

ANNUAL SCIENTIFIC MEETING ON INTENSIVE CARE

ASMIC 2014

15th – 17th
AUGUST 2014

Shangri-La Hotel
Kuala Lumpur, Malaysia



souvenir programme
& abstract book



Malaysian Society
of Intensive Care

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Message from the President, Malaysian Society of Intensive Care



It gives me great pleasure to pen a few words here.

First and foremost, let me express my sincere thanks and appreciation to Dr Shanti Rudra Deva, the Organising Chair, Dr Louisa Chan, the Scientific Chair and the rest of the team for their time and effort in organising this meeting and putting together a scientific programme which is rich and current in content. This meeting has always attracted a high number of delegates for many years now and I wish to record a word of thanks to the Organising Committee and the secretariat. Dr Ng Siew Hian and then Dr Tai Li Ling and now Dr Shanti Rudra Deva are to be commended for their contribution to the meeting, not forgetting

Assoc. Prof Dr Tang Swee Fong who takes care of the paediatric sessions.

This Annual Scientific Meeting on Intensive Care is the major activity of the Malaysian Society of Intensive Care and it is during this meeting that the Society holds its Annual General Meeting. I urge all members of the Society to mark your calendar every year and make the Annual Scientific Meeting and the Annual General Meeting a "must attend function" of the year.

Every year, since its inception in 2009, I have been appealing to the delegates to take up intensive care as your profession, whether you are doctors, nurses, pharmacists, physiotherapists, dietitians or occupational therapists. This year, I will do the same appeal again. Come and join intensive care. With mass and number, we can bring intensive care in Malaysia to a higher level. The structured programme for training as intensivists has been established in the Ministry of Health for several years now and the Diploma in Intensive Care Nursing is being offered starting this year.

Care of the critically-ill patients has gone beyond the four walls of the hospital. Studies have been carried out to look into the life of intensive care survivors. Ways and means are being thought of and tried out if the quality of life of intensive care survivors may be improved right from the care in the intensive care unit itself. Imagination can stretch far and dreams can come true. I urge young sprouting doctors and allied healthcare workers to dream to reach the impossible. Ideas and suggestions are most welcome and the Society will surely support its members in their endeavour.

Intensive care is relatively young compared to other subspecialty of medicine. Hence, it should not be too difficult to trace its history and the Society has embarked on a project of documenting the history of intensive care as accurately as possible. We have engaged a historian to gather information from relevant people. The work has progressed well and I would like to take this opportunity to thank all those especially our very senior anaesthetists who have in one way or another contributed to the success of this project.

I wish all of you a fruitful and pleasant meeting.

Dr Tan Cheng Cheng

Message from the Organising Chairperson, ASMIC 2014



On behalf of the Organising Committee, I would like to extend a warm welcome to the 5th Annual Scientific Meeting on Intensive Care from 15th to 17th of August 2014.

The field of intensive care has continued to evolve at a rapid pace over the years and we need to keep abreast with the current developments. This national annual meeting is a great platform for clinicians, nurses and allied health professionals to update their knowledge and practices in the care of the critically-ill. The Committee has put together an interesting programme on a broad range of topics where invited speakers will share their expertise on the podium. There is also a great opportunity for

delegates to discuss informally, cases commonly encountered in the ICU that will be presented during the morning sessions on "Let's ask the expert".

In addition to the main conference, two pre-congress workshops will be conducted. Appreciating and writing research workshop is intended for doctors to learn the art of writing and critically appraising research papers. We hope the workshop will pique the interest of more doctors in the field of research. A concurrent workshop on crisis resource management in acute care will also be conducted. This one-day simulation-based workshop includes lectures and simulated intensive care cases where participants will learn the importance of communication, leadership and teamwork.

We also have a fascinating scientific exhibition displaying the latest medical equipment, pharmaceutical products and books related to the field of intensive care. Please take time to visit these exhibition booths and explore the latest technology available.

I wish you all an enjoyable and enlightening meeting.

Dr Shanti Rudra Deva

Malaysian Society of Intensive Care -
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Organising Committee -
ASMIC 2014

<i>Dr Shanti Rudra Deva</i> (CHAIRPERSON)
<i>Dr Louisa Chan Yuk Li</i> (SCIENTIFIC CHAIR)
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<i>Dr Shanthi Ratnam</i>
<i>Datuk Dr V Kathiresan</i>
<i>Dr Teoh Sim Chuah</i>

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FRANCE
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Assoc Prof Dr Tang Swee Fong
Dato' Dr Teh Keng Hwang
Dr Teoh Sim Chuah
Dr Jenny Tong May Geok
Dr Vineya Rai
Dr Wan Nasrudin Wan Ismail

Pre-Congress Workshop
14th August 2014, Thursday

1. Crisis Resource Management In Acute Care

Saravali Room

Crisis Resource Management (CRM), simply put, is the translation of clinical knowledge & skills into effective real-world activity at the bedside of a critically-ill patient.

This workshop uses high-fidelity simulation as a tool to impart the fundamentals of CRM: Leadership, teamwork, communication, situational awareness and resource management.

You will learn tips on how to communicate effectively at the bedside when faced with a clinical crisis, how to avoid cognitive pitfalls, and how to bring out the best in your team through effective leadership and followership.

Explore and experience the use of tools such as briefs, huddles, handoffs, debriefs and sit-reps to enhance your practice of high-stakes decision-making when faced with acutely-ill patients.

0830 – 0900	Registration
0900 – 0910	Introduction
0910 – 0930	House rules & getting to know the simulator
0930 – 0950	CRM Principle #1 <i>Be clear... Who leads... How the team follows</i>
0950 – 1010	High-fidelity simulation Round 1
1010 – 1030	What just happened there...?
1030 – 1050	Tea
1050 – 1110	CRM Principle #2 <i>Communicate... Communicate... Round & Round</i>
1110 – 1130	High-fidelity simulation Round 2
1130 – 1200	Getting better...
1200 – 1300	Lunch
1300 – 1320	CRM Principle #3 <i>How not to lose the forest for the trees</i>
1320 – 1340	High-fidelity simulation Round 3
1340 – 1410	It's easier than we think...
1410 – 1430	CRM Principle #4 <i>Supporting and being supported</i>
1430 – 1450	High-fidelity simulation Round 4
1450 – 1510	Practice really makes perfect!
1510 – 1530	CRM – The Big Picture
1530 – 1550	High-fidelity simulation Round 5
1550 – 1610	We're ready to face the world!
1610 – 1630	Debriefing the debriefers
1630	End

Pre-Congress Workshop
14th August 2014, Thursday

2. Appreciating And Writing Research

Selangor 1 Room

This workshop is designed for doctors to learn how to critically appraise research data. Doctors today are expected to practise evidence-based medicine and will need to know how to incorporate new scientific data into daily practice. Moreover, the doctors of today are combining research with daily clinical work to improve patient care and management. Writing a research paper can be an intimidating process. A session on the art of writing up a research paper hopes to quell this fear and stir your interest in the field of research. The workshop is structured with lectures and interactive case studies.

Participants will need to bring their own laptops, for the hands-on literature search and basic analysis.

Associate Professor Dr J V Peter, an intensivist from Christian Medical College Hospital, India, who has extensive research and publication experience, will conduct the workshop.

0830 – 0900	Registration
0900 – 0915	Introduction
0915 – 0930	Young researcher in the developing world – What should we focus on
0930 – 1030	Analyzing literature on prognosis Hands-on: Evaluating a study on prognosis Review (presentation) of the study on prognosis
1030 – 1050	Tea
1050 – 1220	Overview on RCTs and appraisal of RCT Hands-on: Evaluating a RCT Presentation of critical appraisal of an RCT
1220 – 1240	The art of writing up a research paper for publication
1240 – 1330	Lunch
1330 – 1500	Conduct and appraisal of meta-analyses Hands-on: Evaluating a meta-analysis
1500 – 1530	End of Workshop / Tea

Daily Programme
15th August 2014, Friday

0800 – 0845 Registration
0845 – 0930 **PLENARY 1**
Chairperson: Tan Cheng Cheng
Surviving sepsis
Richard Beale

0930 – 1015 **OPENING CEREMONY**

1015 – 1100 Tea / Trade Exhibition

	<i>Sabah Room</i>	<i>Kedah / Selangor Room</i>	<i>Sarawak Room</i>
1100 – 1300	SYMPOSIUM 1 Respiratory Chairpersons: Tan Cheng Cheng / Rafidah Atan	SYMPOSIUM 2 Paediatrics I Chairperson: Ani Suraya Ghani	SYMPOSIUM 3 Neurology Chairpersons: Azmin Huda / Laila Kamaliah
1100 – 1130	Prone positioning in ARDS – Still flip- flopping to and fro Gerald Chua	Fluid balance in the critically ill child Tang Swee Fong	Cooling off from cooling Ram Rajagopalan
1130 – 1200	The management of massive pulmonary haemorrhage Lee See Pheng	Sedating the ventilated child: If standard sedation fails Teh Keng Hwang	The management of status epilepticus Joyce Joseph
1200 – 1230	HFOV – Oscillating into oblivion? Richard Beale	Steroids in sepsis Pon Kah Min	Blood pressure management in ischemic and haemorrhagic strokes Ismail Tan Mohd Ali Tan
1230 – 1300	Intubated asthma – First do no harm Gerald Chua	Tracheostomy vs prolonged intubation in children Adrian Plunkett	Neurological syndromes in organophosphate poisoning John Victor Peter
1300 – 1430	Lunch / Friday Prayers		

Daily Programme
15th August 2014, Friday

	<i>Sabah Room</i>	<i>Kedah / Selangor Room</i>	<i>Sarawak Room</i>
1430 – 1630	SYMPOSIUM 4 Endocrine / Maintaining Homeostasis Chairperson: Ismail Tan	SYMPOSIUM 5 Infectious Diseases Chairperson: Louisa Chan	SYMPOSIUM 6 Intensive Care For Nurses I Chairperson: Mariani Bachok
1430 – 1500	Prescribing calcium in the ICU – When and how Premela Naidu Sitaram	Polymyxin – Updates on its use Shanti Rudra Deva	Caring for postpartum patients Jenny Tong May Geok
1500 – 1530	Maintaining oxygenation – Beware of hyperoxia Noor Airini Ibrahim	CRE in Malaysia – Be very afraid Suresh Kumar	Healing established pressure ulcers Shahanisah Ahmad
1530 – 1600	Vitamin D deficiency in critical illness – Fact or fiction Bala Venkatesh	Updates on <i>clostridium</i> <i>difficile</i> infection Mohd Ridhwan Md Noor	Communication skills: Embedding compassion and empathy in our interactions Noor Aireen Ibrahim
1600 – 1630	Bicarbonate prescription – When to if ever Claudia Cheng Ai Yu	Empirical antibiotic therapy in the ICU – Is it time to reconsider our approach? Ram Rajagopalan	Sleep – Is your patient getting enough? Mahazir Kassim
1630 – 1730	Tea / Free Paper		<i>Kedah / Selangor Room</i>

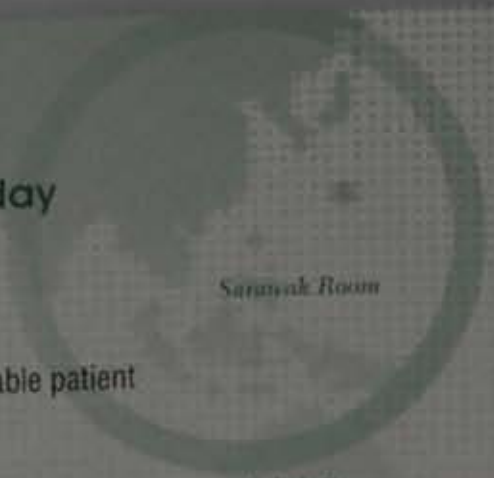
Daily Programme
16th August 2014, Saturday

0800 – 0900	LET'S ASK THE EXPERT 1 Facilitator: Azmin Huda Abdul Rahim How I approach a difficult to ventilate patient Richard Beale			Sarawak Room
0900 – 0945	PLENARY 2 Chairperson: V Kathiresan Assessment of fluid responsiveness Jean-Louis Teboul			Sabah Room
0945 – 1030	PLENARY 3 Chairperson: V Kathiresan Steroid use in critical illness – What has the last 70 years taught us Bala Venkatesh			Sabah Room
1030 – 1100	Tea / Trade Exhibition / Official Poster Round			
1100 – 1300	<i>Sabah Room</i>	<i>Kedah / Selangor Room</i>	<i>Sarawak Room</i>	
	SYMPOSIUM 7 Sepsis Chairpersons: Shanthi Ratnam / Wan Nasrudin	SYMPOSIUM 8 Paediatrics II Chairperson: Choong Pheik Sian	SYMPOSIUM 9 Cardiovascular Chairpersons: Siti Rohayah / Noor Atrini Ibrahim	
1100 – 1130	Blood purification in sepsis – Theory and evidence Rafidah Atan	Fine-tuning management in dengue fever Eg Kah Peng	Diastolic dysfunction – Relevance in the critically ill Ram Rajagopalan	
1130 – 1200	Role of statins in the critically ill patient Bala Venkatesh	Viral encephalitis Chor Yek Kee	Streamlining the treatment of STEMI – Getting the best care Tamil Selvan Muthusamy	
1200 – 1230	Vasopressors in septic shock Jean-Louis Teboul	Managing the child with spinal cord injury Maznisah Mahmood	Influenza infection and the spectrum of cardiac abnormalities John Victor Peter	
1230 – 1300	The brain in sepsis Nahla Irtiza Ismail	Renal replacement therapy in paediatric AKI Adrian Plunkett	Troponin levels in the perioperative setting – Useful or wasteful Louisa Chan Yuk Li	
1300 – 1430	Lunch Satellite Symposium (Pfizer) Chairperson: Shanti Rudra Deva Taking charge of nosocomial pneumonia in your ICU setting Chung Doo Byeon			Sabah Room

Daily Programme
16th August 2014, Saturday

1430 – 1630	<i>Sabah Room</i>	<i>Kedah / Selangor Room</i>	<i>Sarawak Room</i>
	SYMPOSIUM 10 Fluids Chairperson: Premela Naidu Sitaram	SYMPOSIUM 11 Intensive Care For Nurses II Chairperson: Mariani Bachok	SYMPOSIUM 12 Trauma Chairperson: Mahazir Kassim
1430 – 1500	Albumin – What is its role in the ICU? Mohd Basri Mat Nor	Non-pharmacological approaches to the patient in pain – What nurses can do Laila Kamaliah Kamalul Bahrin	Management of severe head injuries – What the guidelines do not say Kwek Tong Kiat
1500 – 1530	Hypertonic saline – What is its role in the ICU? Lim Chew Har	Communicating with families in distress Noor Aireen Ibrahim	Coagulopathy in polytrauma Vineya Rai
1530 – 1600	Diabetic ketoacidosis – Myths in fluid resuscitation Bala Venkatesh	Updates in VAP prevention Nik Azman Nik Adib	Management of major chest trauma Shanthi Ratnam
1600 – 1630	Chloride and AKI: What we know so far Nor'azim Mohd Yunus	Nurses role in reducing urinary catheter related infections Wan Nasrudin Wan Ismail	Decompressive craniectomy – What is its role after DECRA Kwek Tong Kiat
1630 – 1700	Tea		
1700	AGM of the Malaysian Society of Intensive Care		<i>Kedah / Selangor Room</i>

Daily Programme
17th August 2014, Sunday



Sarawak Room

0800 – 0900 **LET'S ASK THE EXPERT 2**
Facilitator: Siti Rohayah Sulaiman
How I approach a haemodynamically unstable patient
Jean-Louis Teboul

Sabah Room

0900 – 0945 **PLENARY 4**
Chairperson: Tang Swee Fong
Paradigm shift in critical care nutrition: Is it better to feed less?
Stephen McClave

Sabah Room

0945 – 1030 **PLENARY 5**
Chairperson: Tang Swee Fong
Ventilation in paediatric ARDS: Extrapolate from adult studies?
Adrian Plunkett

1030 – 1100 Tea / Trade Exhibition

1100 – 1300 *Sabah Room*

SYMPOSIUM 13
Monitoring / Devices

Chairperson: Shanthi Ratnam

1100 – 1130 Multimodal monitoring – Improving outcomes in severe neurologic injuries
Kwek Tong Kiat

1130 – 1200 Monitoring tissue perfusion in sepsis – Just how useful?
Tai Li Ling

1200 – 1230 Monitoring lung mechanics – Putting graphics into practice
Teoh Sim Chuah

1230 – 1300 Which haemodynamic monitoring device do I need?
Jean-Louis Teboul

1300 – 1400 Lunch

Kedah / Selangor Room

SYMPOSIUM 14
Gastrointestinal

Chairperson: Shanti Rudra Deva

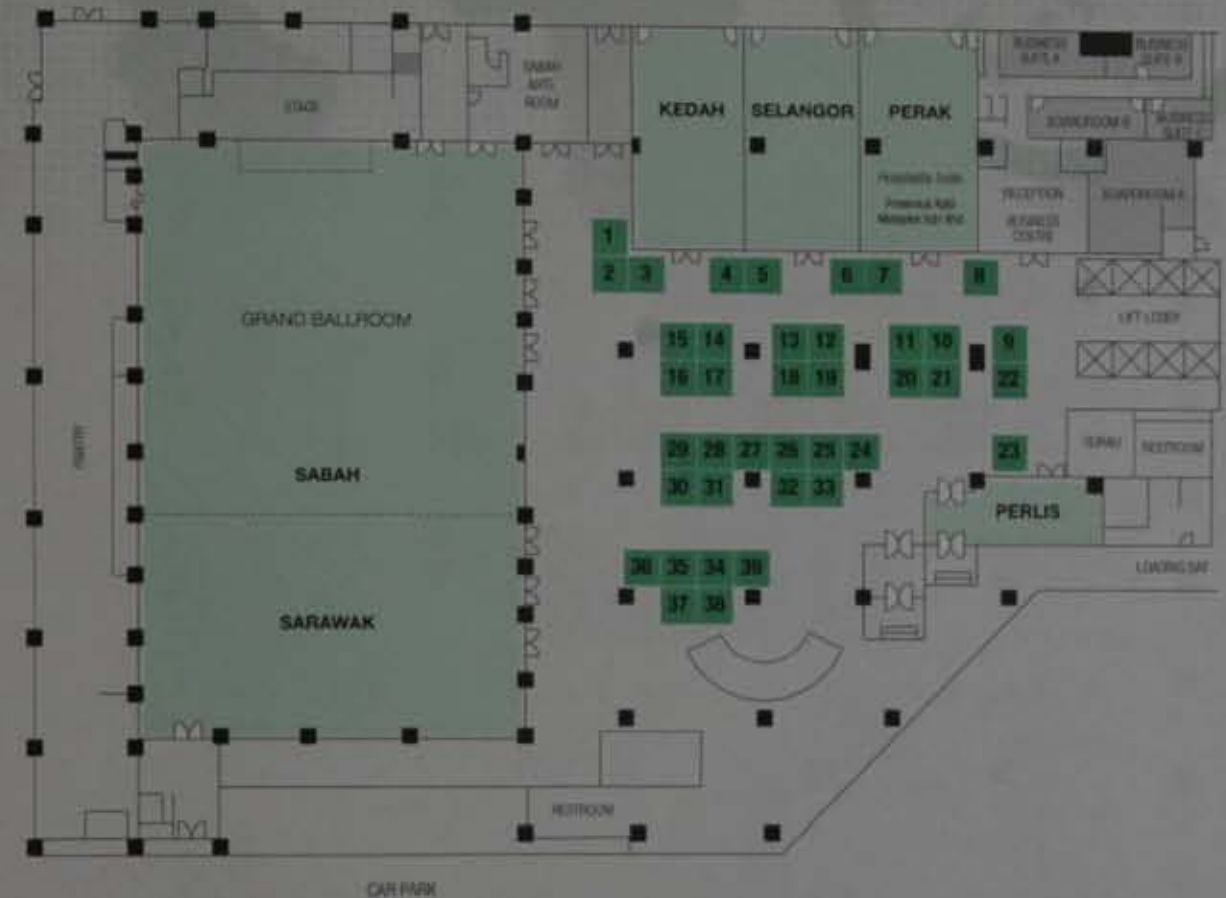
1100 – 1130 The gut in sepsis
Suresh Venugopal

Should we stop using gastric residual volumes?
Stephen McClave

Bowel motions – More science less emotions please
Ahmad Shaltut Othman

How to feed an ICU patient in 2014
Richard Beale

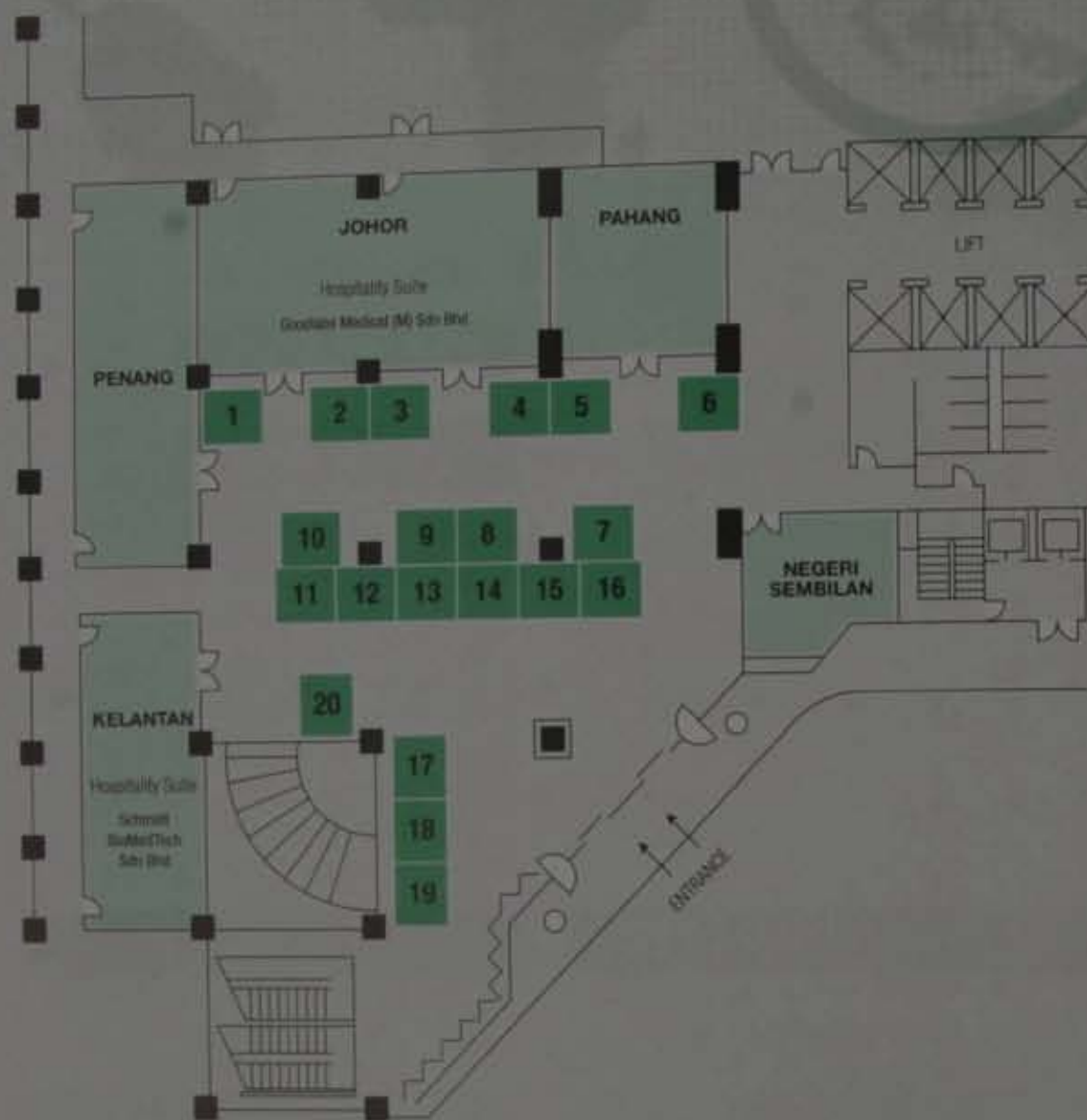
Floor Plan & Trade Exhibition
(Basement 2)



Booth Stand	Company
1	Lifetronic Medical Systems Sdn Bhd
2 & 3	Schiller (Malaysia) Sdn Bhd
4 & 5	Draeger Medical SEA Pte Ltd
6	Cook Medical (Malaysia) Sdn Bhd
7	Terumo Malaysia
8	Hexamine Sdn Bhd
9	Thermo Fisher Scientific
10, 11, 20 & 21	Phillips Healthcare
12 & 13	Insan Bakti Sdn Bhd
14 & 15	Pfizer (Malaysia) Sdn Bhd
16 & 17	KL Med Supplies (M) Sdn Bhd
18	ResMed Malaysia Sdn Bhd

Booth Stand	Company
19	Biolight Healthcare Malaysia Sdn Bhd
22	Suria-Medik/Medental
23	Syarikat Wellichem Sdn Bhd
24	Transmedic Healthcare Sdn Bhd
25	Hospira Malaysia
26, 27, 28, 29, 30, 31 & 32	Malaysian Healthcare Sdn Bhd
33	Marpoliq Sdn Bhd
34	Primed Medical Sdn Bhd
35 & 36	IDS Medical Systems (M) Sdn Bhd
37 & 38	AstraZeneca Sdn Bhd
39	Nestlé Products Sdn Bhd

Floor Plan & Trade Exhibition (Lower Lobby)



Booth Stand	Company
1	Gemilang Asia Technology Sdn Bhd
2	Nihon Kohden Malaysia Sdn Bhd
3	Arasy Medicare System
4	Malaysian Diagnostics Corporation Sdn Bhd
5	Heal Integrated Solutions Sdn Bhd
6	Star Medik Sdn Bhd
7	Gambro Renal Care (M) Sdn Bhd
8	A R Medicom (M) Sdn Bhd
9	ATN Medic Sdn Bhd

Booth Stand	Company
10	Merck Sharp & Dohme (I.A.) Corp
11	Hospimetrix Sdn Bhd
12 & 13	Covidien
14	Norse Crown Co (M) Sdn Bhd
15 & 16	3M Malaysia Sdn Bhd
17	Jebsen & Jessen Technology (M) Sdn Bhd
18	Biosensors International P/L
19	Radiometer Malaysia Sdn Bhd
20	I-Medic Imaging Sdn Bhd

Thank You

The Organising Committee of ASMIC 2014 records its deep appreciation to the following companies for your contributions and support:

- | | |
|--------------------------------------|---|
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| Gambro Renal Care (M) Sdn Bhd | Research Books Asia Pte Ltd |

Free Papers

- FP 1 Critically Ill Patients At Risk Of Augmented Renal Clearance: Experience In A Malaysian Intensive Care Unit** 18
 Syamhanin Adnan^{1,2}, Shanthi Ratnam², Suresh Kumar⁴, David L Paterson^{2,5}, Jeffrey Lipman^{1,3}, Andrew A Udy^{1,3}, Jason A Roberts^{1,3,6}
¹Burns, Trauma and Critical Care Research Centre, The University of Queensland, Brisbane, Australia
²University of Queensland Centre for Clinical Research, The University of Queensland, Brisbane, Australia
³Department of Anaesthesiology/Intensive Care Unit, Sungai Buloh Hospital, Malaysia
⁴Department of Medicine/Infectious Disease, Sungai Buloh Hospital, Malaysia
⁵Intensive Care Department, Royal Brisbane and Women's Hospital, Brisbane, Australia
⁶Pharmacy Department, Royal Brisbane and Women's Hospital, Brisbane, Australia
- FP 2 An Audit On Continuous Renal Replacement Therapy In Adult General Intensive Care Unit (GICU), Hospital Pulau Pinang** 19
 Noryani, K H Yeo, Ruvana, C H Lim, Jahizah
Hospital Pulau Pinang, Pulau Pinang, Malaysia
- FP 3 Selective Nonoperative Management For Blunt Splenic Trauma: Adults Are Not Large Children** 20
 M P J Teuben¹, W L M Kramer², T J Blokhuis¹, L P H Leenen¹
¹University Medical Center Utrecht, Department of Trauma, Utrecht, The Netherlands
²Wilhelmina Children's Hospital/University Medical Center Utrecht, Department of Pediatric Surgery, Utrecht, The Netherlands
- FP 4 Extensive Surgery Leads To Changes In The Activation Status Of Blood And Bone Marrow Neutrophils In Pigs** 21
 M P J Teuben¹, M Heeres¹, T J Blokhuis¹, L Koenderman², L P H Leenen¹
¹University Medical Center Utrecht, Department of Trauma, Utrecht, The Netherlands
²University Medical Center Utrecht, Department of Respiratory Medicine, Utrecht, The Netherlands
- FP 5 The Impact Of Splenectomy On Leukocyte Kinetics In The Peripheral Blood Of Polytrauma Patients** 22
 E J Holliman¹, M P J Teuben², T J Blokhuis², L P H Leenen³
¹Student, University Medical Center Utrecht, The Netherlands
²Department of Trauma, University Medical Center Utrecht, The Netherlands
³Department of Trauma, University Medical Center Utrecht (UMCU), The Netherlands

Free Papers

- FP 6 The Impact Of Damage Control Surgery On The Mobilization Of Neutrophils In Pigs** 23
 M P J Teuben¹, M Heeres¹, T J Blokhuis¹, L Koenderman², L P H Leenen¹
¹University Medical Center Utrecht, Department of Trauma, Utrecht, The Netherlands
²University Medical Center Utrecht, Department of Respiratory Medicine, Utrecht, The Netherlands
- FP 7 Risk Factors Associated With Delirium In The Intensive Care Unit: A Prospective Cohort Study** 24
 Azlyna Nur Yanty Mohd Yusof¹, Chian Yong Liu¹, Salmah Ghazali², Shanti Rudra Deva², Joanna Su Min Ooi¹
¹Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia
²Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

CRITICALLY ILL PATIENTS AT RISK OF AUGMENTED RENAL CLEARANCE: EXPERIENCE IN A MALAYSIAN INTENSIVE CARE UNIT

Syamhanin Adnan^{1,2}, Shanthi Ratnam³, Suresh Kumar⁴, David L Paterson^{2,5}, Jeffrey Lipman^{1,2}, Andrew A Udy^{1,2}, Jason A Roberts^{1,5*}

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³Department of Anaesthesiology/Intensive Care Unit, Sungai Buloh Hospital, Malaysia
⁴Department of Medicine/Infectious Disease, Sungai Buloh Hospital, Malaysia
⁵Intensive Care Department, Royal Brisbane and Women's Hospital, Brisbane, Australia
^{*}Pharmacy Department, Royal Brisbane and Women's Hospital, Brisbane, Australia

Augmented renal clearance (ARC), a creatinine clearance ≥ 130 mL/min/1.73m² refers to increased solute elimination by the kidneys. ARC has considerable consequences for altered antimicrobial concentrations. The aims of this study were to describe the prevalence of ARC in Malaysian intensive care unit (ICU) and to compare measured with calculated creatinine clearance. Patients with an expected ICU stay of > 24 hours plus a normal serum creatinine, were enrolled from May 2013 to July 2013. 24 hour urinary collections and serum creatinine concentrations were used to measure creatinine clearance on admission. A total of 49 (n = 49) patients were included with a median age of 34 years (inter quartile range = 23). Most patients were male and admitted post trauma. 39% were found to have ARC. These patients were younger, more often admitted post-severe trauma, and had undergone emergency surgery ($P \leq 0.05$). No other covariates appeared to predict the presence of ARC in this study, however, this findings could probably due to the small sample size. Nevertheless, significant imprecision was demonstrated when comparing estimated Cockcroft Gault creatinine clearance (CG Cr_{cl}) and measured urinary creatinine clearance (Cr_u), 0.9mL/min (51.0mL/min) with limits of agreement, -99mL/min to 110mL/min. Bias was larger in ARC patients, with CG Cr_{cl} significantly lower than urinary Cr_u ($P=0.01$), and demonstrating poor correlation ($r^2=0.03$). Critically ill patients with normal serum creatinine concentrations have varied Cr_u. They are risk of ARC, which necessitate individualized drug dosing. Furthermore, significant bias and imprecision between estimated creatinine clearance with measured urinary creatinine clearance exists, suggesting clinicians should carefully consider which method they employ in assessing renal function in such patients.

AN AUDIT ON CONTINUOUS RENAL REPLACEMENT THERAPY IN ADULT GENERAL INTENSIVE CARE UNIT (GICU), HOSPITAL PULAU PINANG

Noryani, K H Yeo, Ruvena, C H Lim, Jahizah

Hospital Pulau Pinang, Pulau Pinang, Malaysia

Continuous renal replacement therapy (CRRT) is considered an essential part of support for critically ill patients nowadays. As mortality associates with acute kidney injury remains high, we would like to know the impact of CRRT implementation on our patient. We had followed total number of 30 patients whom required CRRT during their stay in our GICU from January to May 2014. We noted that majority patients were male and their age were between 45 to 65 years old. The commonest cause that lead to usage of CRRT was severe sepsis. Basically, most patients with RIFLE-failure were 40% upon commencement of CRRT. Main indication of starting CRRT was severe metabolic acidosis associated with haemodynamic instability. Continuous veno venous haemofiltration was the dominant mode of CRRT. Only 26.7% patient survived ICU stay and 23.3% managed to be discharged from hospital. From this audit, we felt CRRT is very important to help improving patient's outcome.

SELECTIVE NONOPERATIVE MANAGEMENT FOR BLUNT SPLENIC TRAUMA: ADULTS ARE NOT LARGE CHILDREN

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INTRODUCTION

The treatment of blunt splenic injury (BSI) has been evolving. Nowadays, nonoperative management (NOM) is the treatment of choice in hemodynamically stable patients. Literature identified higher age as a poor prognostic factor for success of NOM.

The aim of this study was to investigate whether there are differences in management and outcome of BSI in pediatric patients as compared to adults.

METHODS

We utilized our prospective trauma database to identify patients that were treated in our level one trauma center for blunt splenic trauma. Two groups were formed on the basis of age. Group I consisted of pediatric patients (<17 years) and Group II consisted of all patients older than 16 years. Patient demographics, AIS-spleen, ISS, GCS, hemodynamics, management and outcome were assessed and compared.

RESULTS

A total of 176 patients with a median (IQR) Injury Severity Score (ISS) of 25 (13-34) were included. Group I consisted of 49 pediatric patients and 127 adults were included in group II.

Adult patients had significantly higher ISS scores and lower Glasgow Coma Scale -scores on admission, as compared to pediatric patients. Non-operative management was more frequently attempted in pediatric patients as compared to adults (42/49 versus 62/127; $p < 0.001$). Failure of NOM occurred in one patient from the pediatric patient and in twelve adult patients ($P = 0.011$). Hospitalization time and ICU-stay were not significantly different between the two groups. Mortality was seen in one pediatric patient and in ten adult patients ($P = 0.017$).

CONCLUSION

Pediatric patients are more frequently treated by NOM and have a different injury pattern than adult patients. Furthermore, outcome of selective NOM is more successful in pediatric patients compared to adults.

EXTENSIVE SURGERY LEADS TO CHANGES IN THE ACTIVATION STATUS OF BLOOD AND BONE MARROW NEUTROPHILS IN PIGS

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BACKGROUND

Activation and migration of polymorphonuclear neutrophils (PMNs) are pivotal mechanisms in the development of inflammatory complications such as ARDS and MODS. The bone marrow contributes to this process by immediate mobilization of young neutrophils in response to e.g. surgical stress. Therefore, in order to prevent these inflammatory complications, this process should be countered at an early stage. The aim of this study was to investigate the early neutrophil response to extensive surgery in both the bone marrow and peripheral blood of pigs.

METHODS

Large pigs (50-70kg) were subjected to extensive surgery. Blood samples were taken at baseline and after 3 hours. Bone marrow was collected at baseline (left tibia) and at 3hrs (right tibia). We measured the receptor expression of CD11b (Mac-1), CD62L (L-selectin), CD32 (FcγRII), CD16 (FcγRIII), CD49D (VLA-4) and CD184 (CXCR4) on neutrophils by flowcytometry. Our endpoint was the difference in the activation status of neutrophils between baseline and after surgery in blood and bone marrow.

RESULTS

All animals survived the experiments. The leukocyte count dropped significantly during the experiment from 8.5 to 2.05×10^6 cells/mL, $p < 0.05$. Flow cytometric analysis showed substantial differences in leukocyte subsets present in the bone marrow between both time points. Moreover, peripheral blood neutrophils had a more activated profile as reflected by increased receptor expressions of activation and migration markers.

CONCLUSION

Extensive surgery in pigs causes transient systemic activation of neutrophils in blood within three hours. In addition, we characterised changes in neutrophil populations present in the bone marrow in response to surgery. These insights can form the basis for new targets to intervene with the (excessive) mobilization and activation of neutrophils in response to surgery.

THE IMPACT OF SPLENECTOMY ON LEUKOCYTE KINETICS IN THE PERIPHERAL BLOOD OF POLYTRAUMA PATIENTS

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BACKGROUND

Severe trauma results in a reaction of the innate immune system. Dysregulation of this immune response forms the basis for severe complications such as Acute Respiratory Distress Syndrome and Multiple Organ Failure. Literature shows that a splenectomy in selected polytraumapatient seems to be associated with less inflammatory complications. We hypothesized that a splenectomy results in a diminished absolute leukocyte number in the peripheral blood of severely injured trauma patients.

METHODS

All adult injured patients suffering blunt splenic or hepatic injuries with an ISS > 15, admitted to our level one traumacenter between 2007 and 2013 were included. Patients were grouped according to the injured intra-abdominal organ (spleen vs. liver) and the treatment they received (operative vs. non-operative). The absolute leukocyte number as well as inflammatory complications were measured and compared between groups.

RESULTS

A total of 108 patients were included, of whom 41 patients sustained splenic injuries and 67 suffered hepatic injuries. Thirteen splenectomies were performed and 13 patients required liver surgery. Baseline characteristics between groups showed no significant differences. However, the absolute leukocyte number at 14 days of hospital stay was significantly increased in splenectomized patients compared to the non-operative splenic injury group, respectively 21.20 vs. 13.49 ($p < 0.019$). Moreover there is a trend towards a lower complication rate in the splenectomy group as compared to operatively treated patients suffering liver injuries.

CONCLUSION

Splenectomy is associated with an increased leukocyte count after severe trauma and therefore the spleen seems to play a modulatory role in the innate immune response to trauma. Furthermore this study showed, in line with literature, that a splenectomy is associated with less complications following severe trauma as well.

THE IMPACT OF DAMAGE CONTROL SURGERY ON THE MOBILIZATION OF NEUTROPHILS IN PIGS

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INTRODUCTION

Polymorphonuclear neutrophils (PMNs) are important cells in the immune response to tissue damage. Inflammatory complications (ARDS/MODS) are caused by excessive activation and deposition of PMNs in vital organs. During systemic inflammation three subsets of neutrophils are observed in the peripheral blood. The hypersegmented neutrophils (CD16^{bright}/CD62L^{dim}) inhibit adaptive immune responses. Neutrophils with a banded nucleus (CD16^{dim}/CD62L^{bright}) on the other hand have a pro-inflammatory profile. In this study we tested the hypothesis that extensive trauma surgery (>1 hr) results in an increase of CD16^{dim}/CD62L^{bright} PMNs in the blood of pigs.

METHODS

Twelve pigs underwent standardized trauma surgery. Blood sampling was performed at baseline, 1, 2 and 3 hours. PMN surface receptorexpression of CD11b (Mac-1), CD62L (L-selectin) as well as CD16 (FcγRIII) were measured. The primary endpoint was the percentage of banded neutrophils in the peripheral blood of pigs.

RESULTS

Nine pigs survived the three hours of surgery and three animals died after two hours due to exsanguination. There was a significant increase in the percentage of CD16^{dim}/CD62L^{bright} PMNs over time. At baseline only 2.36 ± 0.42 percent of PMNs were banded, whereas after 1 hr this percentage increased to 6.40 ± 1.17 percent. Moreover, after three hours of surgery, 19.5 ± 1.37 percent of cells were CD62L^{bright}/CD16^{dim}, $p < 0.05$. Interestingly, one hour of ventilation without surgical intervention did not result in an increase of PMN subsets in the blood.

CONCLUSION

The percentage of banded neutrophils increases over time during trauma surgery in pigs. This finding underlines the increase of the immunological burden during surgery over time. It could therefore be considered a first pathophysiological explanation of 'Damage Control Surgery'.

RISK FACTORS ASSOCIATED WITH DELIRIUM IN THE INTENSIVE CARE UNIT: A PROSPECTIVE COHORT STUDY

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INTRODUCTION

Delirium is one of the major complications seen in an intensive care unit (ICU) and has impact on the long term outcome of ICU patients. It is defined as an acute confusional state with fluctuating mental status, inattention and either disorganised thinking or an altered level of consciousness. Symptoms can range from agitation, restlessness, attempting to remove catheters and emotional lability to the more common form of hypoactive delirium, where patients appear lethargic with flat affect and decrease in responsiveness.

METHODS

This was a prospective cohort study in a 30-bedded ICU of Hospital Kuala Lumpur (HKL) between August to October 2013 involving patients with ages of 18 to 80 years old admitted for at least 24 hours in ICU. Parameters studied were demographic data, diagnosis, date of hospital and ICU admission and discharge, smoking habit, alcohol consumption, Simplified Acute Physiology Score II (SAPS II), Sequential Organ Failure Assessment (SOFA), exposure to mechanical ventilation and drains (nasogastric tube, bladder drainage or other drains), exposure to psychoactive medication. Delirium status was assessed using Confusion Assessment Method for the ICU (CAM-ICU).

RESULTS

A total of 103 patients were included in the study, out of which 35 patients (34%) developed delirium during their ICU stay. Delirium was found to be significantly associated with the presence of endotracheal or tracheostomy tube [OR 5.76, 95% CI 1.8-18.1], drains such as chest and or abdominal drains [OR 8.67, 95% CI 2.2-34.1], central venous catheter [OR 5.38, 95% CI 2.1-14.0], use of midazolam and morphine in combination as sedative/analgesic agent [OR 2.61, 95% CI 1.13-6.03], smoking habit [OR 2.37, 95% CI 1.0-5.5] and severity of illness (SAPS II score) [OR 1.03, 95% CI 1.0-1.1].

CONCLUSION

Presence of endotracheal or tracheostomy tube, drains, central venous catheter, use of midazolam and morphine in combination, smoking habit and SAPS II score were risk factors for development of delirium in ICU.

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CASE REPORT: SURVIVING 90% TBSA MIXED THICKNESS BURN INJURY – A CLINICAL EXPERIENCE IN SLIM RIVER HOSPITAL

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A 33-year old Indonesian man was allegedly involved in an accidental petrol burn, from which he sustained a 90% total body surface area (based on Rules of 9s), mixed first and second degree thickness burns, as well as inhalational injury.

Tracheal intubation was performed early for airway protection and fluids resuscitation as per Parkland's formula was initiated. He was also empirically started on antibiotics for prevention of wound sepsis.

In the ICU, he was nursed in isolation for infection control. High dose Midazolam and Morphine infusions were used for sedation and analgesia. Fluid regimes were adjusted based on patient's urine output and haemodynamic status. Daily wound dressings and bedside debridement were done as per surgical team protocol. Early nutrition and passive mobilization of limbs were also started. He then developed wound sepsis and ventilator associated pneumonia, which were managed with antibiotics according to culture results.

He was extubated on Day23 of admission and has undergone wound debridement and dressings under general anaesthesia twice in Slim River. He also underwent SSG of right lower limb in HSR before he was transferred to Ipoh Hospital on Day36 of admission for further management. He underwent another two wound debridement and change of dressings under GA during his 9-days stay there. He was subsequently nursed in General Ward of Slim River hospital, and was discharged 15-days later.

This case was remarkable as burn injuries as extensive as this patient had was associated with mortality rates close to 100%, and therefore a referral to the center with Burns Unit was initially rejected.

However, with early securement of airway, early and aggressive fluids resuscitation, and supportive management such as wound dressings, infection control, early nutrition and organ support, we were able to nurse the patient to his recovery, before he was discharged from the hospital.

CASE REPORT: HASHIMOTO ENCEPHALOPATHY REQUIRING HIGH DOSE BARBITURATE COMA IN INTENSIVE CARE UNIT SARAWAK GENERAL HOSPITAL

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INTRODUCTION

Lord Brain first described Hashimoto Encephalopathy (HE) in 1966. Since then the number of reported cases has increased. It suggests a role of intensive care practitioner in managing HE cases especially the usage of high dose of barbiturate to induce coma.

CASE DESCRIPTION

A 14-year-old girl presented with persistent seizures, requiring airway protection and intensive care management. She had a week's history of fever, headache and cough. She was on Carbimazole for thyrotoxicosis with an elevated T4 level. Clinical examination revealed a palpable goiter with no signs of thyroid storm. Neurological examination was negative. The cerebrospinal fluid (CSF) analysis and radio imaging of brain were normal.

Continuous electroencephalography (EEG) showed non-convulsive seizure in spite of sedation with Midazolam infusion at 5 mcg/kg/min and Propofol infusion at 5mcg/kg/min, including oral Valproic Acid (20 mg/kg/day), Phenytoin (8 mg/kg/day), Topiramate (10mg/kg/day) and Levetiracetam(1000mg twice daily). Barbiturate-induced coma was initiated with Sodium Thiopentone, titrated up to 8mg/kg/h for a week.

Hypotension related to this therapy was supported with vasopressor. Subsequent EEG result was unchanged. Oral Phenobarbitone and Clobazam were added. Antibiotics (intravenous Ceftriaxone and Acyclovir) were initiated to cover for encephalitis and pneumonia, later changed to Piperacillin/Tazobactam. Tracheostomy performed after two weeks to assist on recovery. Given the indications for HE, intravenous Methylprednisolone was started for five days. Her clinical condition slowly improved and was then managed in general ward. Despite therapies with steroids and oral antiepileptic drugs, the seizures recurred. She finally succumbed to hospital-acquired infection complicated with coagulopathy and continuous bleeding from the tracheotomy site.

CONCLUSION

HE has a life-threatening presentation and is often under diagnosed because of it's rarity. ICU practitioner may encounter such HE cases especially those with thyroid disease who presented with status epilepticus requiring high dose barbiturate.

**LETHAL INTRACRANIAL COMPLICATION ASSOCIATED
WITH SUPPURATIVE ACUTE OTITIS MEDIA**

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Acute Otitis Media complications are relatively rare since the introduction of antibiotics. Still the delay in the diagnosis and treatment, causes fatal complication which includes intracranial complication.

We reported an adolescent male who presented with one week history of otorrhea and fever and was treated with antibiotics. Subsequently, he presented with loss of consciousness due to intracranial complications, which includes distal lateral sinus thrombosis, extending into sigmoid sinus and internal jugular vein thrombosis, obstructive hydrocephalus and macerated cerebrum. Despite a course of intravenous antibiotics treatment and surgical drainage, he deteriorated fast and succumbed ten days later.

**CASE REPORT: AN UNUSUAL CASE OF
SEVERE DENGUE FEVER**

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A 42-year old woman presented to us with 4 days history of fever, headache and 1 day history of acute delirium. On clinical examination she was afebrile, but delirious, tachycardic and tachypnoeic. There was no meningism or non-blanching petechial rashes but there were multiple mosquito bites on her lower limbs. Her deep tendon reflexes were brisk but otherwise there were no other neurological deficit. In view of her acute delirium, she underwent an emergency CT brain, which did not show any obvious abnormality. Her blood investigation was suggestive of viral meningoencephalopathy with leukopaenia, and mild thrombocytopenia. She was admitted to ICU for further management and electively intubated to protect her airway. CSF sample result was negative for CNS infection. However serum dengue NS1 and IgG/M came back positive and these confirmed the diagnosis of dengue fever with encephalopathy. She was started on intensive intravenous hydration and other supportive measures. During ICU care her platelet count did drop to 70, however she did not require any platelet transfusion. Her hematocrit remained stable at 35. She was extubated on day 2 and discharged back to general ward on day 3. She made excellent progress in ward and was later discharged home on day 5 of admission with no subsequent complications. Dengue is endemic to Malaysia and is associated with high morbidity if not treated early. Bleeding and plasma leakage heralds the start of critical phase with encephalopathy being a rare manifestation. We wish to report an unusual presentation of severe dengue and our strategy of aggressive fluid resuscitation during the critical phase.

CASE REPORT: LACTATE ACIDOSIS SECONDARY TO LAMBDA CYHALOTRINE POISONING

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A 22-year-old gentleman presented to us with alleged suicidal attempt with lambda cyhalotrine insecticide. On arrival his GCS was full with stable vital signs. A&E team proceeded with gastric lavage, after which he vomited. 2 hours after his admission, he became drowsy with persistent vomiting. ABG showed lactate metabolic acidosis. In view of impending airway compromise, he was electively intubated in A&E and later admitted to ICU for further management. In ICU he responded with fluid boluses after which he gradually improves. He was extubated on day 4 and discharged from ICU care to general ward on day 5 of admission. Appointment with Psychiatric OP Clinic was arranged prior to discharge. We wish to discuss the management of pyrethroid insecticide poisoning and its consequences.

CASE REPORT: MANAGEMENT OF LIFE THREATENING ASTHMA IN ICU

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A 26 years old gentleman with a background history of poorly controlled asthma presented to us with respiratory collapse after been bitten by his pet hamster. On arrival to A&E he was unresponsive with silent chest and unrecordable oxygen saturation on the oxymeter. He was immediately intubated and started on alpha-2-agonist nebulizer, magnesium sulphate infusion, IV steroid and prophylactic antibiotic to cover for aspiration pneumonitis. CXR did not show any obvious abnormality. His ABG during the initial episode showed respiratory acidosis with carbon dioxide narcosis. In ICU he was heavily sedated and ventilated using low rate, low tidal volume setting and permissive hypercapnia strategy while continuing other treatment until the airway spasm settled. He made good recovery and was able to wean down to facemask within 24 hour of admission. Life threatening asthma carries high morbidity and mortality. The pathophysiology is progressive gas trapping and formation of auto-PEEP due to limited expiratory phase. We wish to report our mechanical ventilation strategy of low rate, low tidal volume, prolonged I: E and permissive hypercapnia in the management of life threatening asthma in ICU.

**FOREIGN BODY ASPIRATION IN AN ADULT:
A CASE REPORT**

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INTRODUCTION

Signs and symptoms of adult foreign body aspiration are most often nonspecific. Misdiagnosis and delay in diagnosis frequently occur.

CASE DESCRIPTION

A 24 year old housewife presented with fever and cough for 1 year, hemoptysis and shortness of breath for 1 week, associated with loss of appetite and weight. On examination, she was alert, febrile, in respiratory distress and shock. There was reduce air entry on the right lower zone with coarse crepitations and bronchial breath sound. Arterial blood gases showed type 1 respiratory failure. Non invasive ventilation and low dose Noradrenaline were started. White blood cells $24.2 \times 10^9/L$, platelet $600 \times 10^9/L$ and hemoglobin 9.7g/dl. Chest X Ray showed right middle and lower lobe consolidation. Diagnosis was septic shock secondary to right lobar pneumonia and intravenous Tazocin and Azithromycin were started. In Intensive Care Unit, she was intubated and vasopressor was increased. CT thorax showed collapse consolidation of the right middle and lower lobe with associated dilated segmental bronchioles. During bronchoscopy for bronchioalveolar lavage and specimen collection, a blue coloured foreign body was incidentally found at the right intermediate bronchus. Antibiotic was then escalated to Imipenem and Vancomycin. Foreign body removal via flexible bronchoscope by respiratory physician was unsuccessful but later succeeded using rigid bronchoscope by otorhinolaryngeal surgeon. First respiratory culture showed mixed growth. Latest respiratory culture yield yeast cells. She only made a full recovery after started on intravenous Fluconazole.

CONCLUSION

Foreign body aspiration should always be considered in the aetiology of pulmonary infection. Although flexible bronchoscope usually used for specimen collection and lavage, its role as a diagnostic tool must not be forgotten. Always consider fungal as one of the causative organisms in chronic pulmonary infection even in a healthy young adult.

**CASE REPORT: A CASE OF CEREBRAL MALARIA CAUSED
BY PLASMODIUM FALCIPARUM IN SELAYANG HOSPITAL**

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INTRODUCTION

Malarial infection is common and it can cause significant morbidity and mortality in Malaysia. Cerebral malaria is defined as encephalopathy that presents with impaired consciousness, delirium, and/or seizures. In this letter, the author has reported a case of cerebral malaria caused by Plasmodium Falciparum which occurred in May 2013.

CASE DESCRIPTION

A 42-year-old Myanmar gentleman presented to us with 3-days history of fever

associated with chills and rigors, vomiting and diarrhea. He had history of travelling back to Myanmar two weeks ago. Otherwise no history of jungle tracking or swimming in river. He did not have neurological symptoms prior to presentation or pre-existing neurological illness. He was not on any over-the-counter medication nor did he consume traditional medicines.

His GCS was E4V3M5, confused, restless and tachypneic. He was admitted to ICU where he was subsequently intubated and ventilated. Malaria test came back positive for plasmodium falciparum. Computer Tomography of brain was done at that time showed no significant abnormality. Patient was given IV artesunate, and IV imipenem which was deescalated to IV ceftriaxone. Serial blood film malarial parasite was done and became negative after 6 days of antimalarial treatment.

During the period of weaning with a view for extubation, he suddenly developed pulmonary hemorrhage which required high ventilator settings with an APRV mode for 3 days but subsequently weaned down to cPAP later. Platelets transfusion was given for thrombocytopenia (Platelets count ranging 7- 36). Renal impairment and coagulopathy was corrected with blood products and adequate hydration. He was successfully extubated at day 14 in ICU and made a full recovery upon discharged from ward.

A FATAL CASE OF VIBRIO VULNIFICUS CELLULITIS WITH SEPTICAEMIA IN AN IMMUNOCOMPROMISED PATIENT

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INTRODUCTION

We present a case report of a patient who presented with lower limb cellulitis and jaundice complicated with sepsis and multi-organ failure. The case is of note as the aetiology of the lower limb cellulitis was caused by *Vibrio vulnificus*, an uncommon causative agent for cellulitis and septicaemia in this country. This bacterium is commonly found within molluscan shellfish. Primary septicemia is often fatal, principally affecting persons with chronic liver disease.

CASE DESCRIPTION

A 41-year-old Malaysian Malay gentleman, presented with a history of lower limb cellulitis and jaundice for a month prior to presentation to hospital. There was no history of ingestion or handling of any type of seafood. Both his lower limbs were affected from his ankles extending proximally to the lower 1/3 of his shins. The lesions were haemorrhagic bullous in appearance. Patient progressively deteriorated and was later intubated for respiratory distress and septic shock. He was commenced on IV Meropenam and IV Vancomycin. Laboratory findings demonstrated raised liver enzymes, acute kidney failure and coagulopathy. *Vibrio vulnificus* was isolated from his blood. His antibiotics were changed to IV Cefazidime and IV Doxycycline. Further investigations revealed that he had liver cirrhosis secondary to Hepatitis C and was also Retroviral positive. Although his sepsis and multi-organ dysfunction improved his neurological recovery was poor.

CONCLUSION

A high index of suspicion for *Vibrio vulnificus* in high-risk patients and early institution of appropriate antibiotic therapy could reduce morbidity and mortality in this often fatal cause of septic shock.

RAPID RESPONSE TO NEBULIZED ADRENALINE IN A CHILD WITH REFRACTORY STATUS ASTHMATICUS

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INTRODUCTION

This is a case report of a child with refractory status asthmaticus who did not response to conventional asthma treatment but responded well to nebulized adrenaline.

CASE PRESENTATION

MAF, 15 months old boy, had intermittent cough, wheeze and shortness of breath for 3 weeks. Initially, he improved with nebulized salbutamol but gradually his condition worsened and was admitted to a government hospital. He was intubated due to worsening respiratory distress and there was great difficulty in ventilating him. He had severe carbon dioxide retention (ABG: pH 6.61, pCO₂ 333mmHg, pO₂ 168mmHg, HCO₃ 31mEq/L, BE -24). There was silent chest with minimal or no chest rises in spite of peak inspiratory pressure of 50cmH₂O. His condition did not improve in spite of nebulized medications (salbutamol, ipratropium) and intra-venous medications (salbutamol, magnesium sulphate, aminophylline, ketamine, hydrocortisone). Due to the severe respiratory failure, he developed hypotension requiring intra-venous dopamine, dobutamine, nor-adrenaline and adrenaline. MAF was stabilized and transferred to a state referral hospital. A trial of nebulized adrenaline was given and there was dramatic improvement after 10 minutes. The boy's breathing was synchronized with the ventilator and tidal volume improved from 2ml/kg to 4-6ml/kg. Blood gas prior to nebulized adrenaline was pH 6.8, pCO₂ 119mmHg, pO₂ 93mmHg, HCO₃ 20.3mEq/L and BE -16.2 and 30 minutes post nebulized adrenaline ABG improved to pH 7.181, pCO₂ 40.9mmHg, pO₂ 240.6mmHg, HCO₃ 15mEq/L, BE -12.8. Nebulized adrenaline was continued and all his medications were gradually weaned. He was successfully extubated after 5 days.

CONCLUSION

Nebulized adrenaline can be considered in a child with refractory status asthmaticus.

POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME (PRES) – RARE BUT A POTENTIALLY CUMBERSOME NEUROLOGICAL SEQUELAE OF DENGUE FEVER

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Dengue fever is an acute mosquito-borne viral illness which is highly endemic in Malaysia causing potentially lethal complications. According to the latest WHO guidelines 2009, dengue fever is classified as severe if CNS involvement is present. Neurological complications can be subdivided into encephalopathy, encephalitis, neuromuscular disorder and neuro-ophthalmological problems. In our centre, over the past 3 years, two cases of confirmed dengue fever were complicated with posterior reversible encephalopathy syndrome (PRES), which has never been reported in our country. Both our cases presented with focal seizures which were noted during the convalescent phase. These events were associated with hypertensive episodes. CT scans and subsequently MRI of the brain was done. Findings revealed features in consistent with PRES.

OBJECTIVE

The objective is to discuss about dengue fever with PRES as one of the complications observed and the importance of meticulous fluid management.

MATERIAL AND METHOD

Case descriptions of two confirmed cases of dengue fever associated with PRES are discussed, inclusive of the MRI and CT imaging findings.

CONCLUSION

In summary, a vigilant fluid balance is important during convalescent phase to avoid PRES, which is a clinico-radiological entity commonly associated with hypertension. Besides being a vital tool for diagnosis, MRI is essential for prognostication and serves as a guide for a tailored management.

NOT JUST DIARRHEA

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Diarrhea is defined as passage of loose stools, typically at least three time per day. It could be due to infective and non infective causes. Treatments include rehydration, correction of electrolyte derangement and antimicrobial for bacteria gastroenteritis. However, it might due to atypical presentation of other non infective illness. This is a case of 23 year old lady, presented to hospital for fever, vomiting and diarrhoea for 2 days. Despite given of 8 pints of fluids in ward, she continued to deteriorated. She was referred to ICU team for severe metabolic acidosis with bicarbonate of 10 and base excess -18. She was intubated. However, she arrested while waiting for admission to ICU and on arrival to ICU. After return of spontaneous circulation, she was hypotensive required high vasopressor. She was tachycardic with heart rate about 150 bpm. Her peripheries was cold and clammy and she was severely acidotic. She develop anuric acute kidney injury and acute liver failure. Bed side revealed her heart was globally dilated and poor contractility. She was started on adrenaline and continuous renal replacement therapy was started. She improved over the next 24 hours in term of blood pressure and acidosis. Her cardiac contractility improved and peripheries became warm and pulses are bounding. However, she was persistently tachycardia and fever. She was started on antibiotic to cover for bacterial sepsis. In view of her clinical findings and her Burch Wartofsky score of more than 45, thyroid function test was sent and she was started on Lugol's Iodine and intravenous hydrocortisone of 300mg per day. The thyroid function test show high T4 level with low TSH. Propanolol was added after wean off inotropic. She continued to improved and her renal and liver dysfunction improved and she was wean off ventilator with full Glasgow coma score. Subsequently carbimazole was added. She discharged from ICU on day 8.

The diagnosis of thyroid storm is based upon clinical findings. High index of suspicious needed for patient presented with fever, tachycardia, heart failure and gastrointestinal manifestations.

SEVERE UPPER AIRWAY OBSTRUCTION IN PREGNANCY

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Progressive and spontaneous severe upper airway obstruction in obstetric patient is very rare. Several airway changes can occur in normal pregnancy such as congestion, edema and crusting of the laryngeal mucosa. About 60-70% of pregnant women report some hoarseness or breathlessness which is rarely clinically significant. We report a case of a 28-year-old pregnant at 31 weeks gestational age with a body mass index of 49.7 kg/m² and hypertension in pregnancy. She has two months history of respiratory embarrassment and was treated initially as upper respiratory tract infection. Her symptoms worsened and she presented with acute upper airway obstruction, requiring intubation. Radiological assessment of the neck revealed no structural abnormality. Infection was suspected to be the cause of severe infection. She was ventilated for a week in ICU and treated as community acquired pneumonia. Clinically, she has no sign of infection. Furthermore, there was no organism detected in her blood and sputum samples. Her condition improved but still unable to extubate. Direct laryngoscopy and bronchoscopy examination by ENT team was performed. Her supra-glottic structures, sub-glottic structures and trachea were normal except for unhealthy true vocal cord. Tracheostomy was performed as she unable to maintain her airway. She able to breath spontaneously and able to be discharge home with tracheostomy tube after three weeks of hospitalisation. Later, obstetrician will decide on her mode of delivery. This case illustrates that in obstetric patient there are anatomical changes of the airway, but acute severe upper airway obstruction is very rare. Clinicians should be aware that it can be a life threatening condition.

DENGUE SHOCK SYNDROME WITH AN ATYPICAL COMPLICATION

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This is a case of 53 year old Malay lady presented to us with 5 days history of fever, chills and rigors, with loss of appetite and one episode of loose stool on the day of admission. Investigations revealed a platelet of 14,000, haematocrit 51, TWC 4.2 and haemoglobin of 17.5 g/dL. Dengue NS1 was positive. She was diagnosed with decompensated dengue shock syndrome and admitted to the Intensive Care Unit (ICU) for further management.

She was resuscitated with intravenous crystalloids and encouraged to take oral fluids during her critical phase of dengue. She remained haemodynamically stable during that time. Almost 24 hours after completion of the critical phase of dengue she deteriorated. She became more tachypnoeic with evidence of worsening pleural effusions and ascites, requiring non-invasive ventilatory support. There was also evidence of bleeding as haemoglobin dropped to 5.1g/dL. Eventually she was intubated for respiratory distress. A bedside ultrasound scan revealed a large retroperitoneal haematoma. A subsequent CT abdomen showed a retroperitoneal haematoma measuring 12 x 11 x 14cm with on going bleeding. A CT angiographic study revealed bleeding from the right lumbar artery at the level of L2. The interventional radiologist proceeded with embolization. Two days after the first embolization, she underwent a second embolization as there was evidence of active bleeding from a branch of the right phrenic artery.

She was extubated on day 18 in ICU, and subsequent discharge well from ICU on day 22 of her ICU stay.

OPIOIDS AND POST OPERATIVE ILEUS

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OBJECTIVE

To identify the impact of opioid use as analgesic towards gut motility.

METHOD

A retrospective study was done at our center, Hospital Sultan Ismail in 2013. The data collected comprises a total of 488 patients, given PCA opioids following laparotomy. Patient with POI identified and further analyzed to rule out other causes such as sympathetic inhibitory reflexes, inhibitory mediators of inflammatory responses, humoral agents and anesthetic/analgesic effects.

SUMMARY OF RESULTS OBTAINED

Total patients on PCA opioid are 488, 15 patients developed post operative ileus (POI) which is about 3% of the study population. However, it has been identified that 12 patients had developed POI either due to bowel contamination or electrolyte imbalance perioperatively.

CONCLUSION

From this retrospective study, we have identified that patients who had developed POI due to opiates is significantly low. More patients had developed POI due to other causes, mainly electrolyte imbalances, bowel contaminations and sepsis.

HIGH FREQUENCY OSCILLATION VENTILATION (HFOV) FOR ACUTE RESPIRATORY DISTRESS SYNDROME, AN OBSERVATIONAL STUDY

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OBJECTIVES

Recent data suggests that on average more than 40% of patient die from ARDS. Previous trials have shown that application of HFOV compared to conventional ventilation does not reduce in hospital mortality. However, based on our observations, patients with oxygenation failure who were given HFOV as the last resort did show improvement in oxygenation. Therefore, our aims are to study the patients outcome and associated morbidity. Secondary aims are to detect which are the selected patient that will respond to HFOV.

METHODS

We include all 7 patients who were applied HFOV, after failed conventional ventilator from January 2014 till May 2014. The primary outcome was the rate of in-hospital death from any cause. Secondary outcome looking at mean duration of HFOV, ventilator days, days in ICU and associated morbidity.

RESULTS

There were 7 patients, only 2 survived. However, those that died, only 3 had oxygenation failure before they succumbed. All patients had improvement in PF ratio & oxygen saturation after 1 hour of HFOV commencement. Of all the patients, only one had pneumothorax as a complication and that patient survived hospital admission.

CONCLUSION

In conclusion, HFOV has shown oxygenation improvement in ARDS patient. It is relatively a safe rescue therapy for patient that has failed conventional therapy.

SURVEY ON NURSES KNOWLEDGE AND NURSING PRACTICES ON PREVENTION OF VENTILATOR-ASSOCIATED PNEUMONIA IN THE INTENSIVE CARE UNIT OF HOSPITAL SELAYANG

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BACKGROUND

Ventilator associated pneumonia (VAP) is an important safety issue in critically ill patients receiving mechanical ventilation.

OBJECTIVES OF THE STUDY

To determine the level of knowledge among ICU nurses and compliance to nursing practices in regards to prevention of VAP

METHOD

The survey method was via questionnaires and checklists. The questionnaire consisted of 20 questions on knowledge regarding prevention of VAP. The checklist consisted of 3 elements; before endotracheal suctioning, during endotracheal suctioning and after endotracheal suctioning. Data was analysed using SPSS version 21. Data analysis was in the form of frequency and mean.

RESULTS

The questionnaire was distributed to 99 respondents which accounted for 100 percent response rate. 98 percent of the respondents recognized the oral route as the recommended route for intubation. 83 percent of respondent knew that head of bed elevation can reduce the incidence of VAP. Only 34.3 percent nurses were compliant to the use of hand rub compare prior to endotracheal suctioning procedure. The main reason for the high rate of non-compliance was reported to be due to hand dryness after using hand rub. From the survey the majority of respondents complied with oral toilet but did not apply Vaseline to the lips as recommended to prevent dryness and bleeding.

CONCLUSION

Nurses were still lacking in knowledge on prevention of VAP. Continuing education at bedside and supervised demonstration of suctioning and mouth care is important to improve nursing practices in VAP prevention. The questionnaire can also be used before and after educational programs to assess the effect of the programs on nurses knowledge of interventions to prevent VAP.

DELAYED TRACHEAL STENOSIS IN AN INHALATION INJURY PATIENT

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INTRODUCTION

Laryngeal subglottic and tracheal stenosis are the common complications after either accidental or iatrogenic trauma (prolonged intubation or high tracheostomy). Other factors include inhalation injury, inflammation, infection and external trauma. There have been several individual case reports shows a late onset of tracheal stenosis in a post-burn patient. The scar maturation process is slow and the onset and symptoms is often delayed. This report describes a patient who developed a life threatening airway obstruction as a result of delayed tracheal stenosis after inhalational injury aggravated by inflammation secondary to infection.

CASE PRESENTATION

A 35-year-old female sustained a 22% total body surface area 2nd degree burn in a house fire. Patient was admitted into Intensive Care Unit (ICU), intubated for 15 days and successfully extubated. Patient then transferred to general ward and later discharged from hospital. Two month after her injury, the patient presented at casualty department with an acute upper airway obstruction following a short three day history of upper respiratory tract infection. Anesthetist had difficulties to intubate and ventilate the patient and was complicated with massive subcutaneous emphysema, bilateral pneumothorax and pneumoperitoneum. The flexible bronchoscopy revealed a thin septate membrane occluding 50% of tracheal lumen with unhealthy surrounding tissues while computed tomography scan showed a narrowing of the trachea approximately 2.1-cm below the tip of endotracheal tube; narrowest segment extend 1.4-cm in length with the narrowest segment measures approximately 0.7-cm in width. The patient was successfully treated with intravenous antibiotics, open tracheostomy and multiple tracheal dilatation using balloon dilator and discharged home well without tracheostomy tube.

DISCUSSION

Early recognition of potential delayed tracheal stenosis in postburn patient may help to avoid unnecessary morbidity and mortality. To conduct a routine flexible bronchoscopy to a postburn patient might assist in an early detection of this problem. It will be beneficial for all postburn patients with inhalation injury to be seen by Ear, Nose and Throat (ENT) team as an out patient once patient is discharge.