JILID 11 BIL 2 MARCH 2009

BERITA Anestesiologi

Newsletter of the • Malaysian Society of Anaesthesiologists
• College of Anaesthesiologists, Academy of Medicine of Malaysia

Malaysian Society of Anaesthesiologists

College of Anaesthesiologists, Academy of Medicine of Malaysia

19 Jalan Folly Barat, 50480 Kuala Lumpur, Malaysia
TEL (603) 2093 0100, 2093 0200
FAX (603) 2093 0900
EMAIL acadmed@po.jaring.my
WEBSITE www.msa.net.my

EDITOR **Dr Shireen Jayan**

Message from the President of MSA

Friends and colleagues,

This will be my last message as the President of the Malaysian Society of Anaesthesiologists. I must say that I found my time as the President challenging but, at the same time, enjoyable and fulfilling. I would like to thank each and every member of the MSA Executive Committee with whom I worked closely during this time, for their support and cooperation. We had a good committee, and although we had arguments during some meetings, we always managed to come to some agreement, which was based not on individual agenda but on the interest of the whole anaesthetic community. Some of the decisions we made might not have been agreed to by every person in the room, but once a decision was reached, everyone went along with the implementation of that decision.

Reviewing the two years…

One of the main issues faced by the anaesthetic community as a whole was related to the National Specialist Register and the position of Intensive Care as a specialty or subspecialty. This has been elaborated upon in the last Berita Anestesiologi so I shall not dwell on it. I hope we have come to a solution which is to the (at least partial) satisfaction of most anaesthetists but I am sure it will arise again in the future. There can never be a perfect solution, and the important thing, I think, is the negotiation process where we aim for a win-win situation as far as possible. Having said all that, the issue is still not totally resolved, as we are still awaiting the final decision of the National Credentialling Committee before we can have a change in the name of the Specialty. To our intensivist colleagues, we wish you all the best in the development of your specialty, and we hope that we will continue to maintain a close relationship as we have in the past.

Another important challenge was getting the insurance companies and private hospitals to acknowledge that we anaesthesiologists are professionals in our own right and are not "appendages" of surgeons. Here, we have had to negotiate with an insurance company, and write to all the insurance companies as well as the CEOs of the private hospitals to remind them that the anaesthetist's charge is a separate charge from the surgeon's fee and is not a percentage of the surgeon's fee. Fortunately the Private Healthcare Facilities and Services Act has adopted and adapted the MMA Schedule of Fees where Anaesthetists' fees are separate from that of surgeons. Unfortunately though another issue arose from that which is still being negotiated with the Ministry of Health – the charging for a second operation – while the surgeon is allowed to charge 50% of the scheduled fee for the second surgery (done through the same incision), the Ministry has ruled that the anaesthetist cannot do the same as it is the same anaesthesia! We have written to them arguing that although it is the same anaesthetic, the time taken to do two operations will definitely be longer and therefore the anaesthetist should also be allowed due remuneration for their time, but so far, we have not received a positive response from the Ministry (Bahagian Amalan). We will pursue this and let members know the outcome when we have some good news.

Other than addressing issues affecting the profession as a whole, the MSA during my term has also had discussions with the College of Anaesthetists on whether there should be a merger between the two – at the moment, we have decided to remain separate but are trying to coordinate activities a bit better so that the limited resources (human and financial) we have can go further. Perhaps it is a bit sentimental, but I personally would like to continue with both organisations as I feel that each can focus on different aspects – while both can carry out CPD activities (of which there can never be too many!), the MSA can concentrate on "welfare" issues while the College can concentrate on setting practice standards and ensuring adherence to these standards among anaesthesiologists in the country.

Moving on, the MSA has strived to keep organizing CPD activities for our members – other than the Annual Scientific Meeting, we have also organized local workshops and seminars in different parts of the country. We are very aware of the possibility of being too "Klang Valley-centric" and have therefore allocated specifically funds for activities in other regions, to be coordinated by the state coordinator who is appointed annually by the MSA. We have also continued to celebrate National Anaesthesia Day, with more participation in

Continued on page 2

Continued from page 1

2008 (as shown in the last issue of the Berita) – this is important, as we need to keep raising the public profile of the anaesthesiologist as an important member of the medical profession.

The MSA has continued to work closely with industry to run workshops and "road shows" for educational purposes and we hope that this will continue even in the bad economic climate, as education must never stop. However, I would like to appeal to members to start thinking about funding their own CPD activities (i.e. paying your own registration fees for conferences!!) as I think we have really been "spoilt" by the industry in the past. In the future, funds will be limited and members will have to pay for their own education – and I believe you can never put a price on knowledge. The MSA, on our part, will continue to assist members to attend conferences in the region and abroad, as we have been doing for years - however, members MUST be prepared to come out with some funding of their own in the future.

Internally, the MSA has worked hard to "clean up" our membership database and to improve communication with members through an actively updated website as well as email communication. We hope to make even more use of the electronic media in the future, for more efficient and "greener" communication.

Networking

During my term as President, I also had the opportunity to meet anaesthetists from the ASEAN region and around the world, at the various conferences I attended. The main conferences were the 15th ASEAN congress of Anaesthesiologists in Pattaya, Thailand in November 2007, where we held the CASA Board Meeting, and the 14th World Congress of Anaesthesiology in Capetown, South Africa in March 2008 where we attended the WFSA general assembly. In addition, because of my position as President, I have had the opportunity to attend the National Scientific Congress of the Australian Society of Anaesthetists. I also had the opportunity, at the ASA Congress, to attend the meeting of their Overseas Development and Education committee (ODEC), which has a number of projects to which give ASA members the opportunity to experience working in the less developed countries in the Asia Pacific Region and at the same time, helping to develop anaesthesia in those countries – I got a few ideas from them, but unfortunately I have not had time to translate these ideas into action – maybe a project for me during the next two years (as Immediate Past President).

Conclusion

During my two-year term, I also learnt a lot from past presidents and senior members of the fraternity as well as from the younger members of our society. I was inspired by the senior members, and encouraged and energized by the younger members. I would like to thank everyone who has worked together with me, and the MSA over the past few years – every little contribution, be it of an idea, of your time, or of your "sweat" is important and adds value to our community as a whole. I would like to see more anaesthesiologists coming forward to volunteer your time and more importantly, contribute your energy and new ideas, to the Society, so that we will remain a vibrant and relevant organization for our members and continue to contribute to the development of our Specialty in the country.

So – farewell to all, although I will not be writing to you as President anymore, I will continue to be in the MSA Exco as Immediate Past President, and will continue to contribute to the Society in whatever way I can, hopefully for many more years to come.

Warm regards to everyone, and I hope to see you at the 2009 AGM and at the 16th ACA in Kota Kinabalu.

Mary Cardosa
mary.cardosa@gmail.com
18th March 2009

Congratulations

The Malaysian Society of Anaesthesiologists would like to congratulate the following candidates (names in alphabetical order) for passing the recent M Med (Anaes) Examination.

Universiti Kebangsaan Malaysia

1. Dr Asmah Mohd Ghazali
2. Dr Ganesh a/l Peravy
3. Dr Husaini Jawahir
4. Dr Muzlifah Kamarul Bahrin
5. Dr Nor Mohammad Md Din
6. Dr Norsuhaila Mohd Amin
7. Dr Shymala Kumarasamy
8. Dr Sia Wui
9. Dr Wan Rahiza Wan Mat

University of Malaya

1. Dr Aktar bin Abdul Rahman
2. Dr Fatmawati binti Noseri @ Nazri
3. Dr Jeswinder Kaur

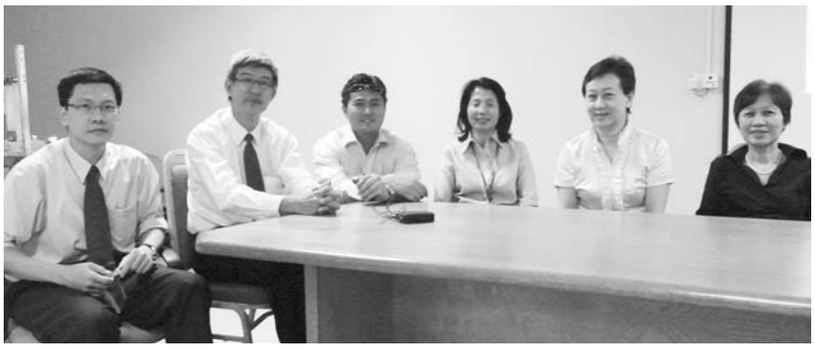
Universiti Sains Malaysia

1. Dr Mohd Nazri Ali
2. Dr Vellan a/l Sinnathamby

AMBULATORY ANAESTHESIA SYMPOSIUM

by Assoc Prof Datin Dr Norsidah A Manap

A half-day Ambulatory anaesthesia symposium was held at the Department of Anaesthesiology and Intensive Care, Universiti Kebangsaan Malaysia Medical Centre (UKMMC) on Saturday, 21st February 2009. It was UKM's turn to host the Klang valley rotational CPDA kindly sponsored by Malaysian Society of Anaesthesiologists and Ambulatory Anaesthesia SIG, College of Anaesthesiologists, AMM. The program started with four lectures on adult and paediatric ambulatory anaesthesia, followed by a forum on the practice and progress of ambulatory anaesthesia. In the latter, we had a peek at the ambulatory set up in the university and the private sector. This generated substantial interest as we shared and compared problems and achievements.



It was indeed a pleasant and inspirational surprise to see about 60 attendees not only from the universities and private sector but also from Hospital Tengku Ampuan Rahimah, Klang (HTAR), Hospital Sungai Buloh, Hospital Tuanku Ja'afar, Seremban, Hospital Temerloh, Hospital Tuanku Ampuan Najihah Kuala Pilah (at least two handfuls of them!) and even as far as Hospital Sultanah Nur Zahirah Kuala Terengganu! The group may have not been very big but they were a 'focused and interested' party. We knew that an ambulatory anaesthesia meeting was long overdue and such interest shown by peripheral hospitals indicate that we should continue to do more. We earnestly hope it would also mean that we will see more ambulatory anaesthesia being practiced nationwide in the near future.

MALAYSIAN SOCIETY OF ANAESTHESIOLOGISTS & COLLEGE OF ANAESTHESIOLOGISTS, AMM

AGM / Annual Scientific Meeting

29th March 2009

Jasmine Room, One World Hotel, First Avenue, Bandar Utama City Centre, Petaling Jaya, Selangor, Malaysia

PROGRAMME

Chairman: Dato' Dr Subrahmanyam Balan

0830 – 0915	Updates in Fluid Resuscitation in Hypovolemic Shock **Professor Teodoro Herbosa** *Visiting Professor, Hospital Universiti Kebangsaan Malaysia*
0915 – 1000	Research Opportunities in Anaesthesiology and Intensive Care **Dr Lim Teck Onn** *Director of Clinical Research Centre, NIH*
1000 – 1030	Coffee / Tea
	ANNUAL GENERAL MEETINGS
1030 – 1100	Intensive Care Section, MSA
1100 – 1230	Malaysian Society of Anaesthesiologists
1230 – 1330	College of Anaesthesiologists, AMM
1330 – 1430	Buffet Lunch

Please RSVP to **603 20930100, 20930200** before **15th March 2009** to facilitate catering arrangements.

Pain as the 5th Vital Sign Implementation in MOH Hospitals

by **Dr Ungku Kamariah**

Anaesthesiologist and Pain Management Specialist, Hospital Pandan, Johor Bahru

Vital signs are among the most important monitoring tools being used clinically for every patient that visits the outpatient clinic or is admitted to the hospital or any medical premise. For decades the four important vital signs, which are the heart rate, blood pressure, respiratory rate and temperature were chosen to monitor the patients' status or condition. We also used monitoring of these vital signs to react and treat patients' efficiently.

Another symptom which is often used by the clinician to monitor a patient's condition is pain. This pain issue has been there for decades but it was never given proper attention as pain is very subjective. Dr Samuel Johnson (1709-1784) an English writer, lexicographer & critic said, "Those who do not feel pain seldom think that it is felt." There are a lot of doubts among clinicians about the usage of this symptom in patients. Many felt pain should be treated but some say it will mask the effect of the disease progression; same as the issue of treating temperature with paracetamol.

Many studies from all over the world indicate that pain is under treated. Studies in cancer patients' prove that 90% of patients' are able to be treated by just oral drugs but unfortunately the latest survey showed that only 50% received adequate pain relief. We also see the same result in our own National Audit on Postoperative Pain Management 2007 where despite being under the Acute Pain Service, 64% of patients' who underwent laparotomy had moderate to severe pain which needed extra attention.

The question is why are there many barriers to treating pain? There are many factors involved. The most important of which is lack of awareness - "if you don't ask, you won't know". Study by Von Roenn JH and group published in Ann Intern Med, 1993 showed that the greatest barrier to effective pain management is inadequate pain assessment.

Large efforts have been made to improve this situation by JACHO - USA (accreditation body) in 2001. They set up standards where pain should be assessed in all patients, and that healthcare professionals are expected to believe a patient's report of pain and respond to it quickly. The American Pain Society Quality Improvement Committee then proceeded to suggest pain be made the fifth vital sign and that it be assessed every time heart rate, blood pressure, respiratory rate and temperature are measured **(American Pain Society Quality Improvement Committee. JAMA. 1995;1847-1880)**.

This implementation made a good impact on patient management. In 2002, Australia implemented it followed by Europe in 2003 and Singapore 2004 - 2005. Malaysia started a pilot project at Hospital Selayang in 2006 and in 2008 Malaysian Ministry of Health approved this implementation.

From December 2007, work has been carried out in Malaysia to prepare training modules which include lecture notes, guidelines, tools for measurement and flow-charts for doctors and nurses to adhere to. The goal was for Implementation of Pain as the Fifth Vital Sign in all MOH Hospitals from 2008 - 2010.

Following this, the training of trainers was conducted early July 2008. The trainers were doctors and nursing representatives from each state hospital in Malaysia. The state team was then to train all their healthcare workers in all the state hospitals within 6 month to achieve an 80% awareness. Unfortunately only one third of the state hospitals managed to complete their training by January 2009.

This year more states will be launching "Pain as the 5th vital sign" to achieve its full implementation in all government hospital by 2010. Training of healthcare workers will focus on state hospitals which did not achieve its target last year to achieve this by June 2009.

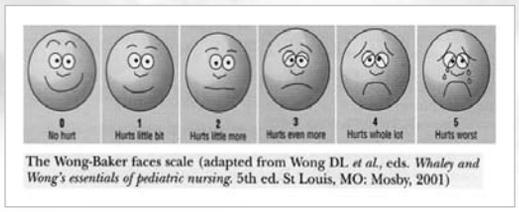
District hospitals with specialists are to be fully trained and to start implementation by July 2009. Hospitals without specialists are to be trained by late 2009 as to meet the target of full implementation by Jan 2010. Hopefully by mid - 2010 survey on implementation can be done to study the impact on patients' care.

Thus the implementation of Pain as the Fifth Vital sign has reached our shores and all efforts by each person in the our healthcare system is responsible for ensuring its successful implementation in our country.

Continued on page 5

Continued from page 4

Combination Rating Scale (NRS & VAS)
Recommended for Ministry of Health
This scale is used for pain measurement in adult patients.



The Wong-Baker faces scale (adapted from Wong DL *et al.*, eds. *Whaley and Wong's essentials of pediatric nursing.* 5th ed. St Louis, MO: Mosby, 2001)

This scale is used for pain measurement in paediatric patients from age above 3 to 7 years old

FLACC SCORE

Category	Scoring		
	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid or jerking
Cry	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging or being talked to distractable	Difficult to console

Each of the five categories (F)face, (L)legs, (A)activity, (C) cry and (C) consolability is scored from 0-2, resulting in total range of 0-10

This scale is used for pain measurement in paediatric patients from age 1 month to 3 years old

E

News from the WFSA

In this edition of News from the WFSA, the focus will be on the work of the Safety and Quality of Practice Committee, chaired by Prof Alan Merry of New Zealand.

The goal of the WFSA is to improve the standard of anaesthesia world-wide. The Safety and Quality of Practice Committee is contributing to this through several projects.

WFSA Web Site *(www.anaesthesiologists.org:)* This has been an important part of improving communication with member societies. Safety and Quality of Practice Committee member, Dr Nian Chih Hwang, contributes an Alerts Section which he updates regularly.

Standards: The International Standards for Safe Anaesthesia developed by an independent task force, endorsed by the WFSA at The Hague, and published in 1993, have been revised as part of a WHO Global Challenge, Safe Surgery Saves Lives. Many people assisted with this task, notably Iain Wilson, Meena Cherian, Olaitan Soyannwo, Jeff Cooper and John Eichhorn (who was part of the original task force). The revised standards were endorsed by the General Assembly of the WFSA in Cape Town in March 2008. They can be viewed on the Website.

The Executive of WFSA has also endorsed a standard promoting the interoperability of anaesthesia equipment, and this too can be seen on the website.

Global Oximetry Project: This was a collaborative project between WFSA, AAGBI and GE Healthcare, to provide low cost pulse oximeters in a package that included education, collection of data and agreements with local anaesthesia providers and healthcare administrators to achieve long-term sustainable change in practice. The GO Committee was initiated from the Safety and Quality of Practice Committee, with Dr Gavin Thoms as our representative and overall Chair. Sub-projects were undertaken in Uganda, the Philippines, Vietnam and India. The aim was for each sub-project to be self-funding. GE Healthcare donated a total of 58 oximeters, 125 sensors and training materials. They also provided considerable logistical support (hosting teleconferences, delivering the oximeters, providing maintenance etc). GE proved to be a great partner in this effort and we are grateful for their support for this important effort. We are particularly grateful for the ongoing commitment of Mark Philips and Colin Hughes.

The participating anaesthesia professionals have completed logbooks and data was presented at the World Congress in Cape Town. A final report is in preparation, to be followed by peer reviewed publications.

For a variety of reasons, the tripartite structure was wound up in Cape Town and the GO project returned to the oversight of the WFSA Safety and Quality of Practice Committee. It remains the Committee's single most important activity.

WHO, Safe Surgery and Pulse Oximetry: Alan Merry and Iain Wilson have also been involved in the World Health Organisation Safe Surgery Saves Lives project (not as representatives of WFSA) and have been very gratified to see the development of a universally applicable checklist with considerable relevance to the promotion of teamwork in the operating room and support for the importance of anaesthesia in safe surgery. This check-list is receiving some high-profile attention around the world.

The WHO has now developed a follow-on initiative to advance the idea of Global Oximetry. This builds on the work of the WFSA GO project and involves Alan and Iain and also several members of the WFSA Executive committee including Angela Enright, Florian Nuevo, Gonzalo Barreiro and Rob McDougall. Working with other members of the WHO team, specifications for the ideal oximeter have been developed and an educational package is being put together. Applications to be a pilot site in this effort are available on the WHO website and have been circulated to WFSA member societies. This is a very exciting development and should lead to improved peri-operative patient safety around the world.

The Virtual Anesthesia Machine (an independent educational project under the direction of Dr Sem Lampotang) is supported by the SQPC. A link to this project is in place from the SQPC section of the WFSA website.

Crisis Management Manual: We are very grateful to the Australian Patient Safety Foundation for allowing the SQPC to place a link from the WFSA website to the APSF Crisis Management Manual.

Incident Reporting: Professor Quirino Piacevoli is responsible for a new project to make incident reporting available to countries that do not currently have access to this facility.

Drug safety: Efforts to promote clearer, more standardised presentation of information on the labels of drug ampoules will be an activity of increased importance for the SQPC over the next four years.

Professor Merry would welcome contact if you have any comments or suggestions or would like to contribute to any of this Committee's activities.

Angela Enright
President

Alan Merry
Chair SQP Committee

NYSORA Symposium on Regional Anaesthesia and Pain Medicine 2009

by **Dr Julina Santhi Johami**
Anaesthesiologist, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan

Dr Admir Hadzic kicks off the symposium

Malaysia was the proud host of the 3rd Pan-Asian New York School of Regional Anaesthesia (NYSORA) Symposium on Regional Anaesthesia and Pain Medicine held from the 6th – 8th February, 2009 at the Crowne Plaza Mutiara Hotel in Kuala Lumpur.

The inaugural meet was held in Singapore in 2007 with the subsequent one in Hong Kong in 2008. Like the previous symposia, the response this year was overwhelming with 250 participants from 28 countries all over the world and half of participants were from Malaysia. The symposium was organized by NYSORA with assistance from Ping Healthcare under the auspices of the Malaysian Society of Anaesthesiologists. Identical hands-on ultrasound-guided regional anaesthesia workshops were held on the 6th and 8th of February. The 7th of February 2009 was filled with lectures featuring some of the most prominent authorities and distinguished speakers in the field of regional anaesthesia and pain medicine namely Dr Admir Hadzic, Dr Manoj Karmakar, Dr Jeff Gadsden and Dr Honorio Benzon, to name a few.


Discussion panel featuring (L to R) Dr Alan Santos, Dr Victor Chee, Dr Admir Hadzic and Dr Clara Lobo



Delegates during the lectures


Dr Nadia Md Nor getting a one-to-one tutorial from Dr Hanapi Md Tahir and having lots of fun!

NYSORA Asia also provided a wonderful opportunity for our local faculty to assist in the running of the workshops. They comprised of Dr Shahridan Fathil (HUKM), Dr Hanapi Md Tahir (Senawang Medical Centre), Dr Ling Kwong Ung (UMMC), Dr Salleh Samad (HKL) and myself.

The NYSORA symposium featured updates on current trends, recent advances and future developments in regional anaesthesia. One of the many highlights was the lecture and workshop on spinal sonography by Dr Manoj Karmakar, one of the leading world authorities on this subject. He introduced his phantom lumbosacral spine skeleton that he immersed in water. Water acts as an interface for the ultrasound waves and this enables one to improve his expertise in spinal sonography.

Dr Honorio Benzon's station on pain management tackled the practical aspects of acute and chronic pain management. The lectures were truly comprehensive covering topics such as local anaesthetic toxicity, patient monitoring during regional anaesthesia, paediatric regional anaesthesia and ultrasound-guided nerve blocks.

In summary, the feedback from the symposium delegates have been extremely positive. Many commended the excellent quality of the lectures and speakers. They also deemed the workshop very useful with a good opportunity for hands-on experience. The delegates left the symposium noting that it had enhanced their knowledge and that they had had a good chance to share clinical experiences with other participants and speakers / facilitators.

Continued on page 7

Continued from page 6

Dr Hema Malini Manogharan and myself having a photo opportunity with Dr Admir Hadzic after he autographed my copy of the Textbook of Regional Anaesthesia

Dr Admir Hadzic, Dr Manoj Kamakar and Dr Clara Lobo showing off their talents at Selangor Pewter

NYSORA Asia was the ideal platform to exchange knowledge and experience and undoubtedly, the perfect opportunity to network with colleagues the world over who share the love of regional anaesthesia. For the local faculty, NYSORA Asia fostered the building of long-term ties, formation of friendships and opportunities for fellowship training in regional anaesthesia. It was truly an unforgettable experience for me and I'm sure for all those who attended the symposium.

E

Multiple Choices QUESTIONS

by **Dr T C Lim**
Anaesthesiologist
Hospital Melaka, Melaka

1. Regarding antimuscarinic drugs

A. Atropine causes intense systemic vasoconstriction and hence is useful in cardiopulmonary resuscitation
B. The mydriatic effect of glycopyrrolate is greater than that produced by atropine
C. The antisialagogue effect of glycopyrrolate may last 2-5 times longer than that provided by atropine
D. Commercial preparation of glycopyrrolate consists of 2 stereoisomers
E. Resistance to tachycardic effects of atropine was reported in certain ethnic groups

2. Regarding sympathomimetics

A. Phenylephrine can be used as nasal decongestant and mydriatic
B. Phenylephrine is available commercially as dphenylephrine bitartrate 1%
C. Phenylephrine may be added to local anaesthetic solution to prolong its action
D. Ephedrine has isomers which are active orally and may be available in combination with antihistamines
E. Ephedrine is approximately 25 times less potent than adrenaline in blood pressure elevation

3. Which one(s) of the following is (are) true?

A. Case-control study is good in studying rare diseases
B. Case-control study is usually conducted to compare the frequency of a certain disease in subjects exposed to a specific risk factor with those who are not exposed
C. A box and whisker plot may be used to assess the normality of data
D. The number needed to treat (NNT) is closely related to absolute risk reduction
E. If drug X is able to reduce the proportion of patients with post-operative nausea and vomiting from 50% to 10%, then the relative risk reduction is 40%

4. Which one(s) of the following is (are) true?

A. Mainstream capnograph can be used as a monitor of respiration in a patient undergoing spinal anaesthesia sedated with midazolam
B. Capnograph can be used to estimate the outcome of resuscitation in patients with cardiac arrest
C. Capnograph is reliable in the detection of accidental endobronchial intubation
D. Invasive blood pressure monitoring via femoral artery is not usually performed due to the higher incidence of thrombosis as compared to radial artery
E. Bi-spectral monitoring is useful in the prevention of awareness in cardiac patients undergoing open heart surgery performed under general anaesthesia

5. Which one(s) of the following is (are) true?

A. Spinal anaesthesia is the technique of choice in repair of hip fracture in adults as it is strongly proven to reduce the mortality as compared with general anaesthesia
B. Ticlopidine should be discontinued for one week if central neuraxial blockade is planned for a patient scheduled for total knee replacement
C. Surgeries should be deferred in patients with severe hypertension >140/90 mmHg to allow more time for blood pressure control as this is proven to reduce perioperative risk
D. Asymptomatic functionally active patients with previous successful coronary revascularization within the last 5 years can be cleared for non-cardiac surgery without further investigation
E. Functional capacity of a patient with ischeamic heart disease can be assessed and expressed in metabolic equivalent levels

Answers are on Page 8

ANSWERS *for the* MULTIPLE CHOICE QUESTIONS

1. **FFTFT**
   Atropine produces no significant effects on blood vessels a most vascular beds lack significant cholinergic innervation. Glycopyrrolate has almost no mydriatic properties. Commercial preparation of glycopyrrolate consists of 4 stereoisomers. It was quoted that Negroes are particularly resistant to tachycardic effects of atropine due to genetic variation.

2. **TFTTF**
   Phenylephrine is available as l-phenylephrine hydrochloride 1%. Racemic Pseudoephedrine is active orally and is usually available in combination with tripolidine which is used in symptomatic treatment of cough and cold. Cardiovascular effects of ephedrine resemble that of adrenaline but ephedrine is approximately 250 times less potent than adrenaline.

3. **TFTTF**
   Case-control study is generally used to study rare diseases and it is conducted to study the frequency and amount of exposure in subjects with a specific disease (case) and those without the studied disease (control). Several tests may be performed to test the normality of data, namely comparison of mean and median, construction of box and whisker plot and plotting of histogram with a superimposed normal curve. Number needed to treat (NNT) is calculated as 1/Absolute Risk Reduction. Relative risk reduction is the proportional reduction in rates of adverse outcomes between experimental and control groups, and in this case, the relative risk reduction is 50-10/50 x 100% = 80%.

4. **FTFFT**
   Mainstream capnograph is usually used in intubated patients and side-stream capnograph is more appropriate to be used in non-intubated patients. As End Tidal CO_2 correlates well with cardiac output during resuscitation, capnograph is useful in the estimation of outcome of resuscitation. It is not reliable in detecting endobronchial intubation and this was shown in a study of anaesthetic incidence in United Kingdom in 1997, whereby only 0.7% of the cases of endobronchial intubation was detected by capnograph (McCoy EP, at al 1997). Femoral artery thrombosis is rare due to the larger vessel to catheter ratio and higher flow rate as compared to radial artery. Bi-spectral (BIS) monitoring is useful in prevention of awareness in patients who are considered to be in the high risk group, ie heart surgery, Cesaerean section and trauma surgery (Myles PS et al 2004).

5. **FFFTT**
   According to a large systematic review in the Cochrane Database, regional anaesthesia in fixation of hip fracture may reduce the postoperative confusion but no conclusion can be drawn for mortality or other outcomes (Parker MJ et al 2004). Ticlopidine should be taken off for 10-14 days before a central neuraxial blockade can be performed (ASRA 2003). As per ACC/AHA guidelines published in 2002, elective surgery should be postponed in severely hypertensive patients (>180/110 mmHg) in order to gain time to control the blood pressure but there is no clear evidence that deferring anaesthesia and surgery in such patients reduces perioperative risk. In the same guidelines, asymptomatic patient with previous successful coronary revascularization within the last 5 years should be cleared for non-cardiac operations without further investigation.