020 | - Medical Technology |
| 28 th November 2020 | - Update in Pain Management |
| 19 th December 2020 | - Obstetric Anaesthesia |

FUTURE CONFERENCES RELATED TO MSA

MSA and CoA Annual Scientific Congress 2021 - Shangri-La, Kuala Lumpur, 5th to 7th August 2021

(The Organising Committee is planning for a hybrid of physical and virtual congress)

17th World Congress of Anaesthesiologists - Prague, Czech Republic, 1st to 5th September 2021

KoreAnesthesia (Hybrid). Organised by the Korean Society of Anaesthesiologists - 5th to 7th November 2020

MSA REPRESENTATIVES TO THE WFSA

MSA participated in the election of the WFSA Office bearers and Council that was conducted online in September 2020. Congratulations to the new Presidents of WFSA, Professor Adrian Gelb from the US alongside Dr Wayne Morriss from New Zealand. Professor Chan Yoo Kuen was elected as a member of the Obstetric Anaesthesia Committee and Dr Raveenthiran Rasiah in the Safety and Quality Practice Committee. Congratulations and we hope that they continue to work to improve anaesthesia care in this part of the world.

FUTURE PROJECTS OF THE MSA

There has been a proposal from the MSA Executive Committee that we take the initiative to have our own official journal that could be named "The Malaysian Journal of Anaesthesiology". The objective is to provide a platform for our members who are clinicians and researchers to share their clinical and research findings. The idea became feasible judging from the number and quality of articles submitted to Berita Anestesiologi, MSA Yearbook and applications for the K Inbasegaran Grant by members. Furthermore, each year, there are around 70 to 80 anaesthesiologists who will enter the system. Each of these candidates would have completed a thesis that can be shared with the whole country through this journal. The Executive Committee is in the midst of working out in detail the feasibility and the financial implications of the project to ensure not only its success but sustainability.

The Society together with the College of Anaesthesiologists are also planning to purchase an office space at the new Medical Academies Building in Precinct 8, Putra Jaya. The size of the office is 600 sq ft. It can accommodate two workstations, a reception, waiting and discussion area, a store room and a showcase rack.

Till we meet again in another issue, I wish everyone to stay strong by looking after our own and each other's wellbeing at home and in the workplace. Stay safe by following the new norm of living while we continue to advance anaesthesiology in Malaysia and abroad.

Editors

Dr Shahridan Mohd Fathil (Editor-in-Chief)
Dr Gunalan Palari
Dr Shairil Rahayu Ruslan
Dr Noorulhana Sukarnakadi binti Hadzarami
Dr Haslan Ghazali
Dr Sivaraj Chandran

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Malaysian Society of Anaesthesiologists & College of Anaesthesiologists, AMM

ANNUAL SCIENTIFIC CONGRESS 2021

5th - 7th August 2021

Shangri-La Hotel, Kuala Lumpur, Malaysia

www.msa.asm.org.my



Malaysian Society of Anaesthesiologists



College of Anaesthesiologists, AMM



Annual General Meetings of the Malaysian Society of Anaesthesiologists and College of Anaesthesiologists, Academy of Medicine of Malaysia

By Dr Gunalan Palari Arumugam

The Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists, Academy of Medicine of Malaysia (CoA) held their Annual General Meetings on 16th August 2020 at the Clarke 1, Level 6, Le Meridien Hotel, Kuala Lumpur. It was well attended by over 40 members. In view of concerns of holding meetings during COVID-19, preparations were made to ensure that all SOPs were observed with the cooperation of the hotel management team.



Webinar Sessions

The Emcee for the day was Dr Mohd Azizan Ghazali, our very talented Executive Committee member. The programme started with a webinar entitled The New Norm of Airway Management. The webinar was moderated by Associate Professor Dr Azarinah Izaham and there were a total of four speakers invited to share their thoughts on the topic. Professor Dr Ina Ismiarti Shariffuddin spoke about airway management during a pandemic, Dr Muhammad Maaya spoke about preparation for airway related procedures, Associate Professor Dr Rendra Hardy spoke about tools used for airway management and, last but not least, Dr Shaharidan Fathil spoke about protection during airway management. To our delight, the webinar was very interactive and well received with about 200 participants watching in. The content of the talks was of very high standards.

After the webinar was over, we proceeded with the launching of a book written and published by Emeritus Professor Datuk Dr A E Delilkan, one of the most eminent

anaesthesiologists in this country. We then took the opportunity to buy his books and get them autographed as well. Many of his former students seized the chance to thank him for all his guidance and to take priceless photo with him.



Book Launching

After a short coffee break, we proceeded with the Annual General Meeting of the MSA and then continued with the Annual General Meeting of the CoA. Various issues were discussed during both AGMs and we encourage our members to read the minutes of the AGMs once they have been released. We also conducted elections for the new MSA Executive Committee and the CoA Council Council to continue with some hard work ahead.

Lunch was then served, again with the new arrangement of a sitdown Bento set instead of the usual buffet line. All in all, both AGMs were successfully held and we congratulate the incoming teams and thank the previous committees for all their hard work and dedication. Not forgetting, a word of thanks to Miss Y M Kong and her team at the Secretariat for always being on top of things and enabling both organisations to function in an organised manner.



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National Anaesthesia Day 2020

By Associate Professor Dr Loh Pui San

Year 2020 has been a challenging year for anaesthetists. The COVID-19 pandemic has changed the lives of people all over the world in an unprecedented manner and channeled our specialty into the limelight at the frontline. It is therefore unsurprising for the World Federal Society of Anaesthesiology (WFSA) to choose 'occupational well-being' as this year's theme. Based on this, our own National Anaesthesia Day (NAD) 2020 not only had wellbeing in mind but also focused on what is equally important and should go hand in hand with the theme, that is patient safety.

As the third wave of COVID-19 cases swept through the country, the nation once again prepared for Conditional Movement Control Order (CMCO) in selected regions and districts. Leaders in the anaesthesiology fraternity from both the Malaysian Society of Anaesthesiologists (MSA) and College of Anaesthesiologists (CoA) were quick to recognize that Standard Operating Procedures (SOP) for social distancing, avoiding confined, crowded spaces and close contact would be important to curb the sudden sharp rise on the epidemiological curve. Hence, for the first time, our celebration to commemorate NAD 2020 was going to be solely on social media platforms to reach out far and wide to members, colleagues and the *rakyat* without compromising on safety.

As with all successful events, planning early was important and the organising committee went full steam ahead months before October. Our first, in a series of activities as the run-up to NAD 2020 occurred on the 2nd October in a programme helmed by **Professor Dr Ina Ismiarti Shariffuddin**, President-Elect of MSA and **Dr Anand Kamalanathan**, Anaesthetic Specialist from Sungai Buloh Hospital on BFM. Entitled **"Health and Living: Doctor in the House - Burnout Among Anaesthetists During COVID-19?"**, the interview was a lively banter introducing the life and work of anaesthetists to the public. As guardians of the airway and respiratory system, anaesthetists had become important frontliners and major contributors to the battle against COVID-19. Sadly, many expressed stress from burnout in a survey conducted by Dr Anand et al. in Sungai Buloh Hospital. Both teamwork with reliance on each other and individualized methods such as spiritual connection and gardening whenever possible were suggested by the speakers as remedies to avoid burnout.

The following event, **"Hari Anestesia Sedunia 2020"** on Astro Awani was a wonderful start to a lovely Wednesday morning on the 14th October 2020. Both the magnificent Presidents, **Professor Dr Marzida Mansor** of MSA and **Dato' Dr Jahizah Hassan** of CoA, Malaysian



Academy of Medicine did a splendid job in describing the hard work and commitment of anaesthetists in this current pandemic. A lot of myths were debunked as "making people sleep" was no longer the one and only primary role played by anaesthetists which nevertheless, included many other important ones such as resuscitation, management of critical care and providing compassionate support during the last moments of severely ill patients. **Dato' Dr Jahizah** also stressed on the lack of anaesthetists in Malaysia, with the most recent total at 1190, a stark contrast to the number in other developed nations. In her discussion, she emphasized the need to encourage the younger generation to choose this specialty, the length of time required to train each one of them and lastly, she clearly stated that offering permanent positions will attract more junior doctors to stay.



Every year, World Anaesthesia Day is celebrated on the 16th October to commemorate the historical event of the first live demonstration using ether anaesthesia many centuries ago. Two articles were released to the press simultaneously by MSA. In *theStar*, **Professor Dr Marzida Mansor** and **Dato' Dr Yong Chow Yen** (Secretary of MSA), combined their efforts to write **"Dealing with more than relieving pain of patients"** and promoted the upcoming MSA Event the next day. Similarly, **Dato' Dr Yong** also produced another excellent report on how anaesthetists have had to embrace new norms in anaesthesia practice entitled **"Intubation In A Pandemic:**

Anaesthesiologists Take On A Life-Saving And Dangerous Job in a collaboration with Dr Lee Meng-Li, a colleague who practices in Penang Hospital as well. On top of that, both articles will be released in Malay and Chinese soon.


About Us Malaysia World

Intubation In A Pandemic: Anaesthesiologists Take On A Life-Saving And Dangerous Job

By Dr Yong Chow Yen and Dr Lee Meng-Li | 16 October 2020

What is so dangerous about endotracheal intubation? The procedure triggers a generation of small aerosols infected with the virus, which can be transmitted to the anaesthesiologist and persons nearby.



An anaesthesiologist attending to a Covid-19 patient. Photo from the Hospital Society of Anaesthesiology


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Dealing with more than relieving pain of patients

LETTERS

Friday, 16 Oct 2020

ANAESTHESIOLOGISTS have adapted quickly to the Covid-19 pandemic in the critical care and perioperative management of patients, specifically in administering tracheal intubation.

PROFESSOR DR MARZIDA MANSOR and DATUK DR YONG CHOW YEN

Malaysian Society of Anaesthesiologists

(The Malaysian Society of Anaesthesiologists is holding a webinar on "Occupational Well-being and Patient Safety" on Oct 17, 2020 from 10am on its Facebook page. National Anaesthesia Day 2020 falls on Oct 16.)

<https://www.thestar.com.my/opinion/letters/2020/10/16/dealing-with-more-than-relieving-pain-of-patients>
<https://codeblue.galencentre.org/2020/10/16/intubation-in-a-pandemic-anaesthesiologists-take-on-a-life-saving-and-dangerous-job/>

The most heartfelt announcement on that day came from the Director-General (DG) of Health himself. In remembrance of all the heroes in our specialty, **Tan Sri Dr Noor Hisham Abdullah** wished "Happy World Anaesthesia 2020" to everyone and highlighted the importance of occupational wellbeing for us working in the field of anaesthesia.

And finally, on Saturday 17th October, the day had arrived where all the committee members of MSA and CoA gathered either in the Academy of Medicine or online virtually to begin the live telecast on MSA Facebook for



"As we are challenged through these difficult times during COVID-19 pandemic, our thoughts and best wishes are with our brothers and sisters in anaesthesia as throughout the world, they work long hours and shifts to save grade 4 & 5 COVID-19 cases. We are counting on them as the very last line of defence to save these patients."

Tan Sri Dr Noor Hisham Abdullah, DG

<https://www.facebook.com/578835322140360/posts/3752997078057486/?textid=0&d=n>

National Anaesthesia Day 2020. Adhering strictly to SOP's, the events for NAD 2020 began sharp at 10.00am. The delightful Chairman **Dr Azizan Ghazali**, welcomed all MSA members and the public, read Doa and got the ball rolling for the day.

As the moderator of the Webinar, I introduced our Deputy Director-General of Health, **Datuk Dr Hj Rohaizat Hj Yon**, a *Panglima Perang* who needed no further introduction having fought alongside our DG in this pandemic, to begin his speech and officially launch the event. We were honoured and grateful that he had taken the time to pre-record the speech and gave us kind words of wisdom as encouragement in these difficult times. Next, a Panel Discussion in the Webinar was held among the most elite and senior anaesthetic consultants in the country. They were **Professor Dr Marzida Mansor** - President of MSA, **Dato' Dr Jahizah Hassan** - President of CoA and **Dr Melor Mohd Mansor** - Head of Anaesthesiology and Intensive Care Services in Ministry of Health (MoH), Malaysia. All expressed concerns over the third wave in this pandemic and enlightened the online audience on efforts made by MSA, CoA and MOH to pool resources and support colleagues in Sabah with manpower and the necessary Personal Protective Equipment (PPE) such as sets of Powered Air-Purifying Respirators (PAPR). Inspiring speeches from once again **Professor Dr Marzida Mansor**, **Dato' Dr Jahizah Hassan** and a closing remark from **Dr Melor Mohd Mansor** proceeded after the Webinar.



"Let us now pledge to look after ourselves and our wellbeing for the wellbeing of others."
Prof Dr Marzida Mansor, MSA

"The pandemic has given us an opportunity to do it differently - Think Out of the Box!"
Dato' Dr Jahizah Hassan, CoA

"Stay strong and resilient, I believe we have the resolve to overcome the difficulties that lie ahead."
Dr Melor Mohd Mansor, MoH

<https://www.facebook.com/Malaysian-Society-of-Anaesthesiologists-111212520605621>

The second last agenda of the day was the launching of the MSA Year Book 2019/2020. Editors of Universiti Sains Malaysia, led by **Associate Professor Dr Wan Mohd Nazaruddin Wan Hassan** were represented by **Associate**

Professor Dr Azarinah Izaham from Universiti Kebangsaan Malaysia. The book was then presented by her to **Professor Dr Marzida Mansor**, President of MSA and **Dato' Dr Wan Rahiza Wan Mat**, representative of CoA.



The final and most exciting agenda began with a drumroll and skipped heart beat! The moment that we were secretly waiting for was finally here as announced by our hilarious and entertaining Chairman and Master of Ceremony, **Dr Azizan**. Fifteen participating hospitals around the country submitted their videos for the MSA Facebook Short Video Competition in conjunction with NAD 2020. And as a homage to all participating hospitals, a specially compiled video with four minutes of each video clip was shown. The distinguished judges were **Dr Zalina Abdul Razak**, Head of Department of Putrajaya Hospital and Deputy Head of Anaesthesia and Intensive Care

Services, MoH Malaysia, **Professor Dr Syed Rozaidi Wafa Syed Hassan**, Senior Anaesthetic Consultant from Prince Court Medical Centre and lastly, **Professor Dr Karis Miskiran**, the 'Father' of our postgraduate Clinical Masters from University Institute Technology MARA. All videos were good but only the top three would be awarded prizes. So, unitedly, the judges made the final decision and the winners were.....

1 st Place	: Hospital Pakar Sultanah Fatimah Muar
2 nd Place	: Hospital Enche' Besar Hajjah Khalsom Kluang
3 rd Place	: Hospital Tuanku Ja'afar Seremban
Special Mention by Jury	: University Malaya Medical Centre for their original and unique song and video

Congratulations to all the winners and thank you to all the participating hospitals and staff!

As the event drew to a close, all of us realised that not everyone was able to celebrate or join due to the tremendous stress and perhaps, fatigue that they were going through. Our thoughts and prayers will always be with them. But as **Dato' Dr Jahizah** said in her captivating words, "Celebrating in the midst of a pandemic was initially thought to be impossible and could not happen but with social media and virtual platforms, the anaesthetic discipline had once again proven to be fast in adopting another new norm in practice". In fact, this was an event that would go down in the history of Anaesthesiology in Malaysia as a unique milestone to remember and cherish in the future. The organising committee echoed her sentiments that she was exceptionally proud of the camaraderie that exists among the universities, MoH, MSA and CoA with representatives from all corners of both public and private sectors. In the end, all of us rose up to the challenge as can be seen from the compilation of photos behind-the-scenes below.



<https://www.youtube.com/watch?v=dJHnSiUnQTs&feature=youtu.be>

Last, but not least "Happy Anaesthesia Day!" wherever you are.

**STAY SAFE AND STRONG,
WE ARE A TEAM AND
ALWAYS WILL BE!**

Special thanks to all the other MSA EXCO members for their support especially **Dr Ahmad Fairuz Abdul Shokri** for taking the trouble to record our hardwork in action, **Ms Kong**, **Ms Nauwar Shukri** and the Audio Visual team from the Secretariat of MSA and Academy of Medicine for their contribution in this event.

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¹ Hebard S. et al. Echogenic technology can improve needle visibility during ultrasound-guided regional anesthesia. Reg. Anesth. Pain Med. 2011 March-April; 36(2): 185-189.
² Uppal V. et al. Effect of beam steering on the visibility of echogenic and non-echogenic needles: a laboratory study. Can. J. Anesth. 2014 Oct; 61 (10): 909-915

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#NAD2020UMMC

By Dr Nabilah binti Abdul Ghani & Dr Siti Nadzrah binti Yunus

Why are we celebrating National Anaesthesia Day? Simple. To celebrate all outstanding and dedicated anaesthetists all over the world for all their hard work and commitment to save lives. People might claim it sounds cliché, all doctors are saving lives, but there is no denying the fact that, especially during this COVID-19 pandemic, everything has collapsed from a person's emotional wellbeing to the country's economy and anaesthetists are not only the first but the last line of defense in fighting this invisible war. Every year, the National Anaesthesia Day is awaited by all anaesthetists to be celebrated together as a family and this year is no exception. "Occupational Wellbeing and Patient Safety" was the theme for this year. The aim was to encourage the wellbeing of healthcare personnel which ensures patient safety.

Our UMMC fraternity had planned, reserved, and made a site visit to Semenyih Eco Reserve Resort to spend a full day together on team-building exercises and to destress. I am quite sure the most anticipated event, at least for the ladies, was a Zumba session by the poolside, led by a muscular duo in our fraternity. However, at this time, Malaysia was affected by the third wave of COVID-19 pandemic and the commencement of CMCO. All plans for the team-building exercises in Semenyih were canceled. A sense of sadness and disappointment was felt, but as anaesthetists, we always have a plan B. COVID-19 is persistent, so are we, it did not deter us from celebrating Anaesthesia Day.



There were many highlights in our celebration, but I was most impressed with the team spirit and togetherness during the preparations to make this event a success. As we are unable to proceed with any event that involved gathering in large numbers, we decided to go virtual. Banners of Anaesthesia Day were wonderfully designed by our committee members and displayed around the hospital as well as exhibition boards to educate the public on occupational wellbeing. Pictures of healthcare staff were taken holding signs which could be filled in by them on how they improve their wellbeing. All the pictures were inspiring, but I personally loved our UMMC fraternity

group photo with matching pink/blue scrubs. We also made several videos and Tiktok featuring our UMMC fraternity on occupational wellbeing and patient safety. All the pictures and videos were shared on a specially designed Facebook page (National Anaesthesia Day 2020 UMMC) to boost our spirits in these challenging times.

The main event was the Virtual UMMC Anaesthesia Day Celebration on Friday, 16th October 2020. It was a 100% virtual conference via Microsoft Teams. The conference began with an enlightening speech by our dearest Professor Dr Y K Chan on "Wealth, Wisdom and Wellbeing", followed by words of encouragement from our beloved Head of Department Professor Dr Ina Ismiarti Shariffuddin and inspiring video compilations. The best video was definitely the one UMMC entered for the MSA short video competition on Occupational Wellbeing and Patient Safety. Not only was it entertaining, a clear message was delivered.

While some of us watched the activities together on desktops in the operation theaters and ICU, others watched on their own personal devices. The virtual meeting was also attended by several WFSA members. During the closing for the Anaesthesia Day celebration, on 23rd October 2020, a small token of appreciation was given to selected healthcare staff by our UMMC fraternity. Every cloud has a silver lining and with team spirit we had a successful celebration.

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Composition: Parecoxib sodium powder and solvent for solution for injection. **Indications:** For management of post-operative pain in the immediate post-operative setting only. **Recommended dosage:** Initial dose - 40mg (given IV or IM) followed by 20 or 40mg every 6 to 12 hours, as required, up to a maximum daily dosage of 80 mg. There is limited clinical experience with parecoxib treatment beyond three days. Reduce to half the dose for elderly patients <50kg. For moderate hepatic impairment, use lowest recommended dose. Not recommended in severe hepatic impairment patients. Caution should be observed in patients with severe renal impairment or patients who may be predisposed to fluid retention. Parecoxib should be initiated at the lowest recommended dose. **Contraindications:** Patients with known hypersensitivity to parecoxib or to any other ingredient of the product. Patients who have demonstrated allergic-type reactions to sulfonamides. Patients who have experienced asthma, urticaria, or allergic-type reactions after taking acetylsalicylic acid (aspirin) or non-steroidal anti-inflammatory drugs (NSAIDs), including other cyclooxygenase-2 (COX-2) specific inhibitors. Severe hepatic impairment (serum albumin <25 g/L or Child-Pugh score ≥10). The third trimester of pregnancy and breast-feeding. Active peptic ulceration or gastrointestinal (GI) bleeding. Inflammatory bowel disease. Congestive heart failure (NYHA II-IV). Treatment of post-operative pain following coronary artery bypass graft (CABG) surgery. Established ischaemic heart disease, peripheral arterial disease and/or cerebrovascular disease. **Special Precautions:** COX-2 inhibitors have been associated with an increased risk of cardiovascular and thrombotic adverse events when taken long term. Upper gastrointestinal (GI) perforations, ulcers, or bleeds have occurred in patients treated with parecoxib. Valdecoxib, the active moiety of parecoxib, contains a sulfonamide moiety and patients with a known history of a sulfonamide allergy may be at a greater risk of skin reactions. Serious skin reactions, including erythema multiforme and Stevens-Johnson syndrome, hypersensitivity reactions (anaphylactic reactions and angioedema) and cases of severe hypotension shortly following parecoxib administration have been reported in post-marketing experience with parecoxib. Anticoagulant activity should be monitored, particularly during the first few days after initiating parecoxib, in patients receiving warfarin or similar agents, since these patients may be at increased risk of bleeding complications. As with all NSAIDs, parecoxib can lead to the onset of new hypertension or worsening of pre-existing hypertension, either of which may contribute to the increased incidence of cardiovascular events. As with other drugs known to inhibit prostaglandin synthesis, fluid retention and edema have been observed in some patients taking parecoxib. Acute renal failure has been reported through post-marketing surveillance in patients receiving parecoxib. Caution should be used when initiating treatment in patients with dehydration. A patient with symptoms and/or signs of liver dysfunction, or in whom an abnormal liver function test has occurred, should be monitored carefully for evidence of the development of a more severe hepatic reaction while on therapy with parecoxib. By reducing inflammation, parecoxib may diminish the utility of diagnostic signs, such as fever, in detecting infections. The concomitant use of parecoxib with other non-specific NSAIDs should be avoided. **Undesirable effects:** Nausea, abdominal pain, constipation, dyspepsia, vomiting, edema peripheral, alveolar osteitis (dry socket), dizziness, insomnia, oliguria, sweating increased, pruritus, hypotension. **Presentation:** 5 x 1's vial of 40mg parecoxib with 5 x 2 ml of solvent and 10 x 1's vial of 40mg parecoxib.

Full prescribing information is available upon request.

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Paediatric Perioperative Life Support (PPLS) Hospital Tunku Azizah, Kuala Lumpur, Malaysia

By Dr Intan Zarina Fakir Mohamed

The Anaesthesiology and Intensive Care Department, Hospital Tunku Azizah was privileged to host the PPLS workshop on 29th February 2020. PPLS in Malaysia is a collaboration between the Asian Society of Paediatric Anaesthesiologists (ASPA), the Malaysian Society of Paediatric Anaesthesiologists (MSPA) and the Ministry of Health Malaysia. It is held at least twice a year since 2018.

The workshop was opened to specialists and registrars who were either in their 3rd year or final year of anaesthesiology training whereas the facilitators were paediatric anaesthesiologists (PPLS trainers) from the Universities, the Ministry of Health and the Private Hospitals. We had a total of 12 facilitators who were briefed the day before to ensure the consistency in content and standard in delivery. We received enthusiastic participation of 33 doctors from different hospitals across the states of Malaysia.

It was a full day event and most of the participants were energetic and enthusiastic especially during the interactive case discussions and skill stations. The lectures were concise and precise. The participants strongly agreed that the content was comprehensive and useful for their clinical practice and would recommend this

workshop for medical and nursing staff involved in the perioperative care of children. This workshop was a success and we hope we can do it more frequent (at least three to four times a year).

The organising committee would like to extend our gratitude to ASPA for the initiative and an excellent programme and all facilitators for making this workshop a huge success.



Anaesthetist Hypnotising Patients for Surgeries?

By Dr Anand Chandrasegaran

When Mr X had a fall during a hockey game, he hoped it was just another fall and sprain to his right hand, until he spotted the swelling and his inability to move his wrist without that agonizing pain. He was taken to the emergency room for an orthopaedic surgical consultation.

Mr X, 35, was not as distressed about the surgery as he was about the need to undergo general anaesthesia. He was given general anaesthesia for past surgeries, but because of his temporomandibular joint (TMJ) complication (which he sustained from a previous injury from a sports game), he experienced sharp jaw pain from opening his mouth wide enough for a breathing tube to be introduced down his larynx and to date, he still has this pain.

A regional blockade, supraclavicular block with sedation was suggested to this patient. The notion that a needle will be introduced to induce anaesthesia to the affected hand, generated immense fear in the patient. Sedation, in the form of oral and intravenous, is something the patient is not fond of, as previously he was given sedation for a minor surgery (ganglion excision under local anaesthesia) which resulted in an allergic reaction. Luckily, a unique solution presented itself to Mr X.

"In my view, I had nothing to lose. I could seek something different or I could continue the old-fashioned way. I'm the middle child which makes me consistently wanting to try different things. That's my nature" Mr X said.

Hypno-sedation is explained to this patient. This novel technique would be performed to the patient before performing the supraclavicular block, to induce relaxation during the anaesthetic procedure and intraoperative period.

Mr X underwent the regional block procedure comfortably without any oral or intravenous sedation. Once the surgery commenced (with anaesthesia over the surgical site) the patient was allowed to experience relaxation and amnesia with hypno-sedation (by constant verbal suggestions and other hypno-sedation techniques).

The technique of hypnosis, either directly or indirectly, has been around for years. It was in the mid-19th century when hypnosis was developed to be interpreted as a kind of "nervous trance" that could ease apprehension or discomfort during medical therapeutic procedures.

In the 1840s, Scottish neurosurgeon James Braid established an approach of profound relaxation and

visual fixation to influence patients into a relaxation trance and help ease their pain.

He coined the term "hypnosis" and designated it as "the induction of a habit of abstraction or mental concentration". The mind is so much fascinated with a single idea or train of thought which could allow patients to experience relaxation and amnesia with hypno-sedation.

Despite the fact that practice of hypnosis has been applied clinically to address several conditions, including smoking, anxiety and overeating, many people often associate hypnosis with parlour tricks and stage magicians.

For Mr X, it was a welcomed option. Several hours before the surgery, Mr X met with the author, an anaesthetist trained in hypnosedation, who would perform the hypnosedation, in the patient's room.

In-order to get the patient into his creative visualization process, we could start by asking the patient, "Do you have a favorite activity or imaginary place where you feel relaxed, for example relaxing by the beach side?" in a comforting manner. "It could be your family's home. It could be a holiday you've enjoyed, or even an imaginary place. Close your eyes and bring that up to your mind now".

The author continues in guiding Mr X's imagination by instructing him as follows, "Breathe in deeply. Experience your breath from the nose moving down your airways. Observe yourself breathing as your breath moves through your nose to your lungs and the reverse. Imagine breathing into the lungs. Now exhale. Breathe out through your nose as you recall the sound of gentle wave by the seashore. Relax".

Slowly but surely, the author lulled Mr X into a state of profound relaxation. "I felt extremely secured and it was indeed a new experience that I will remember" Mr X said, when it was over.

Mr X said, "It was like taking a slow trip and walking into my mum's house where she is cooking this mouth watery chicken rendang curry. It smells good and embraces me. I just felt very comforted and welcomed".

The author guided Mr X on what to expect on the day of the surgery. The operating suite would be sterile, with five or six skilled nurses and staff to put Mr X's care as their key priority. The lights would be bright. The author would remain beside him throughout the surgery to maintain that he remains calm and relaxed.

The author's sole task is to remain at the head of the operating table and concentrate on the patient. "Any changes to breathing patterns or facial muscles will alert me that I need to check in". Periodically, the patient's comfort level was checked by simple conversations.

On the day of the surgery, the author had one hour of intense relaxation session with the patient in the ward. One hour before the surgery, the patient was wheeled down to the operating room suite to prepare the patient for the ultrasound-guided nerve block of the hand. Once the regional block is ready to be performed, the patient was given the cue to relaxation (the anchor which was placed for relaxation when the author met the patient in the ward).

Less than an hour after his surgery was complete, Mr X was out of bed, dressed and walking around. He dodged the undesirable side effects of general anaesthesia, recovered faster and did not require any post-operative opioids (as the motor and sensory block from the regional anaesthesia was still present). The regional nerve block was instrumental in providing the alternative for the general anaesthesia, and the hypnosis provided him the wonderful experience of being under surgery, but not being aware of the entire operating room experience (and also overcome the possible allergic reaction to sedatives). An effect, he said, was far more valuable than any sedative could give him.

For hypno-sedation to work, the patient must be receptive to it. All hypnosis is self-hypnosis, meaning, a patient will go into his own relaxation trance if he was willing to allow himself to feel that naturally taking place within him.

Hypnosis is a process to turn away attention and awareness that individuals frequently experience throughout the day. Ordinary moments - such as zoning out while driving or becoming so captivated in a conversation that you are able to block out surrounding noise - are examples of how the mind can tune out distractions.

Getting the patient to identify these normal daily changes and our ability for concentration is imperative to let the patients realise they are in control and are driving this experience. They can train themselves to induce relaxation state and create that experience as they desire. They can guide themselves and visualise through this experience with their medical treatment process.

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Some healthcare provider may say, "I don't think hypnosis is a science". This is simply a premature notion. Science is not about personal belief. It is about evidence. Our way of life practices are a part of a belief system. Science is evidence-based. There are some healthcare providers who approach therapeutic care from a belief mindset. Perhaps they need certain exposures from evidences in clinical hypnosis, for them to consider the role of clinical hypnosis as an aid to their therapeutic care for patients.

Using hypnosedation, patients like Mr X can empower themselves with a sense of taking charge of their healing process during what would otherwise be a stressful experience.

No matter how effective the clinical trial shows hypnosedation to be for surgeries, hypnosedation and hypnoanaesthesia can never be a sole way to induce anaesthesia for patients undergoing surgery. It can only be as an adjunct to usual anaesthesia and surgical practices for a patient's care. Hypnoanaesthesia and hypnosedation will not become a new standard approach for pain management, simply because pain management excels with a multimodal approach.

Conversely, at this point of time adverse effects with the use of hypnosis or any other nonpharmacological sedation are still unknown. Tinterow (1960) wrote that hypnosis is the only means of anaesthesia which carries no danger to the patient. Schultz-Stubner (1996) effectively employs hypnosis instead of pharmacological sedatives, because hypnosis has no side effects.

The major advantage of clinical hypnosis is that patients may experience altered awareness and time distortion which allows them to undergo many hours of extensive surgery without being aware of the period of time during surgery and the discomfort of having to lie motionless for an extended period of time.

In a well-controlled study, it was reported that hypnotized patients showed superior pain relief compared to a no-treatment control group (by Patterson, Everett, Burns, and Marvin (1992).

Hypnosedation or hypnoanaesthesia is not going to replace general anaesthesia. However, for a certain spectrum of patients, we should consider clinical hypnosis in therapeutic care as an option, for example as a tool in reducing preoperative anxiety for surgical patients, or as an adjunct in procedures that does not require sedation such as venepuncture and many more.

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Patterson, D

Understanding and managing intraoperative hypotension

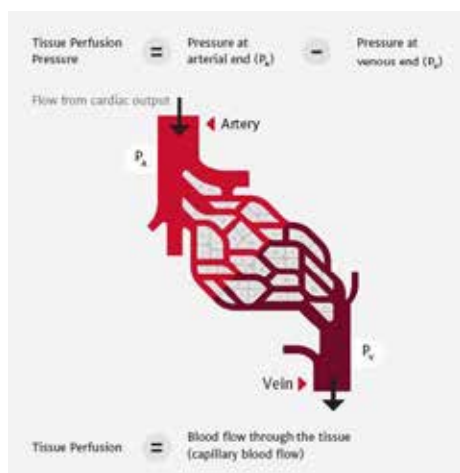
New insights heighten importance.

Multiple studies highlight the connection between intraoperative hypotension and postoperative risk.

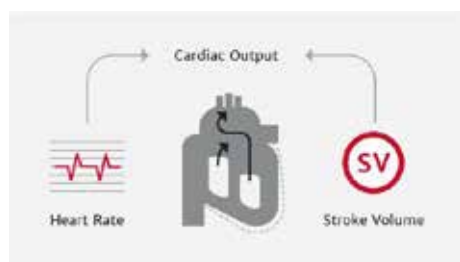
A growing body of research is demonstrating an association between intraoperative hypotensive events* and increased acute kidney injury (AKI), myocardial injury.¹⁻³ Studies also show an increased risk of mortality associated with hypotension after noncardiac surgery.^{4,5} Understanding the interconnected dynamics can play a vital role in improving patient safety.

*A hypotensive event is defined as MAP <65 mmHg for a duration of at least one minute.

Physiology of perfusion: pressure *and* flow



Adequate perfusion requires adequate arterial pressure and cardiac output (CO)



Managing the flow component of perfusion



Preload: the tension of myocardial fibers at the end of diastole, as a result of volume in the ventricle



Stroke Volume (SV): volume of blood pumped from the left ventricle per heartbeat

When managing perfusion, stroke volume can be “optimized” using the patient’s own Frank-Starling curve — a plot of stroke volume (SV) vs. preload.



The patient’s location on his or her Frank-Starling curve can be determined by measuring Δ SV in response to change in preload using fluid bolus changes or passive leg raise (PLR).

Additionally, stroke volume variation (SVV) has been proven to be a highly sensitive and specific indicator for preload responsiveness when managing volume. As a dynamic parameter, SVV has been shown to be an accurate predictor of fluid responsiveness in loading conditions induced by mechanical ventilation.⁶⁻⁸

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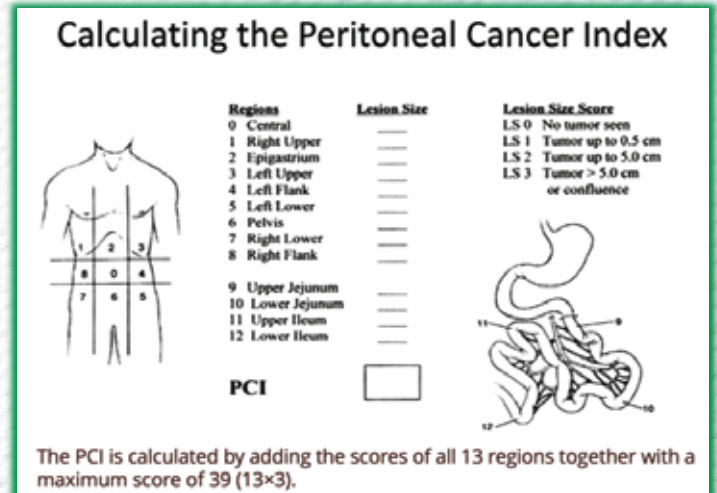
The Frontiers of Surgical Oncology: Cytoreductive Surgery (CRS) with Hyperthermic Intraperitoneal Chemotherapy (HIPEC) for Peritoneal Surface Malignancy

By Associate Professor Dr Carolyn C Yim & Dr Ang Chin Wee

Peritoneal surface malignancies (PSM) have been notoriously been referred to as a death sentence as it is resistant to standard chemotherapy treatment protocols. In 2017, University Malaya Medical Centre embarked on its journey into the frontiers of managing such complex malignancy with highly technical cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC). This service is led by the Colorectal Team with the support of a multi-disciplinary team of experts, including anaesthesiologist, intensivist, theatre nurses, gynae-oncologist, medical oncologist, hepatobiliary surgeon, urologist, radiologist, pathologist, medical physician, pharmacist, and the HIPEC technicians from Transmedic.

The CRS + HIPEC is a testament of the skill and determination that many have been impressed with, but remained doubtful by an operative procedure with a total average operating time of over 10 hours, associated with potentially significant risk of post-operative morbidity and mortality, and requiring very intensive and comprehensive hospital resources. The perseverance in taking on such undertakings even in the case of a moribund patient with an extensively disseminated peritoneal disease, represents one of the most notable achievements in the endeavours of cancer surgery as the dramatic change of a patient from having terminal disease to complete removal of tumour and cure in many cases, makes it worthwhile.

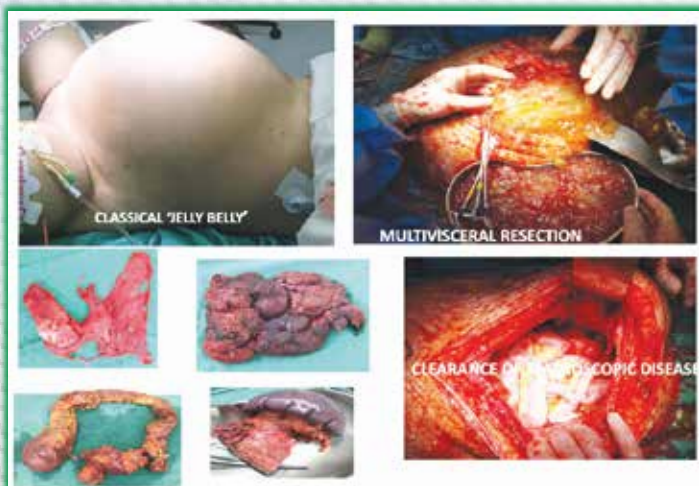
Of course, not all PSM would be suitable for CRS + HIPEC. The initial description, and still the most rewarding in the long term, involves the treatment of appendiceal malignancy. Pseudomyxoma peritonei particularly continues to be the most unpredictable and surgically challenging but yet gratifying of all PSM. The current practice of all PSM stems and have been extrapolated from the original principle for pseudomyxoma peritonei, with the indications for CRS + HIPEC have now been extended to several malignancies, including peritoneal mesothelioma, primary peritoneal cancer, peritoneal metastases of colorectal, ovarian and gastric cancers, and other rare cancers such as peritoneal sarcoma.



Apart from the cancer pathologies mentioned above, careful patient selection that is suitable for CRS + HIPEC is paramount to a successful outcome. All patients undergo rigorous pre-operative assessments and investigations to ensure a high probability of a favourable outcome. Preferentially the patient should be aged less than 70 years old with no active cardiac conditions. Medical optimisation of any other chronic illness should be achieved prior to surgery, with some patients subjected to Cardio Pulmonary Exercise Test (CPET) for an objective fitness assessment. Surgically, complete to near-complete peritoneal disease resection must be feasible. Therefore, patients would almost certainly and routinely undergo a thorough endoscopic assessment of the gastrointestinal tract and Positron Emission Tomography Computer Tomography (PET-CT) scan to ensure no evidence of extra-abdominal disease or un-resectable abdominal disease. When a patient is deemed potentially suitable for CRS + HIPEC, a diagnostic laparoscopy with the scoring of the Peritoneal Cancer Index (PCI) may be required to assess the extent of the peritoneal disease more objectively. Studies have shown that the PCI score correlates to the cancer outcome, with higher scores correlating with worse prognosis.

Intraoperatively, CRS involves removal of as much if not all of the macroscopic tumour as possible which can involve multi-organ resection, extensive complete peritonectomy, and omentectomy. Following this, infusion and washes of

chemotherapy intra-abdominally at a temperature of approximately 42°C for an hour or more would be performed with the hope of eliminating any residual microscopic cancer cells. Finally, bowel anastomosis would be constructed if necessary before the closure of the laparotomy wound.



Given the complexity of the surgery, the physiological changes experienced during the perioperative period is anticipated as noted in the table below.

Physiological changes:

Cardiovascular	Increased Heart Rate Increased Central Venous Pressure
Respiratory	Increased Peak airway pressure Decrease in PaO ₂ /Fio ₂ Ratio Increased in end-tidal Co ₂ levels
Renal	Decreased Perfusion of kidneys Metabolic acidosis Increased lactate
Coagulation	Decreased in platelet count Increased in Prothrombin Time (PT) Increased International Normalised Ratio (INR)

Specific Intraoperative Concerns:

Fluid

This is one of the most challenging aspects peri-operatively which demands close attention. Blood loss can be significant during major debulking surgery, while evaporative losses as a result of the prolonged period of an opened abdomen cannot be underestimated. At our centre, we routinely use the FloTrac System (Edwards Life Sciences) to assist us with fluid management and hemodynamic monitoring. This is in addition to the meticulous monitoring of urine output and serum lactates. A combination of balanced salt solutions, colloids, and albumin is used to replace fluid losses.

Hemodynamics

Optimal end-organ perfusion must be ensured throughout surgery in order to prevent kidney and liver insult. Peripheral vasculature dilatation occurs during heated chemoinfusion as a result of rising body temperature. A pneumoperitoneum effect is also observed during chemoinfusion.

Coagulation

Significant coagulopathy can be associated with massive debulking surgery and/or the HIPEC process, with one-third of patients requiring transfusion of plasma.

Temperature

The fluctuation of the patient's body temperature from hypothermia to hyperthermia is another unique aspect. Initially, during the cytoreductive period, hypothermia is observed. However, during HIPEC, the carrier fluid is heated up to a persistent 40-42°C throughout the course of one hour or more, resulting in body temperatures escalating to 40.5°C. Temperature management is achieved with forced-air warming devices (which also can be used to cool the patient), fluid warmers, cooling blankets, and cold head wraps.

Postoperative

Patients are usually cared for in the intensive care setting with interval extubation. At our centre, all patients undergoing CRS + HIPEC are nursed in the ICU immediately post-op with a minimal ICU stay of one day for close monitoring.

Once again, fluid management can be challenging during the post-operative period. Crucially, any physiological derangements are to be addressed and corrected during this time.

Safety in theatre

As chemotherapeutic agents are being used in the operating theatres, all personnel involved are educated on the safe handling of these drugs.

Appropriate Personal Protective Equipment (PPE) should be worn by individuals directly handling the chemotherapeutic drugs. All other individuals in the vicinity of the theatre should also be made aware that such a procedure is being undertaken through appropriate signage.



Preparation of the chemotherapy agent for HIPEC

The patient's body fluids are considered to contain a low level of chemotherapeutic agents for 48 hours post-procedure.

In conclusion

Providing care for patients undergoing CRS and HIPEC is a form of "anaesthetic and surgical marathon" that comes with an array of challenges that can very unpredictable and difficult to address. Hence a multi-disciplinary team approach is much needed. We would like to extend our heartfelt gratitude to all our multi-disciplinary team of experts who have been helping us tirelessly and made this service possible for the benefit of our patients.

Further Reading

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Nishkarsh Gupta et al, Journal of Anesthesiology Clinical pharmacology vol 35, issue 1 2019



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What does the recent evidence demonstrate on the association of Postoperative Pulmonary Complications and Residual Neuromuscular Blockade?

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The pharmacokinetics of modern NMBAs suggest that they should have little clinical effect a few hours after emergence, yet PPCs occur more frequently for several days in patients receiving them. A recent review from Cammu 2020, suggested that residual neuromuscular block is an important risk factor for postoperative pulmonary complications and may affect the outcome.¹



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PPCs = Postoperative Pulmonary Complications; NMB = Neuromuscular Blockade; NMBAs = Neuromuscular Blocking Agents; ASA = American Society of Anesthesiologists; ERAS=Enhanced Recovery After Surgery; CPD=Continuing Professional Development; NIAS = Network in Anesthesiology and Surgery

SELECTED SAFETY INFORMATION for BRIDION® INDICATIONS Reversal of neuromuscular blockade induced by rocuronium or vecuronium. For the pediatric population: BRIDION® is only recommended for routine reversal of rocuronium induced blockade in children and adolescents. **DOSAGE AND ADMINISTRATION** BRIDION® should only be administered by, or under supervision of an anesthetist. The use of an appropriate neuromuscular monitoring technique is recommended to monitor the recovery of neuromuscular blockade. The recommended dose to be administered depends on the level of neuromuscular blockade to be reversed. **CONTRAINDICATIONS** BRIDION® is contraindicated in patients who are hypersensitive to the active substance or to any of the excipients. **WARNINGS AND PRECAUTIONS** Ventilatory support is mandatory for patients until adequate spontaneous respiration is restored following reversal of neuromuscular blockade. Ventilatory support is also required in cases where co-administration of drugs which depress respiratory function in peri- and postoperative period. BRIDION® (doses of 4 mg/kg and 16 mg/kg) resulted in maximum mean prolongations of aPTT and of PT (INR) prolongations. However, it did not show an increase bleeding risk when comparing BRIDION® versus placebo in patients treated with anticoagulant. Based on in-vitro experiments, additional aPTT and PT prolongation has been reported in BRIDION® with anticoagulants. Bleeding risk has not been studied systematically at higher doses than 4 mg/kg, thus, coagulation parameters should be carefully monitored particularly in patients with known coagulopathies or those who receive high dose of BRIDION® (16 mg/kg). It is not recommended to administer doses lower than the therapeutic doses due to reported increased incidence of recurrence neuromuscular blockade after initial reversal. When rocuronium 1.2 mg/kg is administered within 30 minutes after reversal with BRIDION®, the onset of neuromuscular blockade may be delayed up to approximately 4 minutes and the duration of neuromuscular blockade may be shortened up to approximately 15 minutes. The recommended waiting time in patients with mild or moderate renal impairment for re-use of 0.6 mg/kg rocuronium or 0.1 mg/kg vecuronium after routine reversal with BRIDION® should be 24 hours. A nonsteroidal neuromuscular blocking agent should be used for patients requiring neuromuscular blockade prior to passing the recommended waiting time. BRIDION® is not recommended in patients with severe renal impairment, including those requiring dialysis. **ADVERSE EVENTS** In the subset of Pooled Placebo-controlled trials where subjects received anesthesia and/or neuromuscular blocking agents, the following adverse events occurred in ≥2% of subjects treated with BRIDION® and at least twice as often compared to placebo including airway complications of anesthesia, coughing, tachycardia, bradycardia, movement of a limb or the body, grimacing or suckling on the endotracheal tube. For additional adverse experience information, see the product circular.

Reference: 1. Cammu, G. Residual Neuromuscular Blockade and Postoperative Pulmonary Complications: What Does the Recent Evidence Demonstrate? *CurrAnesthesiol Rep* 2020;10,131-136.

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B-22-1 & B-22-2, The Ascent Paradigm, No. 1, Jalan SS 7/26A, Kelana Jaya, 47301, Petaling Jaya, Selangor Darul Ehsan.
T: +603 7499 1600 F: +603 7499 1700 www.msd-malaysia.com
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Enhanced Recovery After Surgery (ERAS): from the Anaesthesia Point of View

By Dr Siti Nadzrah binti Yunus & Associate Professor Dr Loh Pui San

The landscape of medicine is continually changing at an accelerating pace, with advancements in technology and medical intervention to increase emphasis on patient-centred care. Within perioperative care, the idea of "fast-track surgery" was initiated in the 1990s, focusing only on early hospital discharge among patients with colonic resection. This concept evolved further into a more comprehensive patient-centred, evidence-based, multidisciplinary pathway called the Enhanced Recovery After Surgery (ERAS) programme that has gained popularity in various surgical fields throughout the world.

ERAS is a multimodal perioperative care package, introduced nearly a decade ago, by a group of academic surgeons and designed to achieve early recovery for patients undergoing major surgery. The main aim is to facilitate recovery after surgery by reducing the patient's surgical stress response and optimising the return of their physiological function along with improved surgical and anaesthetic techniques.

In 2001, the ERAS Society was established and, to date, there are 25 ERAS accredited centres that conduct structured implementation programmes worldwide. Nevertheless, Malaysia is not one of them. In the South East Asia region, only Singapore has an accredited ERAS centre. Does this reflect a lack of awareness about ERAS in our country? Does it seem as though we refuse to move away from the traditional approach of patient care? To be quite honest, the answer is no. The majority of large centres in Malaysia have already been adopting ERAS protocols with similar aims (formally or informally), but what could be the pitfalls that prevent more widespread adaptation, then?

ERAS programmes represent a considerable change in practice for many surgical care providers. Given the perceived complexity involved in implementing a relatively high number of interventions simultaneously among providers across multidisciplinary hospital services, a number of barriers have been identified. Challenges in its implementation have been attributed to a variety of contextual factors such as perceived lack of resources,

resistance to change, and poor cohesion among providers.

The adaptation of this programme has been relatively slow and inconsistent in our centre despite the strength of supporting evidence. Our healthcare providers are aware of ERAS and show positive inclination towards its importance. Even so, the concept of ERAS, as a multidisciplinary or interprofessional programme, has not been conveyed well. In University Malaya Medical Centre (UMMC) itself, ERAS is practiced in silos and only implemented by the individual surgical specialities where the lead providers are keen on the implementation. Hence, only part of the protocol has been compliantly advocated on patient's care. What are we missing? The possible answer could be the crucial involvement and contribution of other non-surgical key members who will play an important role on patient's holistic management such as the nurses, anaesthetists and other support services who manage these patients simultaneously.

So as anaesthetists, where do we stand in ERAS? Anaesthetists play a symphony of roles in the success of ERAS. We are never the sidekicks. We carry out patient-specific optimisation prior to surgery during anaesthetic clinic visits. At this stage, goal-directed strategies will be planned to match both patient and surgical needs. Fasting time is minimised with the allowance of carbohydrate loading and sedative premedication is avoided at preoperative phase. Intraoperatively, we focus on the use of short acting anaesthesia, multimodal analgesia, antiemetics and goal-directed fluid therapy. Multimodal analgesia with opioid sparing techniques will be continued during the postoperative period. It may sound easy and in fact something that we assume to have become our habit, but we are still unable to practise this optimally. Our operating times are still unpredictable, thus to gauge the safe duration of time for fasting and carbohydrate loading is tricky. Some of the ward nurses are not aware of the allowance of clear fluid intake of up to two hours prior to induction of anaesthesia, and the patient is kept fasted even after surgery until the postoperative review is

done. This issue can be overcome with the help of an ERAS coordinator who will monitor the protocol implementation.

Apart from collaborative efforts among physicians and healthcare providers, the journey of ERAS should also begin within patients themselves. The shift of healthcare responsibility towards patients empowers them to participate in decisions and actions for their own health. This effort is made possible with patient education to allow them to understand the concept of ERAS and its benefits. When and why a particular protocol has been selected for them ensures commitment from preoperative to postoperative rehabilitation strategies.

Having said all of that, with the knowledge of all hurdles and pitfalls, excellent communication should be the mainstay to avoid most of them. The ERAS programme forms an integrated continuum, as the patient moves from home through pre-hospital, preoperative, intraoperative and postoperative phases of surgery and to return home in their best condition. For a successful ERAS protocol implementation, one needs to establish the urgency to implement the protocol in one's setup. This urgency will become the drive to build a project leadership team comprising a chief representative surgeon, an anaesthetist, a nurse and a project coordinator targeting similar visions. The team is responsible to design and carry out the implementation by developing the protocol, presenting the guideline at

participating sites, facilitating health providers, moderating local centre continuous medical education and performing audits to further improve the service. This will eliminate the communication barrier among providers and ensure patient-centred care. The success story of one team can cultivate the interest on ERAS programme in another team, and together we can make our institution, as well as our country, an ERAS accredited centre.

DISCLAIMER

This is a narrative review based on our own institution experiences and expert comments from surgical colleagues (UMMC and Hospital Sungai Buloh) who have been practising adaptations on ERAS for years since it is introduced. However, this commentary is limited by obvious lack of local data as evidence on how well ERAS has been adapted, how much patient care has improved or even how to overcome specific challenges in this region.

Special thanks to UMMC Colorectal Team (Associate Professor Dr Khong Tak Loon and Dr Ruben Gregory), UMMC Urology Team (Dr Yeoh Wei Sern), UMMC Upper Gastrointestinal Team (Dr Wong Wei Jin), UMMC Gynaecology Team (Dr Doris Ng Sin Wen), Hospital Sungai Buloh Anaesthesia Team (Dr Anand Kamalanathan) and Hospital Sungai Buloh Upper Gastrointestinal Team (Dr Sou Jing Kim) for sharing their wonderful experience on ERAS in this review.

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SAFETY AND EFFICACY OF LOW DOSE PROTHROMBIN COMPLEX CONCENTRATE IN CARDIAC SURGERY IN ADDITION TO TOPICAL APPLICATION OF TRANEXAMIC ACID TO REDUCE EXCESSIVE MEDIASTINAL BLEEDING AFTER OPEN CARDIAC SURGERY: HOSPITAL SULTANAH AMINAH JOHOR BAHRU (HSAJB) EXPERIENCE 2018-2020

By Mohd Khairul Anuar A Rahim, Affendi Ali, Liaw Yean May, Mohd Firdaus Shamsuddin, Simon Jerome Vendargon & Syed Rasul G Syed Ahmad

Perioperative bleeding during cardiac surgery is a critical life threatening event that requires urgent intervention. Excessive bleeding during cardiac surgery can be due to medical and surgical factors. Some of the surgical factors are leaks from suture of the anastomotic sites, arterial or venous cannulation site, or from the raw surface area such as substernum, periosteum, bone marrow or sternal wire site.

Medical causes include due to incompatible interaction between patient's own blood and non-biological surfaces of cardiopulmonary bypass circuit and the usage of large doses of heparin. Contact between these two surfaces would provoke activation of complement system, fibrinolytic system as well as coagulation system.

Table I: Perioperative bleeding risk factors in HSAJB

Perioperative bleeding risk factors		
Perioperative	Intraoperative	Postoperative
History of recent traditional medications intake, premedication ESRF or underlying blood disorder	High ACT value (>999) post standard dose of heparin (400 unit/kg)	Platelet dysfunctional and deficiency of multiple coagulation factors post cardiopulmonary bypass
Long term anticoagulant and antiplatelet therapy	Ooziness score during chest closure	High chest tube drainage postoperatively
Planned for high complex cardiac surgery (Combined CABG and valve, aortic root, arch surgery)	Prolonged bypass time more than 120 minutes	Low fibrinogen level less than 1.5 gm/dl
The Papworth Bleeding Risk Stratification Score (REFER TABLE II) 0 : Low risk 1-2 : Medium risk 3-5 : High risk	Surgical factors, for example: 1. Bleeding from anastomotic site 2. Bleeding from arterial or venous cannulation site 3. Bleeding within the raw area surface such as substernum, periosteum, bone marrow or sternal wire site	Persistent high ACT value post protamine



Picture 1: Octaplex (four Factors PCC)



Picture 2: Prothrombinex (three Factors PCC)

Activation of these systems would consume all the procoagulant and coagulation factors thus predisposes to DIC-like event. In addition, these systems also stimulate pro inflammatory mediator cells such as leucocytes and platelets. Eventually, patient is at risk of having organ damages, severe coagulopathy and hyperfibrinolysis.

Thus, we opted for algorithmic based approaches which utilises two drugs of choice which are octaplex and prothrombinex as well as other common blood products such as FFPs, cryoprecipitate, and platelets.

Table II: The Papworth Bleeding Risk Stratification Score (PBRs) table

Risk Factor	Value = 0	Value = 1
Surgery priority	Elective	Urgent or emergency
Surgery type	CABG or single valve	All other surgery types
Aortic valve disease	None	Stenosis, regurgitation or both
BMI	Greater/equal to 25	Less than 25
Age	Younger than 75 years old	75 years or older



Picture 3: Octaplex dilutional set



Picture 4: Prothrombinex dilutional set

Usage of octaplex and prothrombinex has largely replaced or reduced usage of common blood product in many country with advanced practices as part of the targeted component therapy. This new paradigm shift has minimized adverse effect related to blood product transfusion such as Transfusion Associated Circulatory Overload (TACO), Tranfusion Related Acute Lung Injury (TRALI) and Tranfusion Transmitted infection (TTI). In the midst of inadequate blood donor supply, it can be seen as an ideal alternative to blood transfusion.

Octaplex, commonly known as prothrombin complex concentrates is a purified product that is prepared from factor II, VII, IX and X, the anticoagulants protein C and S, and small amount of heparin. Unlike FFP or cryoprecipitate, it possesses several important advantages with regards to rapid correction of postoperative refractory coagulopathy.

Dysfunctional thrombin generation is one of the common causes of coagulopathy in cardiac surgery. PCC has appeared as one of the practical substitute for replacing FFP to reduced incidence of perioperative bleeding. Other than that, it was worth to mention that PCC

Table III: Comparison between usage of PCC and blood product

PCC (octaplex/prothrombinex)	Blood product
Rapid correction of INR	Slow correction of INR
Greater increment in factor II, VII, IX and X (60 to 80%). Prothrombinex has no factor VII	Less effective increment (20-30%)
Can be infused faster with lesser volume	Risk of overload and time consuming
Shorter preparation time	Need to be thawed
Does not require blood matching	Require ABO incompatibility
Fairly cheap	Expensive
Easily available	Depend on blood donor supply
Less tranfusion reaction	Associated with TRALI, TACO and infection

administration also reduce perioperative RBC transfusion requirement (blood sparing effect) and lower post-operative blood loss when compared to FFP.

LOW DOSE PCC..... is safe in cardiac surgery?

The recommended dose for the utilisation of PCC is 30 IU/kg in patients with excessive anticoagulation and in critically ill patients with acute bleeding.

In our center however, due to the usage of Cardiopulmonary Bypass, we implement the mean dosage of 10-15 IU/kg of PCC (500-1000 Unit) per patient. This is due to the concern of patient developing thromboembolic

complications i.e. - stroke and coronary graft thrombosis, intra and postoperatively.

This 'low-dose' regime is a rational approach to prevent the potential thrombogenic drawbacks of PCC while maintaining their effects in controlling bleeding.

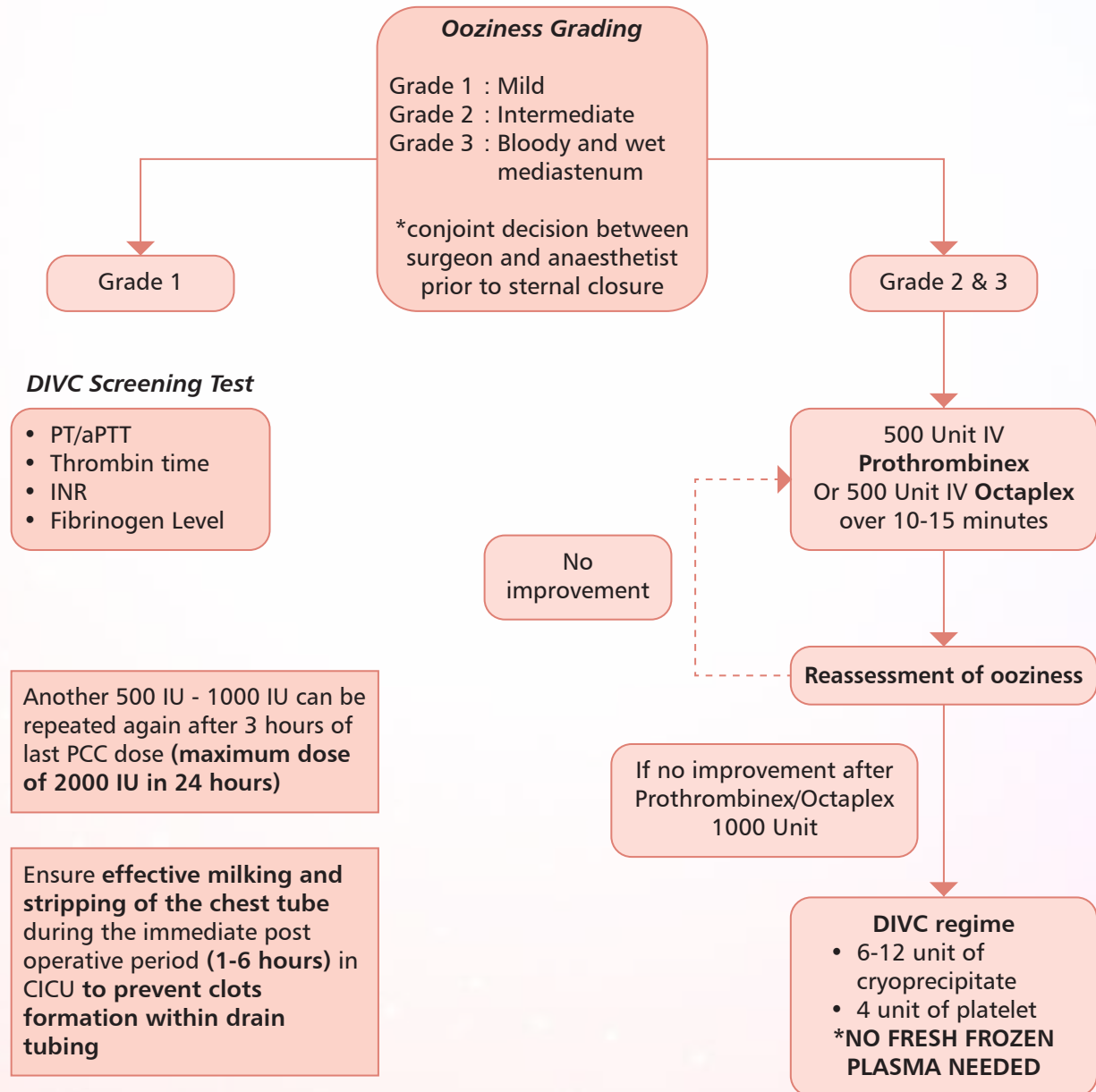
Two major risk factors of thrombogenicity have been identified:

- Pre-existing chronic liver disease.
- Rapid and large dose of PCC given repetitively via infusions.

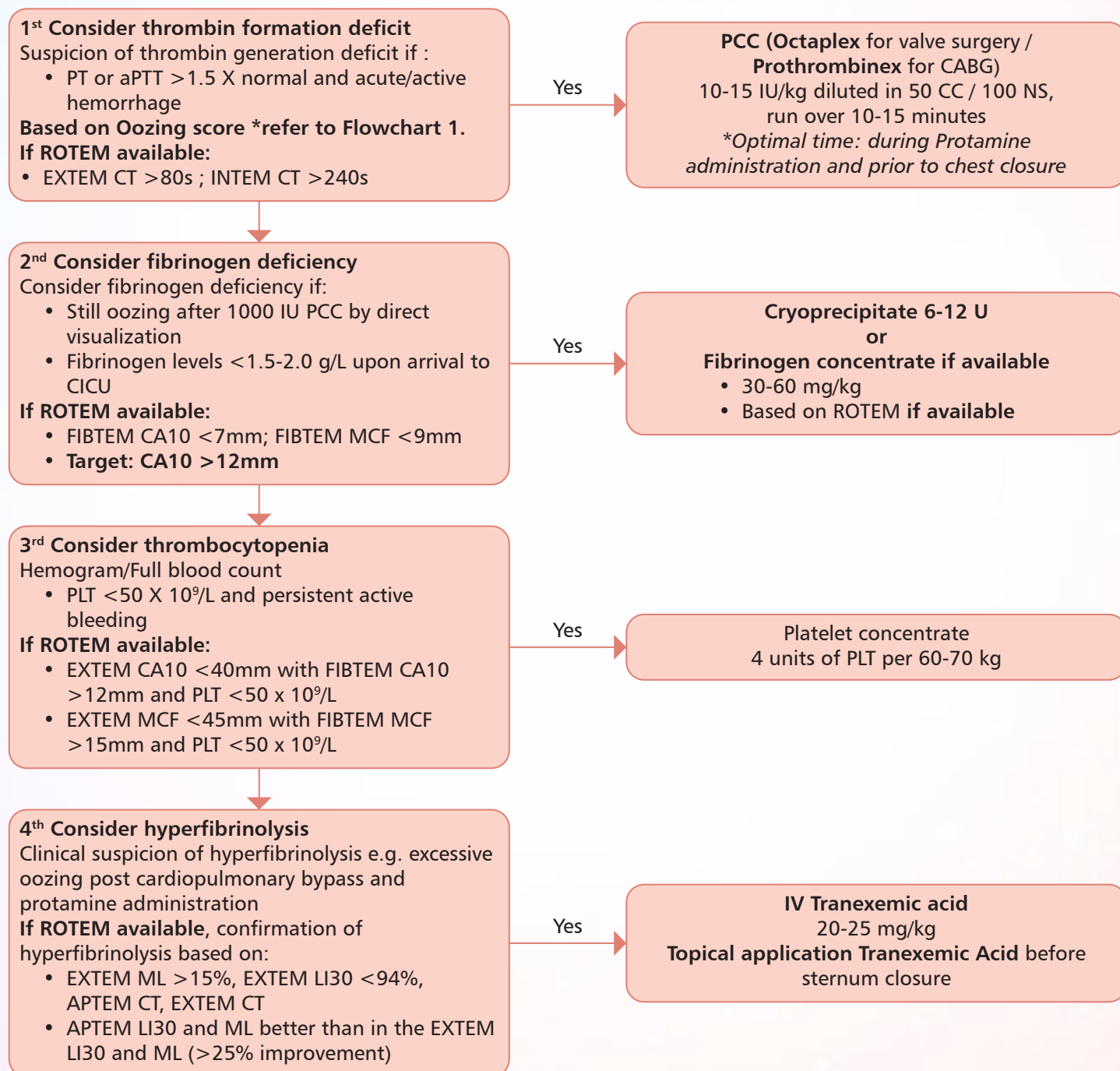
Based on a retrospective audit of the use of prothrombinex for refractory bleeding following adult cardiac surgery, Fraser et al. concluded in his study that no thrombotic complications were found in a series of 60 patients post CPB that were treated with a dose of 500 IU of PCC.¹ Up to this point of time, there have been no proven cases of thromboembolism among thousands of

patients that have been treated with an average dose of 2000 units of PCC each.² Nevertheless, multiple clotting factors deficiency in massive hemorrhage could not be corrected by PCC alone. Above all else, it is vital to keep the fibrinogen levels above 1.5 g/L as hypofibrinogenemia is one of main cause of bleeding intraoperatively.³

Flowchart 1: Algorithm for intra-operative bleeding management



Flowchart 2: Management of Coagulopathy⁶ in Cardiac Surgery



Even though we do not have a comparative and statistical analysis between PCC and blood products in terms of clinical outcome in our centre, in all practical senses, we did notice the ease and convenience of PCC administration. More importantly, there was an observable change of rapid reversal of bleeding in the raw area of mediastinum prior to the closure of sternum.

Currently there are two brands in the market for PCC namely Octaplex and Prothrombinex. In terms of content, both of them are essentially the same except that Prothrombinex has no Factor VII. Factor VII should raise special concern as it can generate unnecessary formation of thrombosis which could spread to entire body. Some

researcher postulated that the culprit behind thrombus formation is due to the presence of non-endothelial tissue factor that are expressed by neutrophils and monocytes. Expression of tissue factor by these cells results in formation of TF-FVIIa complex and then catalyzes conversion of factor X into its active state thus leading to thrombin formation and platelet activation within circulatory blood. Based on the risk available, we utilised a low dosing technique for Octaplex in contrast to other non-cardiac cases.

One of our disadvantages in predicting perioperative bleeding is lack of advanced point of care method. We currently utilised ACT which is a common conventional

Table IV: Dosage, dilution and method of administration of PCC in cardiac and non cardiac cases

	Maximum dose	Dose		Method of administration
Cardiac cases (CABG, Valves)	1000 UI	Based on visual observation of "ooziness" within raw area		500 IU in 50 or 100 mls normal saline Run over 20-30 minutes
Non Cardiac Cases	3000 UI	INR	Mls/kg	500 IU in 20 mls of sterile water 1ml/min for first 5 minutes If no allergic reaction can be increase up to 8 ml/min
		<2.5	0.9 - 1.2	
		2.5 - 3.0	1.3 - 1.6	
		3.1 - 3.5	1.7 - 1.9	
		>3.5	>1.9	

method but lack of specificity and sensitivity. Multiple cardiac centres around the world have opted for more rapid qualitative and quantitative assesment of coagulopathy by using advanced point of care method such thromboelastogram (Rotem®). Multiple studies strongly suggest that usage of Thromboelastogram is more superior compare to ACT in predicting coagulopathy and deciding which blood product to use.

Timing.... Is an essence

However, the most important aspect of PCC administration is the timing. The ideal moments for PCC are after Protamine and prior to sternal closure. The reason behind these two specific moments is to prevent formation of blood clot within the mediastinum which eventually lead to retained blood syndrome and consequently, excessive mediastinal bleeding. We have experienced incidences where delayed PCC administration can cause clot formation which indirectly block chest tube

drainage resulting in cardiac tamponade. This condition probably worsen if there is a suboptimal milking and stripping of chest tube.

Since the initiation of low dose Prothrombinex (500u) as a routine in elective CABG cases at our centre, we noticed a significant reduction in chest tube output overnight. Prior to initiation, on average, there will be approximately 300 to 600ml of drainage output for the first 24 hours post operatively versus 200 to 350 ml over 24 hours in patients given PCC. Apart from that, the rate of chest reexploration was significantly reduced as well, both in CABG and valve surgeries.

Despite of not having FVII, expert has suggested that three factors PCC such as Prothrombinex is a acceptable alternative to four factors PCC (octaplex). We prefer to use Octaplex for valve and Prothrombinex for CABG.

Table V: Statistics of chest re-exploration in Hospital Sultanah Aminah, Johor Bahru

Year	Total case of Chest Reexploration	Total number of cases	Percentage (%)
2017	8	144	5.6
2018	4	125	3.2
2019	9	228	2.9
2020 (January - September)	3	142	2.1

There were no additional risks of thromboembolic events or adverse reactions observed in our centre. However, more high impact randomized controlled trials need to be done to signify the safety of PCC usage in cardiac surgery.

Old Drugs, New Look..... at an Old Problem (Topical Application of Tranexamic Acid)

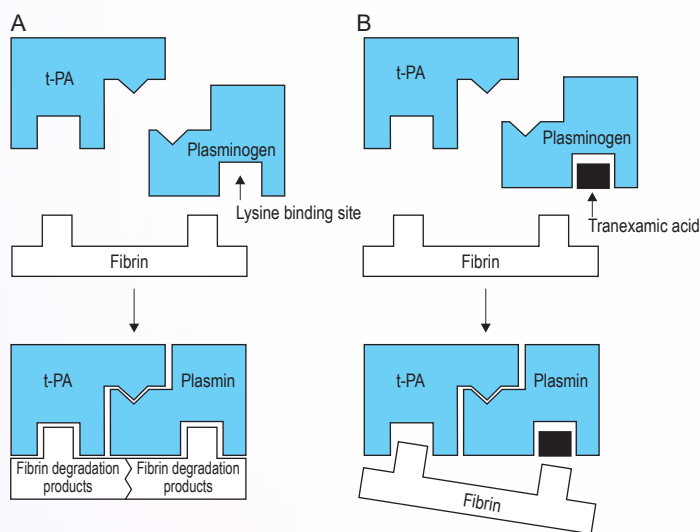
Incidence of re-exploration due to bleeding in cardiac surgery with CPB was reported 2-7%, and among these 50-80% of bleeding was from medical reasons rather than surgical. The potential benefit of topical use of TXA in the

pericardium, combining it with standard intravenous TXA to decrease bleeding after cardiac surgery, is still a myths.⁴

The solution (TXA 2 gm 20 ml) was poured into the pericardial cavity as a cardiac bath and the mediastinal cavity during sternal closure. It can be speculated that, local hyperfibrinolysis in a pericardial cavity could be avoided which lead to a reduction of medical bleeding with subsequently smaller size of blood clot with the topical application of TXA.



Picture 5: Tranexamic Acid 2 gm in 20 cc syringe is drawn up just before sternum closure



Picture 6: Antifibrinolytic action of tranexamic acid

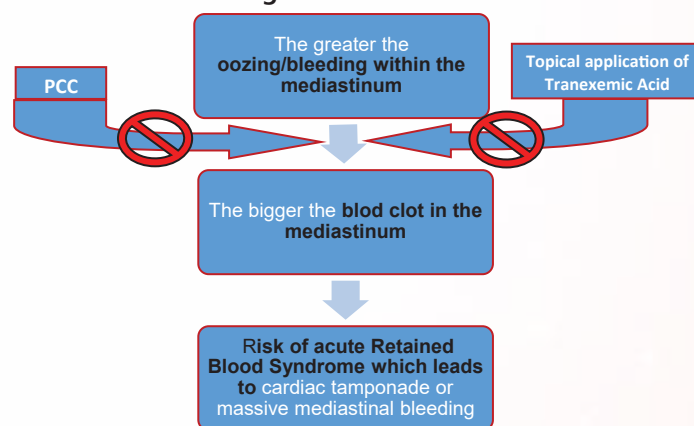
When used topically, it was found to have low systemic absorption, no risk of graft thrombosis, more rapid action in pericardial cavity and reasonably effective in controlling bleeding in hemorrhagic diathesis. The rationale for the topical application is based on Khalil et al, the local fibrinolytic activity in the pericardial cavity exceeds that in the systemic circulation.⁵ Fibrinolysis within the pericardium is very high because a pericardium injured during surgery releases large amounts of tissue plasminogen activator. The pericardium has natural barrier properties that prevent the absorption of large

molecular substances, some previous studies have shown that no TA was detected in serum after it had been used intraoperatively in the pericardium.



Picture 7: Tranexamic Acid 2 gm is poured into pericardial cavity as cardiac bath

Flowchart 3: Sequential event of blood clot formation after open cardiac surgery which can lead to excessive mediastinal bleeding



CONCLUSION

In this modern world of medicine, recent discoveries have found that Prothrombin Complex Concentrate (PCC) could act as a substitute for fresh frozen plasma (FFP) in managing acute coagulopathy perioperatively. The usage of FFP may be detrimental to both cardiorespiratory and hemodynamic stability due to Transfusion Associated Circulatory Overload (TACO) and Transfusion-related Acute Lung Injury (TRALI). PCC should be used as a first-line treatment for coagulopathy post cardiac surgery. This indirectly reduces post operative morbidity and mortality by reducing the need for chest re-exploration and perioperative blood transfusion.

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A Learning Curve Throughout Daniae's Artistic Journey

By Dr Azlina binti Masdar

They say that there is a fine line between love and despair. But when you have a child with special needs, that line is almost invisible.

When my youngest daughter Daniae was first diagnosed with autism at the age of two years and three months, I had to stop for a while and wondered to myself if this is one of those tests where you can study as much as you can, but the test questions will still astound you. After all, I had studied about autism in medical school, I have treated patients with autism, and when you have one of your own, you wonder if you have the capacity to do the best for her.

At that time, we were living in Ireland, far from home, but thankfully the facilities and support were available for us to hold Daniae's hand and take her on this journey that we were not prepared for.

Fast forward 15 years later, Daniae is now a happy teenager, an artistic savant, if you can call her that (which mother wouldn't?), and still only speaking when there is a need to, although in three-worded phrases. However, the journey to get here had let us to the school of hard knocks, groping our way through a maze, stopping for a while to take a deep breath, and getting up again to move forward, looking for that miracle that all parents of special needs children seek.

It all began in Ireland in the year 2005 when we moved there in January, following my husband who was doing his PhD, and Daniae was born two months later. Yes, I was heavily pregnant when we moved there. It was a normal delivery and everything seemed normal for this quiet baby. She was easy to look after, slept easily throughout the night and she enjoyed playing on her own.

Every few months, we followed the doctor's check-up schedule and recorded her growth and milestones. Then when she reached 18 months for the follow-up, a realisation came to me: She was not talking at all, nor was she interacting with any of us. She failed her initial hearing test due to poor concentration, and subsequently referred to an ENT surgeon for a hearing test under general anaesthesia, and that proved to be normal. She was two-years old by then. Something lingered on my mind about autism. It's still fresh in my memory of the ENT surgeon's voice "Azlina, a 2-year old child not talking, is not normal. Hunt the paediatrician for a diagnosis".

Daniae was then referred to a team consist of a psychologist, psychiatrist and speech therapist which lead to a diagnosis of Autism Spectrum Disorder. I was sad initially. I studied about autism in medical school and I treat patients with autism. And now, my youngest child is also under the spectrum. But the sadness did not last

long. I had to pick up myself and find the best solution for Daniae. Being strong and redha was the only choice I had. I met other parents to find resources and to console my feelings. My thoughts were not so much about what will happen to her in the future, I only thought about how to help her to be independent. I had to look out for programmes that will assist in early intervention. The earlier we get her therapies, the better the outcome.

Daniae was then under a team from public health service that had speech therapist, occupational therapist and psychologist who followed up with Daniae regularly. We also had parental courses where both my husband and I attended.

I put an advertisement to find a home therapist for Daniae. Thankfully we found an applied behaviour analysis (ABA)-home tutor, which she started at age 2.5 years old. Everything was self-funded, as the government there could only support therapies for children age three and above, and Daniae had not reached the age yet. Her ABA therapist aimed for Daniae to absorb all the teachings - behaviour intervention, fine motor skills and speech therapy.

She needed four hours a day of therapy and it was an expensive exercise. So I had to think whether I should take non-pay leave so I could be with her for the programmes, or I continued working and pay the therapist. I decided to take up more overtime hours at work to pay her. Blessedly at that time, I found an excellent therapist who did not only conduct behavioural therapy, but speech, writing, and toilet training as well. We cleared a space in the kitchen for her work station with Daniae and everyday, she left some 'homework' for me to do. So whenever I reached home after work, I will sit down for another hour or two, to go through the 'homework'. Based on the assessments, Daniae had to undergo intensive therapies for six months then as there were some goals that we needed to reach. We were also fortunate that we had a good child minder who worked together with us to help



Dania. Dania, meanwhile, understood us, but she was still not talking.

At the age of four, Dania was accepted into a government pre-school for autism, daily for three hours a day. They had singing, sports, drawing - all for autism kids. The school was one hour away from our home and there was a van to fetch them to school and they had a chaperon in the van to help with the kids. Maximum students per van and the class was six. That's the beauty of the early intervention programmes in Ireland. We had regular educational psychologist, occupational and speech therapists sessions - all free and funded by the government. There was also a horse-riding therapy for posture control, coordination, following instruction and many more benefits. She was then a happy girl, singing while riding on the horse.

We also saw she had singing and drawing talents, just the challenge was about speech. She could converse in monosyllables and then three words in a sentence, until now where she only talks when there is a need to. Now at 15 years old, she can tell us what she is going through, for example: "Dania is sick", "Dania is sad", "Dania loves mummy".

When she was six years old, going onto seven years, I started compiling all the reports from the various therapists and specialists. I told them that we had to prepare for our return to Malaysia and also asked them to provide us with a list of 'homework' for us to do to assist Dania. At that time, I was in two minds about returning to Malaysia. Apart from Dania, one of the considerations that we had to look into was my eldest daughter's education. She was turning 13 at that time and we were torn whether to stay in Dublin or start secondary education in Malaysia. I was also for few years managing everything alone there without my husband as he had completed his PhD after three years of our stay.

But one of the reasons that prompted us to make the decision to return was because the lifestyle and values over there were different. My daughter was exposed to sleepovers at friends' houses where they had dogs and consumed non-halal products. So being at that vulnerable age, we wanted to protect her from such exposures, at least until she was ready to ascertain the rights and wrongs about life in general.



At the same time, there was the decision whether Dania could go into Year 1 in Dublin or remained in autism school. If we chose the former, we would have to look for a shadow teacher for her, which was a difficult thing to look for around the school area. However, the school was a high-achieving school which has not had an autism student, they only had a Down Syndrome student at that time. I could see that it would be a stressful environment for Dania to manage, so instead of looking for another appropriate school in Dublin for Dania, we made the conscious decision to return to Malaysia.

Thus, in July 2012, we returned to Malaysia for good. We moved all our things and came back with our hearts full of excitement, yet worried about the unknown after being in our comfort zone in dealing with autism issues in Dublin. Upon our return to Malaysia, we placed Dania in the National Autism Society of Malaysia (NASOM) and she started Early Intervention Programme (EIP) in NASOM Titiwangsa, until today. We were fortunate that we could find a place for her. I am thankful that I had not started work then as I wanted to settle the kids' schooling in Malaysia, including Dania's. Thankfully, she seemed to adjust well while in NASOM. But the challenge was that Dania could not speak Malay at all. She could not even comprehend the phrases and words in Malay. While most of the teachers could not converse well in English, we were grateful that they assigned a teacher who could to Dania.

I was exposed to the understand of the education system, when I went up and down between the school and the Ministry of Education to see how best we could help Dania in her journey towards academia. The ultimate aim was for her to be able to sit for her UPSR. So we arranged for her to start with Program Pendidikan Khas Integrasi (PPKI), then to move on to mainstream education. While in PPKI, we also continued with her attendance in NASOM. And then we thought we could put her in mainstream in one or two years, with the aid of a shadow teacher.

When she was 12 years old, we thought she could progress to mainstream education, but that was UPSR year and she was not ready, so we put her in Primary four to prepare her for UPSR in two years' time.

We were fortunate that she adjusted well among her classmates, although she was the oldest student there. I got her few tuition teachers and because it was preparation for UPSR, there were a lot of work to do - school homework, tuition studies and homework and stuffs to do in NASOM. It required extra effort from me as well to keep up with her daily school and tuition homework, on top of my usual busy work schedule. Alhamdulillah, Dania managed well although the costs were high. Caring for an autism child is an expensive exercise as the future starts now. Thankfully, Dania was very disciplined, despite having lots of work. She would not shower when she came home from school, she would complete her work first. And it all paid off when she

passed her UPSR, no As, but C and D. Quite a feat for someone of her situation.

Nevertheless, I could see the stress she was undergoing with regards to her studies and homework. So, we made concerted decision to not place her in mainstream education for her secondary school, we wanted her to go for pure PPKI. We did not want her to go through the stress of having to sit for PT3. Alhamdulillah, now she is 15 years old and just started with PPKI stream in a school near our home. There was a break with the current COVID-19 pandemic. So she had only less than three months at PPKI secondary before MCO was implemented. But for those months, she loved the teachers and vice versa.

Reflecting back - Allah facilitated our journey with Daniea, alhamdulillah. Made me stronger, more patient. Allah gave us challenges, but He paved the way for us to look for the solutions.

THE ART JOURNEY

When Daniea was much younger, we did not really observe her talent in art. Among the items her therapists used was the magnetic board. Most times during lessons, she would have to write her alphabets, but when there was no lesson, she would just draw circles on the board. Then she started drawing people's faces, then their limbs and torso - ultimately it became a whole person. Then she migrated to smiling faces and she seemed happy when she was drawing.

So one of the therapists used her skill in drawing as part of the therapy. Reward concept - once she finished her task, she got a reward, either chocolates, drawing or toys. Then we started rewarding her with books. Among her favourites were Little Miss Sunshine and Mr Men series, Hello Kitty and Dora. Then she started drawing the characters from the books. These were the easiest. But the most difficult was the expressions of the faces. But the teacher taught her how to draw the expressions. From four years old, we saw her skill in simple doodling and sketches. That's how she started with art.

When we returned to Malaysia, I had to look for extra-curricular activities (ECA) for her. In Dublin, it was

piano, horse-riding, swimming and ballet. But in Malaysia, all these were expensive. So we started her with swimming class, and we wanted to look for a music centre for piano lesson, especially one that can cater for autism children. We found one music centre that also had art as part of the lessons. So we sent her to the centre, but on the first day, she had a meltdown. Maybe she was hypersensitive, like most kids with autism. They can be hypersensitive to noises, texture, light and darkness. So we were not sure what was the cause then. So we did not send her for the piano lesson. But we continued with the swimming lesson. Horse-riding was expensive, so we decided to look for an art centre that take in kids with special needs, and she went there for a year.

At the beginning, she drew with water colours, but she did not seem happy with water colours as it was not so vibrant. Ultimately, I found her a private art teacher that does painting with acrylic. She does it at her house, but the fees were costly. Even for assessment, it was expensive. And the first painting she tried out was a painting of a girl. It was so vibrant, and her choice of colours was good. So we decided to stop at the art centre, but continued with this private teacher. It was expensive, but at the end of the day, it was all worth it. Her paintings had market value.

I wanted to sell her paintings, but a part of me wanted to hold on to them. I would love to have as many people as possible to own Daniea's artwork. So I thought I could transfer her arts into merchandise. That's when we launched the KLCC and Penyu - t-shirts and fridge magnets. We started selling these at NASOM bazaars, for a good cause, to Tabung NASOM Titiwangsa.

When we started selling the merchandise, we realised that her paintings were expensive. She had put in a lot of effort in the drawings, thus we could not sell cheaply as it would not be fair on her. Although I reprinted them into smaller boards and tried to sell as cheaply as possible, the sales were not taking off. Then a dear friend suggested that we transfer the drawings onto hijab. We brought four of her designs and hand-printed them onto my own hijabs. I started wearing these hijabs and everyone was just complimenting them. So I decided to maintain the production of hijabs and sell these in a larger scale, and marketed it as DanieaArt. We started joining bazaars after bazaars, organised by NASOM, Autism Café Project, Art Market Malaysia, shopping malls, NGOs, Bank Negara Malaysia and many more. Her latest event was by Golden Screen Cinemas (GSC) at The Aurum Theatre, The Garden Mall, whereby GSC showcased her paintings for three weeks at the theatre. Presently, her merchandise are paintings, hijabs, travel sejadah, twillies, bags and notebooks. I haven't ventured fully into the business as my time is very limited, juggling between full-time job as a mother and an anaesthetist. I have no help in managing DanieaArt.



IN CONCLUSION

During this journey, there were a lot of sacrifices - time, energy, thoughts, money. I had to do this for when I am no longer around... and what if I am unwell later?

Thankfully her elder sister is sitting for her psychology degree, while her brother is doing Asasi Sains. In syaa Allah, I can depend on them to look after her later. They had attended the courses for siblings and we planted into them the feeling of love for Daniea. However, we have to try and lessen their responsibilities, so we taught Daniea life's skills. She is now independent, but I did not teach her to cook for fear of handling the knife and stove. If we want to go out, potential dangers are there and she has limited verbal capability, so she is still dependent on having someone with her.

DanieaArt does not bring in much of an income, but I am doing this more for her exposure - drawing and independence, and as a platform for her to bud, as well as an education fund for her. During all the events, often we had reporters interviewing us. Daniea has appeared on national TV stations and newspapers numerous times. It is also part of giving back to the society in raising autism awareness and acceptance. Daniea has produced around 100 drawings thus far. Public can purchase her artworks and merchandise via her Facebook page Daniea's Art and Instagram DanieaArt.

While there are friends and relatives around, it all depends on us. I hope to be able to further enhance her skills and exposure. So that ultimately, DanieaArt will provide that much-needed income stream as we are not sure if she is employable. Otherwise, there is always Plan A and Plan B and with the help of the Almighty, there is always a way, in syaa Allah.



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MyKETO Journey

By Dr Haslan Ghazali

I normally weigh 110kg. I am 180cm tall. That puts my BMI at 34 which is severely obese. I am also a type two diabetic thanks to a very strong family genetic of diabetes on my mother's side and all those years of gulping down carbonated sugary drinks. I was on two types of oral hypoglycaemic agents and at one point, my HbA1C reading was 10.8g/dL. I was worried that things might get worse and I had to do something about it.

My friend and colleague, Dr Navinsatku who is a very health conscious person, suggested for me to go on a Keto diet. Now for someone who has never been on any form of diet at all, keto dieting is something new to me. He explained to me what keto diet is all about. He has been reading up on it and has an in-depth knowledge regarding "ketoing" as I would like to call it. He was to be my mentor and partner in crime as he too was on the keto diet. Bit by bit I started to learn about keto diet and what it is all about.

Now, the theory behind it is quite simple. We are generally sugar burners which means we break down carbohydrates in our body for energy. By "ketoing" we are actually training or conditioning our body to get energy from breaking down fat (fat burner). The initial phase of this diet is quite stressful and requires a lot of hard work and discipline. For 20 days, I had to follow a strict keto regime which consists of high fat and protein with low carbohydrate intake. The carbohydrate intake is limited to less than 20g per day. This process will induce ketosis (such as when we are subjected to starvation). During this initial phase as well, you will develop what we call a "keto flu" where there will be influenza-like symptoms like fever and runny nose. Once the body has been primed to break down fat instead of sugar for energy, that is when you will start to have weight loss. Apart from that, your blood sugar levels would be well controlled as there are no more insulin spikes from the carbohydrate intake. This will slowly reset the pancreas to secrete insulin normally. This is why keto dieting is a good way of losing weight and reversing one's diabetic state. When I first began this diet, I weigh 110kgs but after about three months I dropped to about 98kgs. We also did intermittent fasting together with the keto diet. Breakfast would be a cup of black coffee blended with a slab of butter at 7.00am. Then lunch would be around 12.30 afternoon followed by a light dinner or just a cup of coffee in the evening. Now I would keto-diet for six days and treat myself to normal diet on Sundays. One thing I have noticed since starting this diet is that I am eating less especially for breakfast.

Breakfast used to be two 'roti telur' with a large glass of 'teh tarik'.

I am still "ketoing" and have tried some keto recipes which I got from the Internet. For your information, cooking keto recipes can be tedious and the ingredients are quite pricey and difficult to obtain. I normally get them from online shopping websites like LAZADA which are cheaper. Here I would like to share a recipe of "Salted Egg Buttered Prawn" which tastes great. So for those who would like to try this diet, happy "ketoing" and good luck. Information about this diet are aplenty on the Internet. "Keto Jules" is one of my favourite. Here is a recipe that I have tried. Not bad - do give it a try...

INGREDIENTS






300g	tiger prawns (or any other types)
3 stalks	curry leaves
200g	salted egg powder
200mls	cooking cream
2 tbsp	butter
2 tbsp	olive oil / avocado oil
3 tbsp	protein powder
1 tsp	himalayan salt
2 tsp	black pepper
1	egg

COOKING

Clean and dry the prawns. You can peel or leave the shell on. Mix the prawns with the egg. Season with salt and pepper. Batter the prawns with the protein powder and fry in an air fryer. In a pan, heat up olive oil and melt butter. Add the salted egg powder and curry leaves while stirring. Add in cooking cream and stir. Then add in the prawns and mixed well till evenly coated. Serve it hot garnished with some chilli flakes and parsley leaves...



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Tangani Mitos Melalui Medical Mythbusters Malaysia (M3)

By Dr Noorulhana Sukarnakadi Hadzarami

Pernah dengar tentang mitos mandi malam menyebabkan pneumonia? Atau pun cucuk hujung jari menggunakan jarum ketika mendapat serangan angin ahmar (stroke) boleh menyembuhkannya?

Terdapat banyak mitos atau salah faham kesihatan bertebaran di luar sana. Ada mitos yang tak berbahaya, ada juga mitos yang boleh mengancam nyawa.

SILAP MATA atau PENIPUAN tahap dewa yang mereka buat ke atas kita semua ialah:

(1) KAEDAH DIAGNOSIS COVID-19 yang sebenarnya LANGSUNG TIDAK TEPAT DAN TIDAK BOLEH DITERIMA oleh saintis dan pakar perubatan yang JUJUR;

(2) MAJORITI KEMATIAN yang TIDAK DAPAT DIBUKTIKAN 100% berpunca daripada virus covid-19. Majoriti kes kematian ini adalah mereka yang BERPENYAKIT KRONIK.

Seperti mana yang kita ketahui, pesakit kronik misalnya kencing manis memang MUDAH TERDEDAH KEPADA JANGKITAN KUMAN yang boleh membawa MAUT.

Asal sahaja pesakit kronik yang "kononnya" dijangkiti covid-19 ini MATI, ianya TERUS disahkan sebagai MATI AKIBAT COVID-19, dan dimasukkan ke dalam STATISTIK kematian akibat covid-19.

Padahal sebenarnya TIDAK SEMUDAH itu untuk mengesahkan. Para doktor lebih arif mengenai ini.

Kerisauan "Worldwide Lockdown" tercetus di kalangan sesetengah masyarakat dunia yang mengatakan ia bukan sahaja memutuskan rantaian

PROPAGANDA KOBIS_19

aku share posting dari 2 orang Prof & Doktor yang mempertikaikan KKM tiada pendirian, dan Kobis-19 adalah propaganda WHO.

KENA KENAL MUSUH & BELAJAR DARI SEJARAH

Baca ni.. pendapat beliau mmg sama mom apa yg aku expose selama ni:

nukilan Prof. Madya Dr. Mohd Rosni Bin Sulaiman (UMS):

Covid-19 sebenarnya hanya suatu ALAT oleh pihak-pihak tertentu demi mencapai DUA AGENDA jahat mereka yang LEBIH BESAR iaitu MENGAWALATUR populasi manusia seluruh dunia dengan menyekat segala KEBEBASAN HIDUP DAN KESTABILAN EKONOMI yang kita kecapi selama ini.

AGENDA yang kedua ialah membuat KEUNTUNGAN BCSAR-BESARAN selepas fasa-fasa PKP ataupun LOCKDOWN ini atas nama PERUBATAN DAN KESIHATAN menurut ACUAN mereka.

Masalah mitos ini dah wujud zaman berzaman. Bezanya sekarang, dengan teknologi media yang semakin maju, mitos-mitos ini tersebar luas sehingga masyarakat tak dapat membezakan adakah ia fakta benar ataupun palsu. Apatah lagi apabila nama doktor tertentu turut dikaitkan sebagai sumber fakta.

Kita tidak boleh memandang ringan semua mitos kerana sesetengahnya berbahaya. Contohnya fahaman yang dibawa oleh anti-vaksin. Atau petua apabila dilanda serangan penyakit berbahaya.

Pada 2019, WHO menyifatkan gerakan anti vaksin adalah antara 10 ancaman kesihatan berbahaya dunia. Dunia telah melihat kemunculan kembali kes-kes campak, batuk kokol dan difteria selaras dengan kemunculan gerakan anti vaksin.

Medical Mythbusters Malaysia (M3) ialah suatu pertubuhan melalui portal atas talian yang ditubuhkan pada tahun 2016 dan dirasmikan pada 2017. Ia terdiri daripada 54 orang doktor dan staf kesihatan dari pelbagai disiplin.



Saya adalah salah seorang ahli tetap M3 dan berbesar hati kerana dapat mewakili keluarga Anestesia & Rawatan Rapi.

M3 berperanan mengenalpasti mitos berbahaya di media sosial dan kemudiannya menjelaskan semula kepada netizen dengan fakta dan bukti sahih.

Setakat ini, banyak mitos dan salah faham kesihatan telah

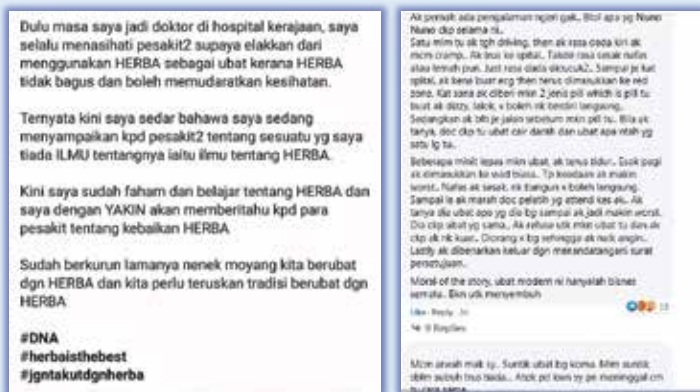
diperjelaskan melalui media sosial, ceramah orang ramai, ceramah atas talian dan juga melalui kaca televisyen dan akhbar. Pengikut M3 di Facebook terkini berjumlah lebih 220,000 dan bertambah setiap hari.

Adakah bidang anestesia dan rawatan rapi bebas dari mitos dan salahfaham? Tidak juga.



Antara mitos berkenaan anestesia adalah spinal dan epidural boleh menyebabkan sakit belakang yang kekal. Mitos terkini berkenaan rawatan rapi pula ialah ventilator atau mesin sokongan hayat boleh menyebabkan kematian.

Ada fitnah tersebar di media sosial yang doktor sengaja memilih pesakit tertentu untuk disambungkan ke mesin sokongan hayat supaya pesakit cepat meninggal dunia.



Ini adalah zaman dimana manusia yang tiada ilmu dan kepakaran bebas menyebarkan pendapat masing-masing. Malangnya tahap penerimaan pendapat tersebut bukanlah diukur dengan kebenaran tetapi dengan populariti isi kandungan dan penyampai berita.

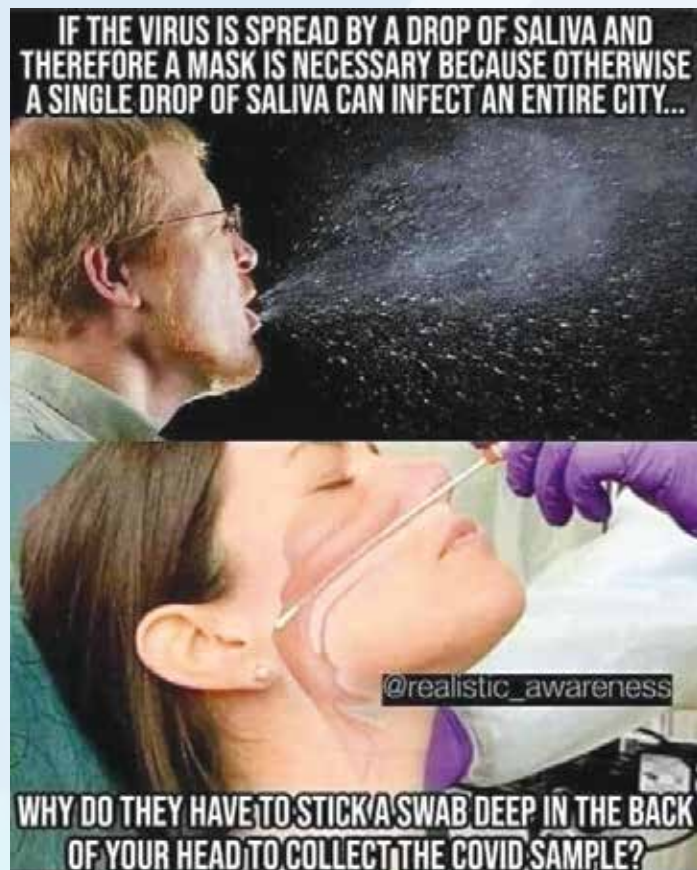
Lebih popular sesuatu mitos, lebih 'tulen' kebenarannya dimata masyarakat.

Lebih popular seseorang yang menyebarkan sesuatu mitos, lebih tinggi tahap kepercayaan dikalangan masyarakat.



Bolehkah kita tutup sebelah mata dan abaikan mitos-mitos sebegini? Adakah dengan membiarkannya berleluasa tidak akan memberi impak kepada perkhidmatan kesihatan?

Anda saja yang tahu.



The Land of Honey and Olive

By Dr Nazuha binti Mohd Najid

My first meeting with Professor Berrin Gunaydin was at the 1st World Obstetric Anaesthesia Conference in Bali, Indonesia in 2016. A few sessions of friendly chat during coffee breaks led to email correspondence and a year later I found myself in Ankara Airport, about to embark on my learning experience in Gazi University Hospital, Turkey as an obstetric anaesthesia fellow. Security was tight around the metropolitan area as it was not even two years since a coup d'état was attempted in Turkey against state institutions. I was welcomed by the only Malaysian student at Gazi University, the warm and friendly Naseeha. After settling all the formalities with the university administration followed by a meeting with the rest of the Anaesthesia Department of Gazi University staff, I settled down in one of the private student dormitories located about five minutes walk from the hospital.



With Professor Didem, pain physician of Gazi University Hospital. She was one of the judges for my case report presentation during the Turkish Anaesthesia Annual Scientific Meeting

(kahvalti) and coffee every morning before I sat down to write down my notes. I would munch *simit* (a round bagel like bread) with honey, cucumber, olive, with a hard-boiled egg and Turkish coffee. Breakfast is a huge deal in Turkey as I eventually learnt, and we often enjoyed it in a group before starting our clinical work. Often, the patient list for the day would be discussed during these breakfast sessions.

Labour suite rounds are done at 9.00am with my awesome faculty mentor, Professor Berrin Gunaydin and our second year anaesthesia residents. They typically did their rotation for a month. Professor Gunaydin gave updates and highlights from the latest obstetric anaesthesia research, case studies and reviews and we would discuss the patient cases with the entire team. While the operating rooms are prepared by the operating technicians (equivalent to anaesthesia assistants or CRNAs

My typical daily routine would begin with me starting my work at 7.00am to relieve the night residents. The maternity ward is located on the 9th floor of Gazi University Hospital. There are usually two residents on service during the day and we would split the patient list. I made sure I grabbed free breakfast



in the United States), we would visit our labor suite for epidural administration and reviewed patients who were receiving epidural analgesia. Professor Gunaydin has a keen interest in "dura puncture epidural technique" and was avidly collecting data on its efficacy as labor analgesia technique. Her vasopressor of choice for prevention of post-spinal hypotension during caesarean section is noradrenaline infusion. I was initially skeptic on the usage of noradrenaline infusion, solely due to the safety of administering it via peripheral intravenous access. However, throughout my nine months experience in the maternal operating theatre, I have not seen any detrimental effects of peripherally infused noradrenaline, mostly due to the fact that all intravenous access were ensured to be functioning well prior to starting vasopressor infusion and the fact that the dose infused were very low indeed.

We would start our caesarian section lists at around 9.30 to 10.00am. There are two operating rooms on the 9th floor in which Operating Room 1 is dedicated for elective lists and the other room for emergency cases. Residents would re-check all equipments to ensure the operating rooms are set up and all the epidural/spinal carts are appropriately stocked (both in the operating rooms and the labour suite). A typical, uneventful Caesarian section would take about 45 to 60 minutes and the list would finish around 4.00 to 5.50pm with a short lunch break of 20 minutes. All elective lists are done by specialists and assisted by clinical registrars. During summer, to allow staff to take their summer annual leave, the maternal operating room would be shifted to the general operating theater floor, which is located on the third floor of the same building. Caesarian section rate in Turkey is among

the highest in the world, exceeding over 40%. Obstetricians also rarely practise trial of vaginal delivery after Caesarean section, and more than half of my daily elective lists consisted of parturients with one previous scar. We would have, on a normal day, eight to nine elective cases and probably three to four emergency cases during working hours. The Obstetrics Department at Gazi University Hospital is a high volume center with a great number of high-risk parturients. There were moments when all the high risk cases would show up on the same day! Most are being managed in the maternal operating room itself unless the cases involved multidisciplinary teams, for example abnormal placenta cases or possible ECMO (Extracorporeal Membrane Oxygenation) requirement. With the high volume of Caesarean sections comes the high percentage of post-partum hemorrhages. Professor Berrin incorporated fibrinogen concentrate as part of her resuscitation algorithm in postpartum hemorrhage.



Refresher course in obstetric anaesthesia practical session

I was also able to perform monitored anaesthesia care (MAC) in an In-Vitro Fertilization (IVF) suite located at the fertility clinic. Due to the high volume of Caesarean sections, most residents would have an abundance of opportunities to perfect their neuraxial procedure skills and intubation of maternal cases. Throughout the day, the residents and I would alternate from providing anaesthesia care for Ceasarean sections, to placing epidurals on the laboring floor, as well as providing MAC for IVF procedures. We were also tasked with postoperative rounds the next day with Professor Gunaydin. Childbirth is an exciting time for couples and their family in Turkey. Entering the new parents' room, we would typically be greeted with rose water to clean our hand and an ample amount of chocolate and baklava as thank you gifts.

In November 2018, I was given the chance to participate in the Turkish Society of Anesthesiologists Annual Scientific meeting in Antalya, an insanely gorgeous Turkish resort city. I participated in a poster presentation of case report of a rare congenital neuromuscular disorder

which presented for a Caesarean section. I met various obstetric anaesthetists from all over Turkey, and other fellow obstetric anaesthesia trainees. The highlight of the meeting was meeting face-to-face with Professor Brandon Carvalho, a Chief of Obstetric Anaesthesia and Professor in the Department of Anesthesiology, Stanford University Medical Center, a renowned speaker and figure within the international obstetric anesthesia fraternity.



Winter in Ankara is absolutely beautiful, transforming the city into snowy wonderland



View from the obstetric floor - a stark contrast between summer and winter in Ankara

I was also able to join as a faculty member of two obstetric anaesthesia short courses led by Professor Gunaydin. There are two obstetric anaesthesia refresher courses held annually, attended separately by trainees and specialists who already qualified but needed further training in obstetric anaesthesia with two different set of skills syllabus. This courses are important for anaesthetists and trainees as some areas in Turkey are considered to be remote (eastern part of Turkey) and there is a lack of expertise in obstetric anaesthesia especially high risk cases or cases involving war refugees.

Overall, it was a once in a lifetime opportunity for me to not only gain skills and knowledge of obstetric anaesthesia in a foreign turf, but also to enjoy the hospitality, great Turkish cuisine, rich culture and beautiful, idyllic sceneries that make up the ever mystical Turkey.



With Anaesthesia first year resident from Azerbaijan and fellow anaesthetist during the Obstetric Anaesthesia short course

Hajj Medical Team 1440H/2019M

By Dr Raziman Bin Abdul Razak & Dr Mohd Rohisham Bin Zainal Abidin

Every year Lembaga Tabung Haji in collaboration with Ministry of Health Malaysia will assign staff to accompany the Malaysian *hajj* pilgrims. Medical personnel are to ensure that the pilgrims are in good health and be able to perform their pilgrimage.



Among the Hajj Medical Team who performed wukuf while working, in Arafah on 9 Zulhijah

For the 1440H/2019M pilgrimage, a total of 260 medical personnel were selected to assist the 30200 Malaysian pilgrims. Of that number, 50 were doctors including specialists and the rest were nurses, medical assistants, attendants, pharmacists, physiotherapists and laboratory staff. The medical staff were then rostered to three main areas, namely Jeddah, Medina and Mecca. However, before the day of *wukuf*, all staff gathered in Mecca for a week and together with the pilgrims performed *hajj*, while working in Arafah, Mudzalifah, Mina and Mecca. All staff as a whole would have served in the Holy Land for 60-80 days.

A total of 4 Anaesthesiologists have had the opportunity to be part of the *hajj* Medical team last year, namely Dr Mohd Rohisham bin Zainal Abidin (assigned in Jeddah), Dr Mohd Hafizi bin Mamat and Dr Noorazwati binti Ismail (in Mecca), and Dr Raziman bin Abdul Razak (in Medina).



The sick pilgrims at Pusat Rawatan Syisyah, Mekah were waiting to be taken to Arafah by the medical team

Anaesthesiologists recruited for the hajj duty are normally placed in critical locations such as the emergency ward and acute care areas. Our expertise in transporting critically ill patients also came in handy. Anaesthesiologists were also assigned to visit pilgrims who were admitted to the Saudi hospital for advanced care. This included patients requiring surgery, intensive care management and blood transfusion. We were required to monitor their progress and give updates to family members back home.

The *Hajj* ritual requires one to be healthy physically and mentally. Majority of the Malaysian pilgrims were elderly and with the very hot and dry weather in the Holy Land, it posed a great challenge to the medical team. The most common illnesses during the *hajj* season were upper respiratory tract infection and pneumonia. Many pilgrims also suffered from dehydration and heat exhaustion. There were also a significant number of patients who developed cardiovascular problems such as uncontrolled hypertension and acute coronary syndrome.

Among the challenges for anaesthesiologists were difficult intubation in the emergency wards and intensive care unit, and cardiorespiratory resuscitation on the ground in Arafah and Mina tents.

However, all challenges in the Holy Land were successfully overcome with the cooperation of all Medical and Tabung Haji staff regardless of age and rank. These challenges will surely be a sweet memory for all of us and we will definitely be ready to serve again in the Holy Land, God willing.

*Not to be forgotten, our beloved National Head of Anaesthesiology and Intensive Crae services, Dr Melor Mohd Mansor were also among the pilgrims last year.



Medical team pictured in front of Pusat Rawatan Madinah - still smiling despite being so tired



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*Reference: Dupont J, Tavernier B, Ghose Y, et al. Recovery after anaesthesia for pulmonary surgery: desflurane, sevoflurane and isoflurane. Br J Anaesth. 1999;82(3):355-359.

SUPRANE API

PRESENTATION: Suprane (desflurane) is a colourless, volatile liquid for inhalation containing 100% desflurane. **INDICATIONS:** SUPRANE (desflurane) is indicated as an inhalation agent for induction and/or maintenance of anaesthesia for inpatient and outpatient in adults and maintenance of anaesthesia in infants and children. **DOSAGE AND ADMINISTRATION:** SUPRANE (desflurane) is administered by inhalation. The concentration of SUPRANE (desflurane) should be delivered from a vapouriser specifically designed and designated for use with SUPRANE (desflurane). 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Suprane (desflurane) was shown to be a potential trigger of malignant hyperthermia. The clinical syndrome is signal led by hypercapnia, and may include muscle rigidity, tachycardia, tachypnoea, cyanosis, arrhythmias, and/or unstable blood pressure. Some of these non-specific signs may also appear under light anaesthesia: acute hypoxia, hypercapnia, and hypovolaemia. Treatment of malignant hyperthermia includes discontinuation of triggering agents, administration of intravenous dantrolene sodium and application of supportive therapy. Renal failure may appear later, and urine flow should be monitored and sustained if possible. Suprane (desflurane) should not be used in subjects known to be susceptible to MH. Fatal outcome of malignant hyperthermia has been reported with desflurane. **Perioperative Hyperkalaemia:** Use of inhaled anaesthetic agents, including SUPRANE (desflurane), has been associated with rare increase in serum potassium levels that have resulted in cardiac arrhythmias, some fatal, in patients during postoperative period. Patients with latent as well as overt muscular dystrophies, particularly Duchenne Muscular Dystrophy, appear to be most vulnerable. Concomitant use of succinylcholine has been associated with most, but not all, of cases. These patients also experienced significant elevations in serum creatinine kinase levels and, in some cases, changes in urine consistent with myoglobinuria. Despite the similarity in presentation to malignant hyperthermia, none of these patients exhibited signs or symptoms of muscle rigidity or hypermetabolic state. Early and aggressive intervention to treat the hyperkalaemia and resistant arrhythmias is recommended, as is subsequent evaluation for MH. **Paediatric Inhalation Induction:** SUPRANE (desflurane) is not indicated for use as an inhalation induction agent in children and infants because of the frequent occurrence of cough, breath holding, apnoea, laryngospasm and increased secretions. **Use in Children with Bronchial Hypersensitivity:** SUPRANE (desflurane) should be used with caution in children with asthma or a history of recent upper airway infection due to the potential for airway narrowing and increases in airway resistance. **Maintenance of Anaesthesia in Children:** Due to the limited data available in non-intubated paediatric patients, SUPRANE (desflurane) is not approved for maintenance of anaesthesia in non-intubated children. Caution should be exercised should SUPRANE (desflurane) be used for maintenance anaesthesia with laryngeal mask airway (LMA) in children, in particular for children 6 years old or younger because of the increased potential for adverse respiratory reactions, e.g. coughing and laryngospasm, especially with removal of the LMA under deep anaesthesia. **Obstetrics:** Due to the limited number of patients studied, the safety of SUPRANE (desflurane) has not been established for use in obstetrics procedures. SUPRANE (desflurane) is a uterine relaxant and reduces the uterine-placental blood-flow. (See **PREGNANCY AND LACTATION**). **QT Prolongation:** QT Prolongation, very rarely associated with torsades de pointes, has been reported (see **ADVERSE REACTIONS**). Caution should be exercised when administering SUPRANE (desflurane) to susceptible patients (e.g. patients with congenital Long QT Syndrome or patients taking drugs that can prolong the QT interval). **Precautions:** With the use of halogenated anaesthetics, disruption of hepatic function, icterus and fatal liver necrosis have been reported; such reactions appear to indicate hypersensitivity. SUPRANE (desflurane) may cause sensitivity hepatitis in patients who have been sensitized by previous exposure to halogenated anaesthetics. Cirrhosis, viral hepatitis, or other preexisting hepatic disease may be a reason to select an anaesthetic other than a halogenated anaesthetic. SUPRANE (desflurane) may produce a dose-dependent increase CSFP when administered to patients with intra-cranial space occupying lesions. SUPRANE (desflurane) should be administered at 0.8 MAC or less, and in conjunction with a barbiturate induction and hyperventilation (hypocapnia) until cerebral decompression in patients with known or suspected increase in CSFP. Appropriate attention must be paid to maintain cerebral perfusion pressure. In patients with coronary artery disease, maintenance of normal haemodynamics is important for avoidance of myocardial ischaemia. Marked increases in pulse rate, mean arterial pressure and levels of epinephrine and norepinephrine are associated with a rapid increase in desflurane concentrations. SUPRANE (desflurane) should not be used as the sole agent for anaesthetic induction in patients at risk of coronary artery disease or in patients where increases in heart rate or blood pressure are undesirable. It should be used with other medications, preferably intravenous opioids and hypnotics. During maintenance of anaesthesia, increases in heart rate and blood pressure occurring after rapid incremental increases in end-tidal concentration of SUPRANE (desflurane) may not represent inadequate anaesthesia. The changes due to sympathetic activation resolve in approximately 4 minutes. Increases in heart rate and blood pressure occurring before or in the absence of a rapid increase in SUPRANE (desflurane) concentration may be interpreted as light anaesthesia. Hypotension and respiratory depression increases as anaesthesia is deepened. SUPRANE (desflurane), like some other inhalational anaesthetics can react with desiccated carbon dioxide (CO₂) absorbents to produce carbon monoxide which may result in elevated levels of carboxyhaemoglobin in some patients. Case reports suggest that barium hydroxide lime and soda lime become desiccated when fresh gases are passed through the CO₂ canister at high flow rates over many hours or days. When a clinician suspects that CO₂ absorbent may be desiccated, it should be replaced before administration of SUPRANE (desflurane). As with other rapid-acting anaesthetic agents, rapid emergence with SUPRANE (desflurane) should be taken into account in cases where post-anaesthesia pain is anticipated. Care should be taken that appropriate analgesia has been administered to the patient at the end of procedure or early in the post-anaesthesia care unit stay. Emergence from anaesthesia in children may evoke a brief state of agitation that may hinder cooperation. As with all halogenated anaesthetics, repeat anaesthesia within a short period of time should be approached with caution. Facilities and equipment for maintenance of a patent airway, artificial ventilation, oxygen enrichment and circulatory resuscitation must be immediately available. **PREGNANCY AND LACTATION:** Due to the limited number of patients studied, the safety of SUPRANE (desflurane) has not been established for use in obstetric procedures. SUPRANE (desflurane) is a uterine relaxant and reduces the uterine-placental blood-flow. There are no adequate data from the use of SUPRANE (desflurane) in pregnant or lactating women. Physician should carefully consider the potential risks and benefits for each specific patient before prescribing SUPRANE (desflurane). Date of revision: September 2019

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MY12/20-0022

TRUE MEMOIRS OF THE "ICU COVID-WARRIORS"

By Dr Anand Kamalanathan

"Life is not measured by the number of breaths we take, but by the moments that take our breath away" - George Carlin

Nearly six months ago, the world was in the grips of a panic over a seemingly mysterious illness - one the World Health Organization (WHO) names as the Coronavirus disease (COVID-19). Today, this pandemic has infected more than 7 million people and killed 400,000 innocent lives which is more than SARS, MERS-CoV and the haemorrhagic fever Ebola, all combined. Never could any of us have imagined being part of a special group of personnel braving through a catastrophe of such magnitude. This poignant recollection captures memories of our brave soldiers from the Department of Anaesthesiology and Intensive Care, Hospital Sungai Buloh.

"January brought the sun, made our ankles and feet run"

When news broke in late January 2020 of the first four cases involving foreigners in Malaysia, we were naturally apprehensive but not alarmed. After all, the aforementioned diseases of the previous years barely scratched the surface of our Malaysian population. Nevertheless, none of us knew what to expect, but we vigilantly prepared for the worst. Dr Shaiful Azman Zakaria, our Head of Department, assisted by Dr Angeli Quah Aun Chyi with other HODs have started to devise a contingency plan.

Dr Lee Chew Kiok, our Consultant Intensivist, began executing the ICU workflows, entry and exit points with the help of our infectious diseases team and engineers to be compliant with international safety standards. She also



'Heavy is the head that wears the Crown' - as sacrifices come with the great responsibilities that leaders have to bear.

kept us abreast with the latest and most informative articles on COVID-19 as they were instructed to arm us with the knowledge to succeed.

"February brought slight rain, but the umbrellas kept us sane"

The Chinese authorities from Wuhan, China identified this novel coronavirus and it was initially named "2019-nCoV". This new strain possessed similar characteristics to the SARS outbreak first reported circa 2003. Over the next few days in mid-February, Dr Lee and the infectious diseases team began organising practice drills of our routine lifesaving procedures such as endotracheal intubations, cardiopulmonary resuscitations (CPR) and transportation of critically ill patients, but this time with the added burden of an uncomfortably overbearing and physically restricting Personal Protective Equipment (PPE) suit whilst following strict guidelines.

Dr Engku Naim Engku Nasir recalls having to practise holding his breath during these drills whilst forcefully increasing his naturally limited vital capacity during intubations. Thankfully, many of the patients in this first wave were not too ill or did not require much (very little) ICU support, and so we thought the worst times were over. By the end of February, our team of doctors and nurses were better prepared and our work environment appeared calm and routine.

"March brought lightning and thunder, and very little time to ponder"

Then, the second wave in March came and hit us. Patients were turning up fast, furious and so infectious that our ICU admissions averaged three to five daily with critically ill patients being admitted for weeks. The majority of patients required multiple cardiac, respiratory and renal support.

We were presented with a rapidly evolving novel disease which we knew very little of and was time-sensitive that we needed to upgrade and learn on a daily basis to protect ourselves. We had a steep learning curve as a lot of information was coming in, in real time, and there was very little margin for error. Thus, Dr Ivy Sim guided by our Intensivist was tasked with finalising our HSB ICU COVID-19 protocol.

Predominantly, our most ill patients came from the "tabligh" cluster, a congregation of religious preachers who did not often receive favourable mention from the public or our media. In truth, many of these God-fearing men were some of the humblest, gentlest and respectful human beings one could find and were mostly compliant to our advice and treatment. Like us, they too were scared of the unknown but Dr Norjamiza Che Jamil passionately inspired us to keep on fighting for the sake of our people and for our country - *"Only Allah knows the despair we had to face and the struggles we encountered handling these patients, Lillahhitaala. Nothing else matters"*.

Dr Shyamala V Kumar recalls the most terrifying moment of her life when she rushed up to the wards after receiving a distress call in the wee hours of the morning. She was forced to don her PAPR in record time to intubate a collapsing COVID patient. As she was preparing, the very thought of him dying in her capable hands caused goose bumps and nightmares with countless sleepless nights in the ensuing weeks.

Dr Reynuga Krishnan shares a similarly horrifying experience in which niggling persistent thoughts of failing to intubate a patient plagued her mind moments before attending to patients. Tracheal intubations in these critically ill patients were done using PAPR which was a foreign experience to us all in these early days.

By mid-March, our services expanded exponentially from 42 beds in two wings of ICUs to taking over the Burns Unit, Cardiac Unit and the Daycare OT with a total of 104 beds as the demands for negative pressure isolation rooms grew. We were so held up at work that even our tiredness grew tired from the frequent donning, doffing and showers. After donning up with PPE, those with small bladders and short bowels were forced to contract their sphincters for hours at a stretch as supplies were limited

and a trip to the washroom an utter waste of resources. Luckily, we had Dr Huwaida Abdul hamid, who so eloquently reminded us daily to 'relieve and ease' ourselves with her *"Wei, dah kencing kah belum?"* mantra before entering the ICUs. These moments of banter proved a quick albeit temporary remedy to our discomforts, ones we still cherish and laugh till today.

Even through these darkest days, the fire in the bellies of this Department continued to burn but, alas, the human spirit can only endure so much as far as mental and physical fatigue is concerned. By the end of March, we were drained, running at full capacity and on the brink of a burnout. Dr Theng Ken Ping remembers having showered a total of 17 times in one day and turning a shade lighter in the process after doffing each time. Eerily, he was found passed out cold from sheer exhaustion in the shower by another colleague. The heavy duty task of saving lives can be stressful and take its toll even on the strongest of hearts.

Napoléon Bonaparte once dictated "In war, morale forces are to physical as three to one. Without morale, you have no victory." Keeping this in mind, I and my team of swashbuckling cavaliers drew inspiration from social media and embarked on a project we called "Stay Positive But COVID-Negative" to uplift the dwindling morale of all healthcare workers in HSB. Together with help from well-wishers in the media and private sector, we filled the entire walkway from the Daycare Unit up till the entrances of all four COVID-ICUs with powerful messages, colourful banners and thought provoking posters. Walking to work while glancing over these visual aids gave us strength and reignited our determination for patient care. Soon this fire of positivity spread to various other parts in the hospital, hopefully inspiring more frontliners to stay the course and fight the good fight.



Even though clad in full PPE, our staff were understandably petrified of disease transmission to their young children, elders and ill family members. The vast majority of us stayed away from our family for months, some even up till today. Moreover, aerosol-generating procedures are our bread and butter in the ICU but carry the highest risk of virus transmission, so we had to reflect inwards to find the courage and strength to constantly assure ourselves of our protocols.

Matron Sri Jayanthi bore most of the brunt, worries and burdens of her nurses on her shoulders; especially after one of her dear staff was infected with the virus. After a large number of her nurses were quarantined and in constant fear, she showed leadership par excellence in regrouping their morale and arranging urgent nursing manpower, ably assisted by her courageous team of ICU sisters. They were vital cogs in the restructuring of the common zones, the pantry and prayer areas to be compliant to social distancing for staff protection. She enforced strict rules and discipline and this ensured no other ICU staff were ever infected or quarantined again.



"April brought order, and closed down our border"

April was just reward for all our hard work and prayers. When the government announced the Movement Control Order on 18th March, we were worried if the Rakyat could come together as one Nation and stay at home for a good outcome. 'But cometh the hour, cometh the man' (and women!) Our persistent faiths in the good of all Malaysians were steadily emboldened by many incidences. Drove of volunteers from around Malaysia began helping the needy, poor and less fortunate without any racial or gender discrimination. Our hard working



team was rewarded many times with tokens of gratitude and appreciation including medical equipment, whole-hearted meals, snacks and daily essentials from recovered patients, well-wishers and even from our DYMM Seri Paduka Baginda Raja Permaisuri Agong.

We also had volunteer consultant intensivists, anaesthetists, doctors and nurses from other Government and Private hospitals leave the comfort and safety of their own practices to join us in the battlefield and wage war as the last line of defence. Seeing the passion in their eyes and the nobility of their hearts in genuinely lending a helping hand truly revitalized our spirits. Their arrival truly eased our burden by leaps and bounds.



As more volunteers came in for varying durations, and some of our staff were left out after being quarantined, Dr Zezy, our beloved roster maker, faced the daunting task of rearranging the dynamic daily roster to accommodate the ever-changing list of personnel and demands at work. But she never once fussed and went about her duties with a smile, often singing this out aloud-

*COVID, COVID Bila nak habis ni?
It's really hot and sweaty in the PPE,
Once we don, we're stuck for hours inside,
So we're really glad to get help from 'outside',*

*Please see your names on the roster right,
There's so many of you the space is getting tight,
Oh God, I seek help from You and only You,
Bless me now and forever, and everyone else too...*

"May brought winds that danced on the sea, finally we had time to sip on tea"

Fortunately, by May, it was plain to see our entire hospital handled this outbreak excellently. The number of cases started declining; the number of survivors progressively increased and the pivotal aetiology for this was due to everyone embracing the spirit of togetherness, culminating in the best outcome in our country.

Dr Eng Kar Seng echoes that stepping into a COVID ICU managing the critically ill with limited supporting evidence was definitely a daunting task for him as a budding new intensivist. Taking all these in our stride, we managed to help and count on each other in trying times and pull through relatively unscathed. Magnanimously stressful, yet an enriching experience but hopefully only once in a lifetime.

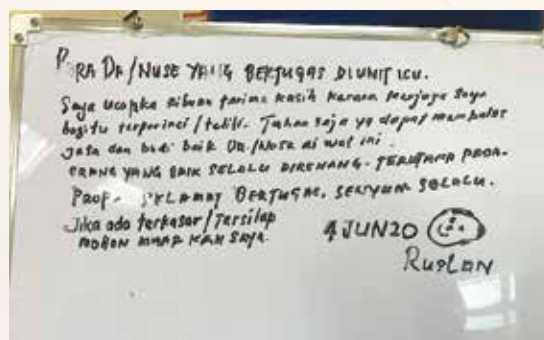
But the sad truth is, we, the staff of ICU, may be the last human contact an ill COVID-19 patient sees. Dr Lee Chew Kiok constantly reminds us, that many of our patients

who successfully recover will eventually suffer long-term physical, mental and emotional disturbances. Countless days of isolation and minimal human contact due to infectious precautions have left them with varying psychological issues which may persist for years.



Dr Ramona Maya Paron sadly recalls "One memory that will always stay with me is the conversation I had with a patient when he woke up after being sedated for weeks. He was full of questions: Could you help me get a shaver? Do you know where my wedding ring is? How can I get a ride back home? Sadly despite all our efforts, hopes and prayers - this gentleman lost his battle. I hope his family knows how brave he was - a fighter till the end."

Our dearest patients that succumbed to their illnesses regretfully did so alone. As per national policy, their family members were not allowed to be by their side during their last dying breath. This serves as a chilling reminder on the fragility of life. If ever there was a positive life lesson to emerge from this cataclysm, it is that we have to appreciate each other so we can all make it through alive, kicking and stronger than ever before. We still have a long and tiring road to recovery, and this fight is not over yet. But together, as one - HSB has shown that "Malaysia, KAU BOLEHI!"



COVID-19 PANDEMIC SABAH STATE RESPONSE

By Dr Gunalan Palari Arumugam

Once again, as we were just about to breathe a sigh of relief that the 1st and 2nd wave of the COVID-19 was about to end and the curve was somewhat flattened, the Sabah State elections occurred. With that, a sudden surge of COVID-19 cases was documented. The members of both the Malaysian Society of Anaesthesiologists as well as the College of Anaesthesiologists, Academy of Medicine of Malaysia responded swiftly to assist our colleagues especially those based in Kota Kinabalu, Lahad Datu, Sandakan and Tawau.



A quick donation drive was initiated and funds to the sum of RM 40000 was collected and five PAPR devices were purchased and distributed to the respective hospitals. We express our thanks to our members as well as Dato' Dr Jahizah Hassan, President of the College of Anaesthesiologists, Academy of Medicine of Malaysia and Professor Dr Marzida Mansor, President of the Malaysian Society of Anaesthesiologists for their initiative and approval to get the much needed equipment to our colleagues who are at the frontline of this battle



Angel in Disguise

By Dr Khairul Iqaan Luqman

I do not consider myself a **frontliner** like most people label us to be. I would rather call myself a last liner, because of the nature of my job, taking care of critically ill COVID patients in ICU. I am their last hope, when they already have met the frontliners; the ED team and the one who is in charge of the COVID ward, but their condition was bad and required ICU care and admission. We, the ICU COVID team, are the last liners when the COVID-positive patient deteriorates and they are at the thin red line between life and death.

SEPTEMBER 2020

There were three positive COVID patients in ICU COVID Hospital Tawau. One ventilated and the other two non-ventilated only requiring oxygen support N/Prong 4L/m and High Flow Nasal Cannula (HFNC). At least the situation was still under control as far as I can remember, in terms of ICU COVID admissions. One ICU admission every two to three days. The patients were mainly from the Benteng Cluster (Lahad Datu) and later the intubated patients came from the Pulau Cluster (Semporna).

We prepared for the 3rd wave just like how we were prepared for the 1st and the 2nd wave. We thought the

preparations were adequate this time since we had already experienced it before back in March. ICU beds were already emptied up to 18 beds by taking over our next door PICU (4 beds) and CCU (4 beds), plus 10 beds from our own ICU. Ventilators were adequate and available and unused from the 1st wave since we got them. Staff nurses (SN) were on standby mode, and back then, we allowed only two staff nurses to be inside COVID ICU for four hours before changing shifts with their colleagues. There were only three patients at that point in



time. One specialist will be in charge of COVID ICU, OT and referral. One MO on call will cover the COVID ICU, one MO covers COVID OT and one MO covers COVID cases during office hour. PPE for donning was also adequate.

We assumed that the disease would not spread so fast. We kept thinking it would be like before, hoping it would be gone after a few weeks like the previous waves. I remember there were only one COVID death in Hospital Tawau since the first wave, from the Tabligh Cluster, and the deceased (may Allah grant him Jannah) was intubated for nine days in COVID ICU Hospital Tawau. He was the 3rd COVID death in Malaysia. After that, there were a few positive COVID patients in ICU, not requiring invasive oxygen therapy and they were all discharged well after a couple of weeks. The number of cases also came down and we were back to function normally as per pre-COVID era.

Our assumptions turned out to be wrong. The number of cases kept on increasing. ICU referral was a daily affair, and some patients were very sick and died. To make things worse, Sabah was heading for its State Election on the 26th September 2020. I cried within myself anticipating the worst. I was quite sure my other respected colleagues also thought the same. There were a lot of factors that was working beyond our control and we were resigned to the fact that the numbers of positive COVID patients will only continue to rise.

OCTOBER 2020

Even though the bed capacity in ICU was for 18 patients, we were initially overwhelmed. Amidst the feeling of tiredness, we had to accept almost daily ICU admissions averaging two to five admissions per day and also countless peripheral referrals of COVID patients with oxygen support that needed to be reviewed. It was chaotic. Many were intubated, as well as those with oxygen saturation hovering between 85-90% under Facemask and needed High Flow Nasal Cannula. Unsurprisingly, we noticed that most of our patients' index fingers were purple not because of cyanosis but because of ink (post-election).

We begin our ICU rounds very early everyday and came out from ICU only after 5.00pm, sweating and tired after a

whole day of being inside the PPE. Additional nurses were sent to ICU but most of them were new and from other departments with no ICU training/knowledge. As such we had to guide most of them at the same time as we treated the ICU COVID patients. Occasionally the OT may also call us to induce patients especially under GA. Most of our MOs were exhausted, but they never complained.

Then came an intensivist from Hospital Tengku Ampuan, Klang, Selangor, Dr Lee See Pheng. He established a system for us so that we could work better, be more efficient, but without compromising the quality towards the patient's care. He showed us good leadership and guided us towards the correct path to counter this pandemic and cope with it. He asked for more nurses, one nurse for two patients, with one MO posted inside COVID ICU at all times (shift system of course). He emphasized the usage of technology to deal with the documentation; by using tablets, laptops, PCs and internet! It was suddenly all computerized in COVID ICU Tawau, which we never thought of before. We went paperless!

Every day at 7.00 am we did a quick but thorough round with Dr Lee. I learnt a lot by joining rounds with him and felt honored to do so. His enormous experience and unquestionable skill in managing patients in ICU made it easy for all of us. Since then, more MOs and anaesthetists from Semenanjung were deployed to Tawau. To my dear colleagues, Dr Fakhzan (HKL), Dr Siti Sainira (HKL), Dr Hafizzi (HKL), Dr Farah (HSNZ) and those who came earlier, Dr Menaga (Likas) and Dr Anne (HQE), your assistance during this crisis was really appreciated. We felt like the burden was shared and we were not left alone in combating this craziness.

Lastly, up to this time, at Hospital Tawau COVID ICU, we are still here, all six anaesthetists, namely Dr Chia Peh Wui, Dr Yee Jun Vui, Dr Nagappan a/l Ganason, Dr Lim Shin Hoei, Dr Teng Hung Xin and I, providing and serving our best to the severely affected COVID patients in Sabah, when they are at that thin red line between life and death. May Allah bless all our honorable work, as the ***last liners!***



Ask What You Can do for Your Country Part Deux

By Mafeitzeral Mamat

When we all thought that this COVID-19 pandemic is slowing down, by early September 2020 the numbers were creeping up from East Malaysia. Hence it was the start of the overwhelming third wave. Helter skelter all around Malaysia! We were back to CMCOs and Malaysia came to a halt again. With this wave hitting Sabah, it definitely overwhelmed the healthcare system and again we were back to square one fighting this vicious virus.

I decided to join an NGO (IMARET) this time around as a volunteer to help out with the exhausted fellow frontliners in Semporna, Sabah. I was well aware of what I would be going through especially coming to the red zone and hotspot area that started the third wave.

I knew the expectations of the mission hence it was not an issue if the deployment involves me to do other things than anaesthesia and intensive care. We are doctors first after all. IMARET's deployment was to assist the Health District Office (PKD) with their testing. They were certainly down with manpower on our arrival because a large number of staff got infected! This was despite the full precaution they took whilst on the field. The virus was in the community and we were advised by the Head of PKD to be careful and "trust no one, everyone here is a suspect until proven otherwise".

IMARET brought with them 1000 kits of RTK Antigen and it was of big help to the PKD. In the mission training one day prior to deployment, we were taught how to perform the test so that we could set up our open lab in the field. This was a big help as PKD needed to sweep the islands and with our capability we could provide them with the data of positive COVIDs detected instantly.

IMARET team was given the task to assist the PKD team to test for patients in the Islands. It would be of big help if we could detect new clusters so that we can contain and control the spread as per public health principles. In Semporna there are 43 Islands where 26 are inhabited. It was certainly a new experience for me donning up PPE in the scorching sun of the sea! I have never imagined that I will be enjoying the beautiful nature of the beautiful islands of the world in PPE!

Being on ground zero it made me realise that what the Semporna people are facing is totally different from what is faced by those in the Peninsula. There are big

BH AHAD 25 OKTOBER 2020 9

Nasional

Penularan COVID-19



Dr Mafeitzeral (kanan) bersama barisan hadapan ketika bantu pasukan perubatan, di Semporna. (foto ihsan FB Dr Mafeitzeral Mamat)

Diancam dengan parang, penghuni lari elak saringan

Petugas kesihatan tetap cekal hadapi cabaran di Sabah

Oleh Suzalina Halid
suzalina@bh.com.my

Kuala Lumpur: Diancam dengan parang dan terpaksa memujuk penduduk yang lari, antara cabaran perlu ditempuh petugas kesihatan dalam barisan hadapan yang mencurah khidmat memerangi COVID-19 di Sabah.

Bagi Dr Mafeitzeral Mamat, 44, yang secara sukarela menyumbang khidmatnya di Semporna, cabaran sedemikian memerlukan petugas belajar mendekati penduduk dengan cara tersendiri kerana gaya serta budaya hidup mereka berbeza dengan penduduk di Semenanjung.

Pakar bius di Gleneagles Hospital Medini, Johor itu, berkata mereka perlu menggunakan pendekatan psikologi berbalik (*reverse psychology*) ketika menjalankan saringan terhadap penduduk di daerah berkenaan.

Menyertai misi Pasukan Respons dan Bantuan Persatuan Perubatan Islam Malaysia (IMARET) ke Semporna sejak 15 Oktober lalu dan dijadual berkhidmat selama dua minggu, Dr Mafeitzeral mengakui beliau berdepan cabaran di luar jangkaan.

Antara pengalaman yang tidak mungkin dapat dilupakan, katanya, apabila sekumpulan penduduk di sebuah perkampungan di Semporna 'melarikan diri' ketika saringan ingin dilakukan pasukannya.

"Sebelum ini, ada status nular di Facebook yang menyaksikan penduduk kampung di Semporna lari ketika dihampiri pasukan perubatan. Ramai enggan sampel diambil dari hidung kerana terpengaruh dengan cerita menakutkan sebelum ini," katanya ketika dihubungi BH, semalam.

Bapa lima anak ini berkata, tugas pasukan perubatan barisan hadapan tidak mudah, malah ada yang pernah diancam dengan parang.

Namun, Dr Mafeitzeral menegaskan, semua halangan itu tidak menatalihkan semangatnya menjadi antara sebahagian petugas yang menyumbang tenaga dan berada dalam lipatan sejarah bagi menumpaskan pandemik itu di Sabah.

"Ini kali kedua saya menyertai misi COVID-19. Kali pertama pada Mac lalu di Hospital Sungai Buloh, namun pengalaman kali ini berbeza dan menarik. Untuk mendekati penduduk ada cabaran tersendiri.

"Kita tidak boleh paksa mereka kecuali menggunakan psikologi berbalik atau datang pada hari berikutnya selepas percubaan kali pertama gagal," katanya.

Pada masa sama, Dr Mafeitzeral berkata, rasa gembira sukar digambarkan apabila mengetahui tenaga dan keringatnya amat dialu-alukan pasukan petugas barisan hadapan di Semporna yang tidak menyangka tangan 'mengendalikan' kes COVID-19.

Katanya, beliau juga dapat merasai pasukan perubatan di daerah itu sudah 'kepenatan' dan amat memerlukan bantuan.



Sukarelawan misi COVID-19 ketika berkhidmat di Semporna.

Newspaper cutting 25/10/20

geographical and sociocultural factors involved and handling the patients need a different approach as compared to what is done in the Peninsula. Any method that may have worked there may not necessarily work here. I find it as a real eye opener especially to be on the ground and face what the frontliners had to face here.



Boat ride with PKD (Team IMARET)

There was an interesting incident where on our arrival to one of the islands, the locals ran off literally! There were on their boats to the sea to escape when we were there to just take test samples to identify their COVID-19 status.

Upon the request of the MOs who served Hospital Semporna, I was on the latter half deployed to the hospital in order to utilise my expertise. The Emergency Department has been very busy intubating Category 4 and 5 of COVID-19 patients to be stabilised before sending to Tawau Hospital which is 1.5 hours away. I have to salute them for their tireless effort and dedication but when I saw them they looked drained and tired.



One of the Semporna Islands

In a meeting with the Director of Semporna Hospital, he enquired if I could assist him to revive anaesthetic services in Hospital Semporna that was discontinued since 2007. I was more than glad to help as coincidentally it was one of the things I do in starting up OT either a proper modern establishment or in field setting. Hence it was very challenging to prepare the 50 years old theatre to fit in the brand new anaesthetic equipment they received because of this pandemic.

While writing this, I am in the midst of preparing for the first case to be done in this theatre. The pressing need is for LSCS as the load in Hospital Tawau is too much to handle. Patient safety is always our priority and Insha Allah, resuming anaesthesia services in Semporna Hospital will benefit Semporna people in the coming future.

#KitaMestiMenang

#KitaJagaKita



Rounds and CME with MOs in ED



Island mass screening



Sometimes I am just a runner



Drenched in sweat post screening



OT team Semporna meeting with the Tawau O&G team



Doffing



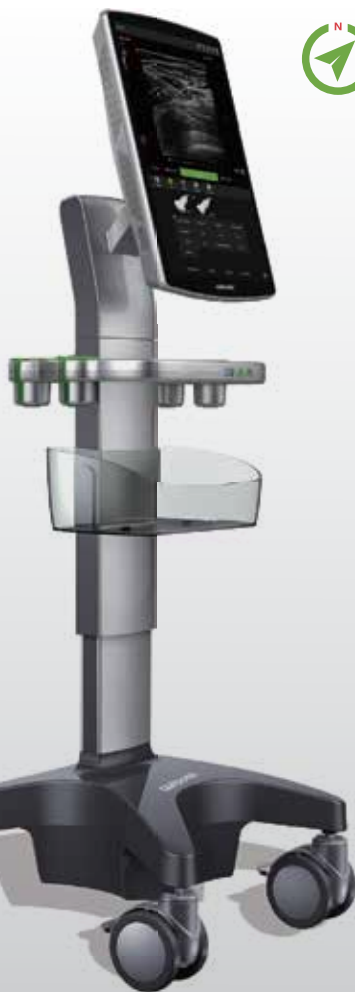
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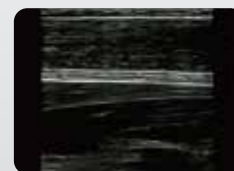
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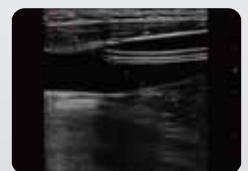
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Don't Let PREVENTT Prevent You from PBM

By Dr Kevin Ng Wei Shan & Dr Mohd Muhaimin Kambali

The much-awaited results from the PREVENTT trial¹ was recently published and its conclusions have shaken the world of Patient Blood Management (PBM). The trial results showed that the administration of preoperative intravenous iron therapy did not achieve the primary endpoint of reducing red blood cell transfusions for anaemic patients prior to major surgery. Ironically though, it did demonstrate statistically significant (and clinically relevant) reductions in post-operative outcomes - namely reduction in infections. We hope to help shed some light on perhaps why the endpoint was not achieved, as well as discuss how the findings are still relevant to our practice and can further guide the use and highlight the importance of IV iron (in a PBM) programme within in the perioperative setting.

First Things First - What is PREVENTT?

PREVENTT was amongst the largest clinical trials to assess the efficacy of preoperative intravenous iron to treat anaemia before major abdominal surgery. It was conducted in 46 tertiary centres across the UK and enrolled 487 patients between 2014 and 2018. The study was a double-blinded randomised controlled trial with patients to receive either IV iron (1,000mg iron in 100ml normal saline) or placebo (normal saline - similar volume).

The baseline population was evenly matched with patients of an average age of 65 years old, nearly 50:50 men and women, largely Caucasian and with an ASA grade of II for 60% of the cases. The most commonly included surgeries were upper GI and gynaecological and just over 20% having received pre-surgical chemotherapy. In terms of anaemia, most (55%) of the patients had a pre-surgical Hb concentration greater between 10-12g/dL. Approximately one quarter had concentrations above 12g/dL and the rest (<20%) had a baseline Hb <10g/dL.

Somewhat surprisingly, iron deficiency was not an inclusion criteria and whilst the exact iron parameters were not shared in the manuscript, it can be deduced that less than one third of the included patients had serum ferritin less than 100ng/mL or TSAT <20% (the generally accepted criteria for confirmation of iron deficiency in such a population).

What went Wrong and, More Importantly, Why?

This sub-title is probably not fair as nothing really went wrong with the study as it was very well conducted and run. However, many seem to think that failing to achieve the primary endpoint equates to IV iron not working in this population. Here we try to explain just a few reasons why such an interpretation should not be made:

- Subjects who received IV iron were mostly NOT iron deficient. At best 50% of patients may have had low iron stores (i.e., serum ferritin <100ng/mL and/or TSAT <20%) but there is no doubt much fewer would be iron deficient if the values of serum ferritin <30ng/mL OR <100ng/mL in combination with TSAT <20% as defined in the International Consensus guidelines were being used.
- The baseline Hb was 11.5g/dL with <20% of patients having a Hb <10g/dL. The administration of IV iron to an iron deficient AND anaemic patient will generally result in the Hb improving by approximately half of the difference to "normal".² In other words, an anaemic patient with Hb 10g/dL receiving IV iron (~1000mg) should increase the Hb by 1.5g/dL (i.e., to 11.5g/dL) after two weeks and normalise by four to six weeks at ~13g/dL.

Patients enrolled in PREVENTT had an average baseline Hb of 11.5g/dL and the administration of IV iron was given ~two weeks before surgery. Based on the above we expect an increase of ~0.75g/dL. Unsurprisingly this is what was observed in PREVENTT.

- No transfusion trigger or guidance was provided in the PREVENTT study. This is likely one of the most significant limitations with the study. PBM includes multiple pillars^{3,4} but unfortunately PREVENTT was focussed on only one element of PBM, albeit one of the key elements, and the trial did not have any restrictions on transfusions. In the time frame that the study was conducted (2014-2018) the use of RBC transfusions followed a more liberal approach so the participating Investigators cannot be criticised for following their routine practice. Remember, the Investigators were blinded and did not know which patients had received iron and had the building blocks to enable effective postoperative erythropoiesis. Unfortunately, the transfusion trigger was not defined in the trial, as well as the degree of anaemia before RBC transfusion was ordered. This may be key areas for further discussion and studies to be done.
- No post-op iron was administered to account for loss during the procedure. Whilst this is unlikely to have had a significant impact on the outcome it is an important aspect. Transfusions increase the Hb but do not improve iron levels⁵ and hence the short-term

increase leaves patients susceptible to both short and long term consequences of ID.

It is important to remember that when this study was developed, this appeared to be a way to prove / disprove the role of IV iron. Obviously, hindsight is a wonderful thing so we can now see some of the pitfalls of using this to change routine practice.

A Negative Study but with Positive Patient Outcomes for Those Receiving IV Iron

The study does provide important points relevant for clinical practice, including data that IV iron (effectively given prophylactically) does not have safety concerns when administered to anaemic patients ahead of major surgery.

But perhaps more importantly, the use of IV iron in this population demonstrated a significant reduction in readmissions to hospital in the eight weeks following surgery. The number of patients readmitted for post-op complications was 22% in the placebo group vs 13% in the IV iron group (RR of 0.61, 95% CI 0.40 - 0.91). The most common reasons for readmission were:

- general postoperative complications (36 [15%] in the placebo group vs 25 [11%] in the IV iron group)
- general infections (7 [3%] in the placebo group vs 6 [3%] in the IV iron group)
- wound infections (8 [3%] in the placebo group vs one [$<1\%$] in the IV iron group)

At six months, there were numerically fewer total readmissions in the intravenous iron group.

As the goal of PBM implementation is to improve patient outcomes (rather than only reduce transfusions) it could be considered that this study adds more evidence to the benefits of a PBM programme (even, as in this case, when only parts of the programme are used).

How Does This Compare to Our Local Population?

Malaysia has higher rates of anaemia than observed in the PREVENTT study in routine practice. At Hospital Sultanah Nur Zahirah (HSNZ) in Terengganu, Dr Muhaimin is piloting a PBM clinic focusing on detection and treatment of iron deficiency using IV iron and has included over 80 patients in the last few months with moderate to severe anaemia (mean Hb 7.1g/dL). Initial data is very promising and he observed that a single infusion of high-dose IV iron (ferric derisomaltose, Monofer®) at 500 or 1000mg iron (average 660mg) resulted in an average increase of Hb concentration by 2.3g/dL over one month. As the iron complex being used can be administered in under an

hour, and therefore make more widespread treatment feasible with limited resource, the PBM clinic has enabled the use of blood to be reduced to a median of 0 units. In fact, "only" IV iron (at average dose of 500mg iron) was able to increase Hb by approximately 1g/dL in under five days when patients are more severely anaemic (av pre-treatment level was 7g/dL). These results are similar to the publication by Holm et al who published a randomised controlled study of severely anaemic patients (5.6-7.1g/dL) to demonstrate that 1,500mg IV iron as single infusion achieved similar Hb improvements to a blood transfusion within three days (and at 84 days the group receiving IV iron had correction of their iron levels and an average Hb of 13g/dL whilst the group having a transfusion remained iron deficient and mildly anaemic).⁵

University Malaya Medical Centre is taking this one step forward. They have commenced a randomised controlled clinical study (ProPBM - NCT03888768) to assess the impact of a modified (or simplified) PBM strategy versus standard care ahead of major surgeries. The pretrial audit of perioperative anaemia in patients presenting for major surgery revealed that the incidence of anaemia (Hb <13.0 g/dL) was 66.0%, with the odds ratio for transfusion in an anaemic versus non anaemic patient of 7.62 (95% confidence interval of 3.18 - 18.25, $p < 0.001$). The overall transfusion rate was 22.3% for the cohort.

ProPBM conducts preoperative reviews ahead of surgery and those randomised to the PBM arm will have an additional clinic to attempt to optimise the preoperative anaemia and correct any iron deficiency or other deficiencies ahead of the surgery. Patients with iron deficiency will receive 1,000mg iron intravenously using ferric derisomaltose (or Monofer®) before surgery and post surgery the iron stores will again be repleted based on the intraoperative blood loss. During surgery, patients will receive 1g IV tranexamic acid (to minimise blood loss) and individualised transfusion triggers will be applied. The primary endpoint is again the reduction in transfusions with secondary endpoints focused on patient outcomes. The study plans to recruit 180 patients and is estimated to be completed by December 2021.⁶

While PREVENTT was a well conducted RCT which studied the effect of intravenous iron on patients undergoing major surgery. Although PREVENTT did not achieve its primary endpoint, it has shown that the correction of perioperative anaemia has the potential to improve patient outcomes by reducing complications and hospital readmissions. We would also postulate that the implementation of PBM should be "bundle" based and not single element as proven by this trial. Further studies in the local setting / region, where iron deficiency anaemia is more prevalent, is needed to assess the impact of

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turn, will be engaged in the role as custodians to the anaesthesia fraternity at the highest office.

3. National Anaesthesia Day 2020: This event is marked yearly on our calendars. The CoA has always played a major role annually with the Malaysian Society of Anaesthesiologists, the Ministry of Health Hospitals and the universities, to commemorate the birth of anaesthesia. Last year's celebration brought forth in unison a congregation of eight government hospitals within the Klang valley and the state of Selangor in the spirit of celebrating National Anesthesia Day on 15th October. The allure and grandeur of last year's celebration was replicated this year, while not in physical gathering but with a regal life webinar. The webinar brought forth 200 participants online. Dato' Dr Rohaizat Yon, the Deputy Director-General of Health (Medical) took time off his busy schedule to pre-record his message and partook in our celebrations' official opening. It was a poignant moment as his words unveiled the mask of the anaesthesiologists, as he italicized the importance of the anaesthesiologists in keeping the "boat aloft", a reference to our prime importance roles in resuscitation and in intensive care as we extend beyond the confines of the operating theatres. He paid a touching tribute to our involvement in the COVID-19 pandemic, as the bastion of last defense in care to the most severity infected of patients. Validation and gratification of the acknowledgement of our roles by the 'Panglima Perang KKM' was a fitting touching tribute on National Anaesthesia Day.

4. Upcoming ASC MSA/CoA 2021: In Syaa Allah, we meet in person.
5. Collaboration in securing and dissemination personal protection equipment and PAPR to hospitals in Sabah to help healthcare workers as they care for the severely ill COVID-19 patients in their respective hospitals. I am exceptionally proud at the speed at which we managed to procure the equipment and deliver to our colleagues in Sabah.

I have said this before and I am urging yet again, dear anaesthesiologists, the young and the seasoned, in the public sector, the universities and the private establishments who are yet to be members of the College to apply for membership and be a part of our activities. It is with large numbers that we can have a stronger voice among our peers. United we stand, divided we fall.

I wish to take this opportunity to thank you all for your continuous support and trust in me. I do not know the course of this pandemic but I am certain about the strength of human resilience in the face of challenges. The Anaesthesia fraternity has cemented their roles and their importance in the care of the severely ill in the face of the pandemic. This would not be possible if we did not move forth together while in support of each other. My special thank you to the secretariat especially Miss Y M Kong and the rest of the CoA Council, especially Dr Vanitha Sivanaser.

Best wishes, stay safe.

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perioperative anaemia and its correction for patient outcomes.

In closing, with the current COVID-19 pandemic laying siege to our beloved country, careful use of the scarce resource of blood for transfusions is a must. We would

still encourage the implementation of a patient blood management programme wherever you are, as PBM is more than just intravenous iron therapy, to ensure that any transfusion given is justified and aimed towards the improvement of patient outcomes.

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Message from the President of the College of Anaesthesiologists, AMM

Dato' Dr Hjh Jahizah Hj Hassan



Dear Colleagues and Friends,

Looking back at my inaugural account as the President of the College of Anaesthesiologists in the Berita Anestesiologi (January 2020 edition), it is astounding that my opening statement referred to the challenges and changes that await our fraternity for the year 2020. I am compelled to share the paragraph with you.

"As the curtain comes down to bid farewell to 2019 and we usher in the new dawn of 2020 it gives me immense pride to write to you my first message as the College president. I foresee in the horizon many interesting changes, challenges and opportunities that await us."

Had the pandemic not descended upon us, this report would traditionally include activities which the CoA partakes in, such as the Malaysia-Singapore Congress of Medicine with the induction of members into our College, progress and updates on the parallel pathway training programme (FCAI), networking of our CoA with various international anaesthesia bodies like the Korean Society of Anaesthesiologists and the College of Anaesthesiologists of Ireland, continuous professional development events and activities of the various Special Interest Groups of the CoA.

With the calamitous global turn of events in the early part of 2020, it is likely that one assumes that little will be written on the progress and the activities of the CoA. This cannot be further from the truth. As the months progress with the COVID-19 pandemic and the nation struggling to adapt to the new ways of life, the CoA is still steadfast in its pursuit of implementing various guidelines and policies for safe practices of healthcare workers. With the descent of the 3rd wave of the pandemic ravaging Sabah, our fraternity remains at the forefront caring for the most severe form of COVID-19 cases together with our intensivists at the Intensive Care Units whilst providing anaesthesia for the COVID-19 patients undergoing emergent operative procedures while actively engaging volunteers to serve the call of duty to Sabah.

I take pride in enumerating the list of all the activities the CoA has contributed in the fight against the pandemic thus far:

1. Recommendations for Management of Anaesthesia and Intensive Care Services in Preparation of Worsening of the COVID-19 Pandemic.
2. Guidelines for the Management of Patients Presenting for Surgery during the COVID-19 Pandemic.

Collaboration with the National Resuscitation Society of Malaysia, for CPR in COVID-19 Pandemic. As a part of the Academy of Medicine of Malaysia, the College of Anaesthesiologists had the privilege to endorse up to 10 press statements released by the astute Academy as well as 26 joint statements with Malaysian Health Coalition:

The pandemic necessitates the need for us to reassess how we deliver examinations and training in the future, should the pandemic remain unrelenting in nature. As I am writing this, the Council of the CoA has had many successful meetings via the teleconferencing platform.

As the memorable year 2020 takes its road to conclude, I am proud to further report on the additional progress thus far undertaken by the CoA:

1. The AGM was held in accordance to the new norms of gathering in the era of the pandemic. The event was hosted at the Le Meridien Hotel, Kuala Lumpur in accordance to the SOPs. A very successful video teleconferencing / webinar was conducted preceding the AGM for the first time. Topics presented by the SIG AIRWAY CoA were informative, educational and of distinguished quality. Suffice to say, it pleased me immensely to witness the active webinar participation and a lively Q&A forum. I take this opportunity to congratulate the Council members who were elected to office.
2. The task ahead for the new CoA Council is one of prestige. Members of the CoA are involved in the Specialty Subcommittees for Evaluation for the National Specialist Register and also the Specialty Subcommittees for Education of the Malaysian Medical Council, reviewers of the CPD activities, Conjoint Board Specialty Committees and many others. They are representatives who will take on an advocacy role for the CoA, thus, in

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