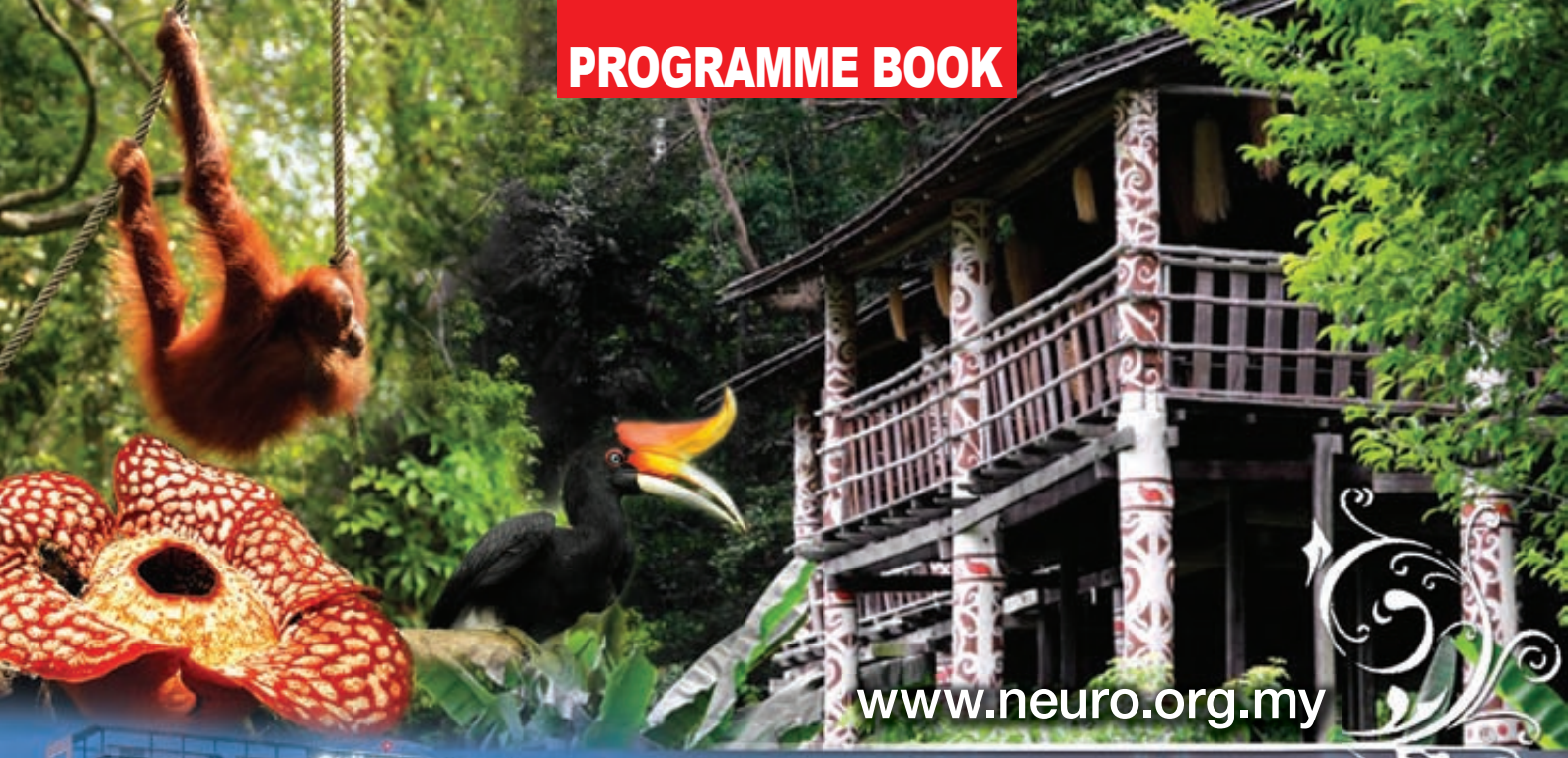
PROGRAMME BOOK



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Neuroscience 2013

24th Annual Scientific Meeting of Malaysian Society of Neurosciences

14th -16th June 2013 • Pullman Kuching Hotel, Sarawak

Organised by:

MALAYSIAN SOCIETY OF NEUROSCIENCES
persatuan neurosains malaysia

Supported by:

SARAWAK CONVENTION BUREAU

Contents

WELCOME MESSAGE FROM THE PRESIDENT OF THE MALAYSIAN SOCIETY OF NEUROSCIENCES

Against a backdrop of breathtaking beauty of Kuching, in the state of Sarawak, the Malaysian Society of Neurosciences is delighted to welcome each of you to the 24th Annual Scientific Meeting of Neurosciences at Pullman Kuching Hotel.

Eminent speakers within Malaysia and from Singapore, Thailand and Australia, will share their experiences and best practices in topic such as headache/pain , CNS infection and advanced treatment for Motor Neuron Disease. There are also two workshops focusing on Transcranial Magnetic Stimulation (TMS) and Pain/Headache will be conducted to benefit all the participants.

At the same time, the conference has also attracted a heart-warming response in poster presentation. Malaysian Society of Neurosciences is pleased to offer travel grant for those who applied and involved in the poster presentation. Besides that, fabulous prizes will also be given to all the winners in the poster presentation.

I would like to thank the organizing committee members, sponsors for their effort to make this meeting a success.

Lastly, I wish you have a pleasant stay in Kuching and a very fruitful meeting.

Prof Dr Hamidon Basri
President
Malaysian Society of Neurosciences

MESSAGE FROM THE SCIENTIFIC CHAIRMAN

I would like to thank you for your participation and welcome all of you to the 24th Malaysian Society of Neurosciences (MSN) Annual Scientific Meeting 2013, Kuching, Sarawak. It has been a culture for the MSN to organise the annual scientific meeting in different states every year aiming to benefit the local physicians, medical officers and the allied health staffs. I hope, as a result, the Sarawak participants will benefit more from this meeting.

The key topics of the MSN scientific meeting change in a 3 to 4-year cycle. The hot topics, e.g. Stroke, Parkinson's disease, Neuromuscular disorders, Multiple Sclerosis and Epilepsy, were presented and discussed in the previous years. In 2013, the emphasis was on issues which are commonly encountered in both in- as well as out-patient, such as headache/pain and CNS infection. In addition, besides advanced treatment for Motor Neuron Disease, we would also like to inform you the importance of rehabilitation and social support in this condition. We hope, by doing so, this meeting will benefit as many participants as possible, including those from the district hospitals and primary care clinics. At the same time, I am sure the exciting advancement of transcranial magnetic stimulation will attract the attention of the professionals.

This is the first year for which the organisation of the meeting was supported financially by Sarawak Convention Bureau and assisted by an event manager i.e. Console Communications Sdn. Bhd. I would like to take this opportunity to thank the Sarawak Convention Bureau for their support and the staffs from Console for their professional assistance. I hope the participants will enjoy the local hospitality. In addition, I would like to thank the government as well as the pharmaceutical companies for sponsoring delegates to attend this meeting, without those, this meeting will not be a success.

I, on behalf of all committee members of MSN and organising committee members of this scientific meeting, would like to express our gratitude to the speakers and chair persons for your contribution, and the poster presenters and all delegates for your participation, in order to improve the neurology services in Malaysia and at the same time to make neurology a more interesting subject.

Dr. LIM Kheng Seang
Scientific Chairman
24th Annual Scientific Meeting of Malaysian Society of Neurosciences

ORGANISING COMMITTEE

ORGANISING CHAIRPERSON

Hamidon Basri

TREASURER

Tan Kay Sin

SCIENTIFIC COMMITTEE MEMBERS

Lim Kheng Seang (Scientific Chair)

Tan Chong Tin

Goh Khean Jin

Julia Shahnaz Merican

COMMITTEE MEMBERS

Santhi Datuk Puvanarajah

Looi Irene

Michael Ling King Hwa

Mohd Feizel Alsiddiq Mohd Fakharuddin

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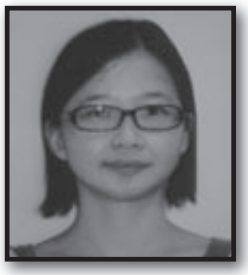


Goh Hui Ting
Malaysia

Goh Khean Jin
Malaysia

Julia Shahnaz Merican
Malaysia

Lee Ming Tatt
Malaysia

Loh Ee Chin
Malaysia

Lo Yew Long
Singapore

Athena Tang Mee Yee
Malaysia

Mohd Feizel Alsiddiq Mohd Fakharuddin
Malaysia

Ong Beng Hooi
Malaysia

Sharon Tai
Malaysia

Malaysian Society of Neurosciences 2013

Suhailah Abdullah
Malaysia

Supoch T
Thailand

Tan Chong Tin
Malaysia

Terrence Thomas
Singapore

Timothy William
Malaysia

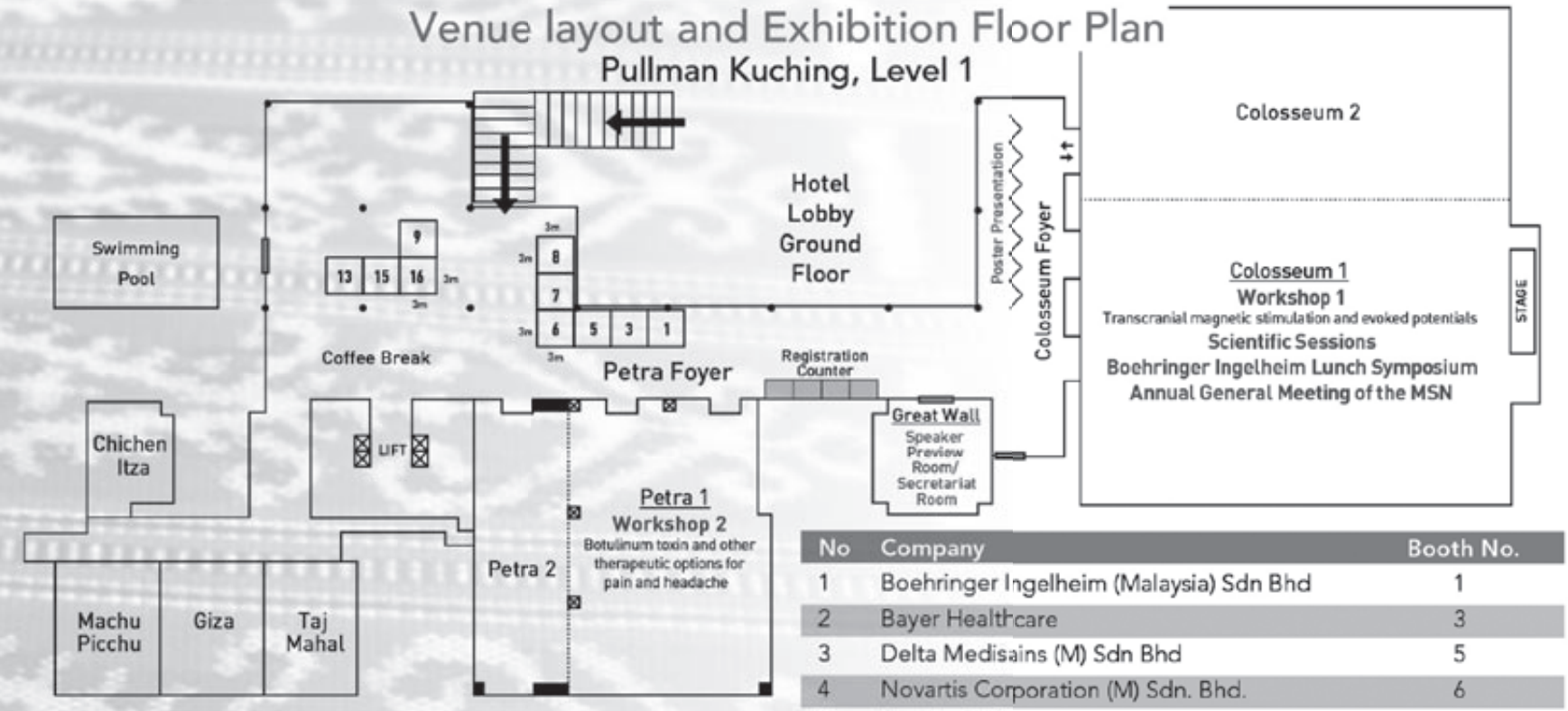
Neuroscience 2013

24th Annual Scientific Meeting of Malaysian Society of Neurosciences

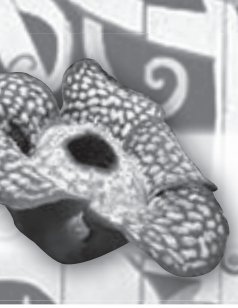
14th -16th June 2013 • Pullman Kuching Hotel, Sarawak

Venue layout and Exhibition Floor Plan

Pullman Kuching, Level 1



No	Company	Booth No.
1	Boehringer Ingelheim (Malaysia) Sdn Bhd	1
2	Bayer Healthcare	3
3	Delta Medisains (M) Sdn Bhd	5
4	Novartis Corporation (M) Sdn. Bhd.	6
5	Lundbeck Malaysia Sdn Bhd	7
6	Orient EuroPharma (M) Sdn Bhd	8
7	Pfizer (Malaysia) Sdn Bhd	9
8	MKS Medic Sdn Bhd	13
9	Eisai (Malaysia) Sdn Bhd	15
10	GlaxoSmithKline Pharmaceutical Sdn Bhd	16



CONFERENCE INFORMATION

❊ Registration Counter ❊

Registration Counter is located at Foyer of Level 1, Pullman Kuching Hotel.

❊ Opening hours of the Registration Counter ❊

- 14th June 2013 Friday 0800 hr - 1800 hr
- 15th June 2013 Saturday 0730 hr - 1830 hr
- 16th June 2013 Sunday 0730 hr – 1230 hr

❊ Trade Exhibition ❊

Trade Exhibition is located at foyer of Level 1, Pullman Kuching Hotel and the opening hours are as follows:

- 14th June 2013 Friday 1430 hr - 1800 hr
- 15th June 2013 Saturday 0830 hr - 1830 hr
- 16th June 2013 Sunday 0830 hr – 1230 hr

❊ Free Paper (Poster) Presentation ❊

Free Paper (Poster) presentation is located at foyer of Level 1, Pullman Kuching Hotel and and the opening hours are as follows:

- 14th June 2013 Friday 1430 hr - 1800 hr
- 15th June 2013 Saturday 0730 hr - 1830 hr
- 16th June 2013 Sunday 0730 hr – 1230 hr

❊ Official Language ❊

The official language of the Conference is English.

❊ Certificate of Attendance ❊

Certificate of Attendance will be given to all registered delegates at the Registration Counter.

❊ Name Badges ❊

Registered delegates are to wear their name badges at all times during the Conference for identification and security purposes. Admission to all Conference sessions and official functions is based on name badges.

❊ Cellular Phone ❊

As a courtesy to all delegates and speakers, cellular phones, pagers and others electronic devices must be operated in silent/vibrated mode throughout the Conference sessions. No telephone conversations are permitted in the session rooms.

❊ Lunch ❊

• All the Lunch will be served at Ground Floor, Puzzle Restaurant, Pullman Kuching Hotel
• Please present your lunch voucher to the staff on duty to enter the Lunch area.

❊ Coffee Break ❊

Morning and evening coffee break will be served at the Trade Exhibition located at Foyer of Level 1, Pullman Kuching Hotel.

❊ Liability ❊

The Organising Committee will not assume any responsibility for accidents, losses or damages, as well as for delays or modifications in the programme.

DAY 1 (PRE-CONFERENCE WORKSHOPS): FRIDAY, 14TH JUNE 2013

TIME	WORKSHOP 1 **Transcranial magnetic stimulation and evoked potentials** *Chairperson: Goh Khean Jin & Looi Irene* *Venue: Colosseum 1, Level 1*
1430 - 1500	Introduction to TMS - MEP, CMCT and Motor Threshold ***Ong Beng Hooi***
1500 - 1530	Clinical Utility of Single Pulse Transcranial Magnetic Stimulation ***Lo Yew Long***
1530 - 1600	Clinical Applications of Repetitive Transcranial Magnetic Stimulation ***Lo Yew Long***
1600 - 1630	**Coffee Break (Poster Viewing)** ***Venue: Foyer of the Level 1***
1630 - 1700	Application of repetitive TMS in rehabilitation ***Goh Hui Ting***
1700 - 1800	Demonstration and Hands on ***All Faculty***

TIME	WORKSHOP 2 **Botulinum toxin and other therapeutic options for pain and headache** *Chairperson: Julia Shahnaz Merican & Ooi Phaik Yee* *Venue: Petra 1, Level 1*
1430 - 1500	Botulinum toxin and management of chronic migraine ***Julia Shahnaz Merican***
1500 - 1530	Neuropathic pain, when the nerve is sick ***Athena Tang Mee Yee***
1530 - 1600	Nerve blocks in the treatment of migraine and cluster headache ***Julia Shahnaz Merican***
1600 - 1630	**Coffee Break (Poster Viewing)** ***Venue: Foyer of the Level 1***
1630 - 1645	Video on BOTOX injection for migraine
1645 - 1715	Case discussion
1715 - 1730	Q & A

DAY 2: SATURDAY, 15TH JUNE 2013

TIME	
	Plenary lecture: CNS infection *Chairperson: Tan Chong Tin & Tan Kay Sin* *Venue: Colosseum 1, Level 1*
0830 - 0900	Neurological complications in HIV ***Supoch T***
	Symposium 1: CNS infection *Venue: Colosseum 1, Level 1*
0900 - 0930	TB meningitis ***Sharon Tai***
0930 - 1000	Virus and Host Factors in Human Enterovirus 71 pathogenesis ***Chan Yoke Fun***
1000 - 1030	Updates on malaria ***Timothy William***
1030 - 1040	Q&A
1040 - 1100	**Coffee Break (Poster viewing)** *Venue: Foyer of the Level 1*
	Symposium 2: CNS immune disease and other infection *Chairperson: Lim Kheng Seang & Soo Hua Huat* *Venue: Colosseum 1, Level 1*
1100 - 1125	First acute demyelinating syndrome (ADS) events in South East Asian children - are we different? ***Terrence Thomas***
1125 - 1150	Immune encephalitis ***Suhailah Abdullah***
1150 - 1215	Acute muscular sarcocystosis due to Sarcocystis Nesbitti infection causing febrile myositis associated with distinctive facial swelling from jaw muscle myositis ***Tan Chong Tin***
1215 - 1230	Q&A
1230 - 1400	**Boehringer Ingelheim Lunch Symposium** ***Lim Thien Thien*** ***Chairperson: Hamidon Basri*** *Venue: Colosseum 1, Level 1 (Lunch at Ground Floor, Puzzle Restaurant)*
	Symposium 3: Motor neuron disease *Chairperson: Goh Khean Jin & Santhi Datuk Puvanarajah* *Venue: Colosseum 1, Level 1*
1400 - 1430	United in the worldwide ght against ALS/MND: Challenges, cooperation, collaboration ***Carol Birks***
1430 - 1500	MND in Malaysia ***Goh Khean Jin***
1500 - 1530	Palliative care for MND patients ***Loh Ee Chin***
1530 - 1700	Case discussion: CNS infection and immune disease
1700 - 1715	**Award presentations** *(Best Paper and Best Poster Awards)*
1715 - 1730	**Coffee Break (Poster viewing)** *Venue: Foyer of the Level 1*
1730 - 1830	**Annual General Meeting of the MSN**

DAY 3: SUNDAY, 16TH JUNE 2013

TIME	
	Plenary lecture: Headache and pain *Chairperson: Julia Shahnaz Merican & Hamidon Basri* *Venue: Colosseum 1, Level 1*
0830 - 0930	Updates in the management of headache disorders ***Charles Siow***
	Symposium 4: Headache and pain *Venue: Colosseum 1, Level 1*
0930 - 1000	Diagnostic and management challenges of headache in children ***Mohd Feizel Alsiddiq Mohd Fakharuddin***
1000 - 1030	Neurogenetic and neurometabolic causes for recurrent headache and migraine ***Choy Yew Sing***
1030 - 1040	Q&A
1040 - 1100	**Coffee Break** ***Venue: Foyer of the Level 1***
	Symposium 5: Headache and pain *Chairperson: Michael Ling & Mohd Feizel Alsiddiq Mohd Fakharuddin* *Venue: Colosseum 1, Level 1*
1100 - 1125	Chronic Daily Headache ***Julia Shahnaz Merican***
1125 - 1150	Trigeminal Neuralgia ***Goh Khean Jin***
1150 - 1215	Pharmacological Journey of a Synthetic Curcuminoid Derivative: Combatting Pain and Inammatory Responses in Experimental Setting ***Lee Ming Tatt***
1215 - 1230	Q&A
1230 - 1240	**Closing Remarks** ***Hamidon Basri***

Date: 14th June 2013
Time: 1430 - 1500
venue: Venue: Colosseum 1, Level 1

WORKSHOP 1
Transcranial magnetic stimulation and evoked potentials

❋ Introduction to Transcranial Magnetic Stimulation: MEP, CMCT and Motor Threshold

Ong Beng Hooi
Department of Medicine, Neurology unit, Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia.

Transcranial Magnetic Stimulation (TMS) is a technique for noninvasive neurostimulation and neuromodulation of the human brain based on the principle of electro- magnetic induction of an electric field in the brain. It has been evolving and improved 30 years back since introduced by Merton and Morton. TMS nowadays is an established neurophysiological tool to examine the integrity of the fast-conducting corticomotor pathways in a wide range of neurological diseases associated with motor dysfunction.

Here we will discuss on the technical principle and physiological aspects of TMS that are relevant for the diagnostic use of TMS, emphasizing on motor evoked potential (MEP), corticomotor conduction time (CMCT) and motor threshold (MT). This is followed by a brief description of how to examine MEP, CMCT, and MT to the hand and leg muscles in patients for the reason of diagnostic utility.

The main goal of this lecture is to provide clinical understanding and practical guide that can assist neurophysiologists and technicians in their daily clinical work in the hope that TMS can become a routine neurodiagnostic tools in their daily neurophysiology work.

Date: 14th June 2013
Time: 1500 - 1530
venue: Venue: Colosseum 1, Level 1

WORKSHOP 1
Transcranial magnetic stimulation and evoked potentials

❊ Clinical Utility of Single Pulse Transcranial Magnetic Stimulation

Lo Yew Long
Department of Neurology
National Neuroscience Institute
Singapore General Hospital

Magnetic stimulation is a non-invasive tool for the painless excitation of neural tissue, including cerebral cortex, spinal roots, cranial and peripheral nerves. It can be applied as single pulses of stimulation, pairs of stimuli separated by variable intervals to the same or different brain regions as transcranial magnetic stimulation (TMS), evoking measurable effects.

TMS may contribute to understanding the neural circuitry underlying neurological and psychiatric disorders. This had led to development of clinically useful diagnostic and prognostic evaluations. Apart from cortical excitability and conduction parameters recorded from peripheral muscles as motor evoked potentials (MEP) obtained with cortical stimulation, magnetic excitation of the cranial nerves and cerebellum is feasible clinically. In addition, TMS can be utilized in the study of interhemispheric and intrahemispheric inhibition in various motor control tasks. Single pulse TMS can evaluate cortical representation of a peripheral muscle serially in experiments addressing plasticity modulation.

In conjunction with fMRI, PET, SPECT and near-infrared spectroscopic imaging (NIRS), TMS can provide complementary information on neurovascular coupling changes during brain processing.

The lecture will introduce principles, techniques and potential clinical applications of this useful tool.

Date: 14th June 2013
Time: 1530 - 1600
venue: Venue: Colosseum 1, Level 1

WORKSHOP 1
Transcranial magnetic stimulation and evoked potentials

❋ Clinical Applications of Repetitive Transcranial Magnetic Stimulation

Lo Yew Long
Department of Neurology
National Neuroscience Institute
Singapore General Hospital

Transcranial magnetic stimulation (TMS) is simple, painless and non-invasive technique to modulate cortical activity. Repetitive TMS (rTMS) delivers a continuous train of pulses to enhance (> 1 Hz) or suppress (< 1 Hz) cortical excitability for a longer duration. Recently, newer modes of rTMS, such as theta-burst stimulation, have been explored for this purpose.

Although rTMS is FDA approved only for treating depression, numerous studies have been published on its use in treating tinnitus, migraine, chronic pain, movement disorders, stroke and other psychiatric conditions.

Use of 10 Hz stimulation over the left dorsolateral prefrontal cortex has been shown to be effective for managing depression in large, placebo-controlled multicentre trials. However, only limited evidence is available on its efficacy in mania, anxiety, psychosis and obsessive-compulsive disorders. Suppression of left auditory cortex activity with 1 Hz rTMS is efficacious for treating tinnitus in both Western and Asian settings. Similarly, repetitive TMS (rTMS) has been applied to neuropathic, post-stroke, phantom limb, visceral and trigeminal pain in the experimental setting, in addition to complex regional pain syndrome and fibromyalgia. A recently-developed hand-held TMS device has been effective for aborting migraine attacks. Limited evidence from smaller studies is only available regarding its usage in gait disorders, tremors and post-stroke deficits.

This overview will focus on principles, methodology, applications and recent developments of rTMS, within the larger context of modulating cortical function.

Date: 14th June 2013
Time: 1630 - 1700
Venue: Colosseum 1, Level 1

WORKSHOP 1
Transcranial magnetic stimulation and evoked potentials

❋ Application of repetitive TMS in rehabilitation

Goh Hui Ting
Rehabilitation Medicine
Faculty of Medicine
University of Malaya

Abstract
Transcranial magnetic stimulation (TMS) was introduced to the field nearly 20 years ago. In addition to its sophisticated role as a tool to study human brain physiology, its therapeutic implications for rehabilitation have received great deal of attention. In this talk, I will discuss the applications of repetitive TMS (rTMS) in rehabilitation in various neurological populations. Clinical benefits of rTMS have been tested in various neurological populations, including stroke, Parkinson's disease, spinal cord injury, dystonia, and traumatic brain injury. However, except for stroke, evidence for clinical benefits is rather scare and inconsistent. Short-term benefit of rTMS has been consistently demonstrated for motor and language recovery after stroke, while long-term benefit needs further confirmation. Specific considerations for rTMS parameter settings and patient selection will be discussed.

Date: 14th June 2013
Time: 1500 - 1530
Venue: Petra 1, Level 1

WORKSHOP 2
Botulinum toxin and other therapeutic options for pain and headache

❋ Neuropathic pain, when the nerve is sick

Athena Tang Mee Yee
Anaesthetist and Pain Specialist,
Faculty of Medicine and Health Sciences
Universiti Malaysia Sarawak

Abstract
Neuropathic pain is defined as "pain caused by a lesion or disease from somatosensory nervous system" by International Association for the Study of Pain (IASP) Taxonomy Working Group in 2011. Sound management of patients with neuropathic pain requires understanding of the pathophysiology of neuropathic pain and assessment of pain phenotypes.

The objectives of this 30 minutes lecture are,
1. To understand the pathophysiological mechanisms of neuropathic pain.
2. To recognise the different neuropathic pain phenotypes and their causative mechanisms.
3. To explore different anti-neuropathic agents.
4. To look briefly into currently available neuropathic pain management guidelines.

Reference
1. Baron R, Binder A, Wasner G. Neuropathic pain: diagnosis, pathophysiological mechanisms, and treatment. Lancet Neurol 2010:9;807-19
2. Part 1: Basic consideration. Bonica's management of pain, 4th ed. Lippincott Williams & Wilkins 2010
3. Cruccu G, Anand P Attal N, et al. EFNS guidelines on neuropathic pain assessment. Eur J Neurol 11: 153-62
4. Attal N, Cruccu G, Baron R, et al. EFNS guidelines on the pharmacological treatment of neuropathic pain: 2010 revision. Eur J Neurol 2010,17:1113–1123
5. Malaysian guidelines. Management of neuropathic pain, 2nd ed. Malaysian Association for the Study of Pain. Available at www.masp.org.my

Date: 15th June 2013
Time: 0830 - 0900
Plenary lecture: CNS infection
Venue: Colosseum 1, Level 1

❋ Neurological Complications in HIV

Supoch Tunlayadechanont
Ramathibodi Hospital, Mahidol University, Thailand.

Being common clinically, affecting all parts of the nervous system and caused by multiple pathological processes, neurological complications are major problem in caring patients infected with HIV. Diagnostic possibilities depend on immunological status, variation in risk factors and prevalence of infective agents in local area. Most of the information, described in medical literatures, comes from developed countries, while 80 to 90% of HIV patients live in Africa and developing countries in Asia. Clinical and pathological series show difference in prevalence of the complications in each population, so we should be very careful in applying data from literatures and textbooks directly to our patients. It is likely that opportunistic infections still be most common treatable neurological complications in some clinical setting.

Neurologists taking care of HIV-infected patients have a chance to earn experience on many relatively rare diseases they hardly encounter before AIDS era. They also encounter many specific difficulties in trying to help the HIV infected patients. They have no formal training in taking care of the HIV infection. Some related physicians are still reluctant to be involved in managing HIV patients. There is very limited budget and local information.

The introduction of effective antiretroviral regimens is very helpful for the patients. However, it poses us new clinical problems including drug toxicity and immune reconstitution disease syndrome.

It is our duty to work together to find the best way to cooperate clinical guideline from developed countries and know what should be expected from the treatment in our limited situation. In my own experience, with all of the mentioned limitation, we should be able to do some help for most of the patients and taking care of HIV infected patients with neurological complications is as rewarding as others diseases.

Date: 15th June 2013
Time: 0900 - 0930
Symposium 1: CNS infection
Venue: Colosseum 1, Level 1

❋ TB Meningitis

Sharon Tai
Department of Medicine, Faculty of Medicine, University of Malaya

Tuberculosis (TB) is a major health and clinical problem worldwide. There are eight million newly diagnosed cases annually. The disease also causes three million deaths. 15% of all TB infections are extra-pulmonary. Extra-pulmonary TB consists of TB lymph node, genitourinary TB, central nervous system TB and others. Central nervous system tuberculosis includes tuberculous meningitis (TBM) occuring in 4% of all cases. Central nervous system tuberculosis is the most severe form of extrapulmonary tuberculous disease.

TB meningitis can present with non- specific symptoms and signs. The other clinical features are confusion, convulsions and cranial nerve palsies. The diagnosis of TB meningitis is based on the characteristic clinical features, radiological abnormalities on CT scan/MRI brain, and cerebrospinal fluid abnormalities. The cerebrospinal fluid (CSF) shows a high CSF white-cell count, which is predominantly lymphocytic, with a high protein and low glucose level (CSF plasma glucose is <50%). In addition, the clinical and cerebrospinal fluid response to anti-tuberculosis medications is helpful. CSF TB PCR can be used for rapid diagnosis of TB meningitis. India ink studies for cryptococcus and cytological examination for malignant cells should be negative.

The severity of TB meningitis at presentation is divided into three stages according to the patient's Glasgow coma score and the presence/absence of focal neurological signs. Stage of TB meningitis:
(a) Stage 1 :Alert and oriented without focal neurological deficits
(b) Stage 2: Glasgow coma score of 11-14 or 15 with focal neurological deficits
(c) Stage 3: Glasgow coma score of 10 or less, with or without focal neurological deficits

The radiological abnormalities of TB meningitis are hydrocephalus, tuberculomas and meningeal enhancement at the basal cistern and sylvian fissure. In addition, the CT scan and MRI brain can also show with stroke at the basal ganglia areas.

Prompt diagnosis and early treatment are very important. The duration for antituberculous treatment for TB meningitis is at least nine months.

Date: 15th June 2013
Time: 0930 - 1000
Symposium 1: CNS infection
Venue: Colosseum 1, Level 1

❋ Virus and Host Factors in Human Enterovirus 71 pathogenesis

Chan Yoke Fun
Department of Medical Microbiology, Faculty of Medicine, Universiti Malaya

Abstract
Human enterovirus 71 (EV-71) usually causes mild hand, foot and mouth disease (HFMD). However in the last decade, Asia has experienced many EV-71 HFMD epidemics with high fatalities due to severe neurological involvement. A recent rise in neurological complications and deaths suggests that the circulating virus may be more virulent. Many viral and host factors are associated with the viral pathogenesis. The virus is highly infectious and genetically diverse, but no strain specific differences are associated with the virus virulence. The major host risk factors associated with severe EV-71 infection is young age and poor cellular immunity. In addition, binding of the virus to different cellular host factors may contribute to the different virus tropisms. Understanding the interplays between various viral and host factors are important for design of vaccines and anti-virals for EV-71.

Date: 15th June 2013
Time: 1000 - 1030
Symposium 1: CNS infection
Venue: Colosseum 1, Level 1

❋ Updates on malaria

Timothy William
Infectious Diseases Unit, Department of Medicine, Hospital Queen Elizabeth

About 3.3 billion people around the world are at risk of getting malaria. An estimated 250 million cases occur per year with nearly 1 million deaths per year around the world. The majority of cases in Malaysia occur in Sabah and Sarawak. The incidence in West Malaysia is less than 0.1/1000.Nevertheless, there have been huge advances in malaria control over the past 5 to 10 years. The control strategies include the increased use of mosquito nets, increase in spraying and the increase in use of Artemesinin based therapy. Malaysia is aiming to eliminate malaria by the year 2020. The challenges we face currently in Malaysia is the difficulty in reducing the number of P.vivax cases and the emergence of P.knowlesi. Malaria deaths unfortunately still occur in Malaysia. Early diagnosis, early treatment and the use of artemesinin based therapy is very important in preventing mortality. Supportive care and close monitoring is also essential. Comprehensive public health measures and optimal clinical treatment will hopefully help Malaysia achieve it target. Eliminating P.knowlesi will be very challenging if not impossible.

Date: 15th June 2013
Time: 1100 - 1125
Symposium 2: CNS immune disease and other infection
Venue: Colosseum 1, Level 1

First Acute Demyelinating Syndrome (ADS) events in South East Asian Children – are we different?

Terrence Thomas
Paediatric Neurologist, KK Women's and Children's Hospital, Singapore.

Inflammatory demyelinating disorders are increasingly being recognised amongst South East Asian children, though the spectrum of disorders differ to what is seen in temperate world regions. Children with a first acute demyelinating syndrome (ADS) show a predilection to symptomatic optic nerve and spinal cord syndromes rather than brain disease. Our Singapore study characterized 25 children of mean age 9.0 +/- 3.9 years, over a 5 year period (2008-2012): 72% had optic neuritis (ON), transverse myelitis (TM) or neuromyelitis optica (NMO); seven children (28%) had either acute disseminated encephalomyelitis or a clinically isolated syndrome. Nine of ten (90%) children with spinal cord disease had longitudinally extensive transverse myelitis (median, 15 vertebral body lengths). Notably, asymptomatic brain lesions were seen in 50% of children with optic-spinal syndromes.

Children in South East Asia share similar environmental risk factors for relapsing demyelinating disease as those living in temperate regions – specifically, low serum vitamin D levels despite our tropical location, and exposure to Epstein-Barr virus. Despite this, eventual risk for multiple sclerosis (MS) and relapsing neuromyelitis optica is low. Though ten (40%) children at first ADS met 2010 MacDonald criteria for dissemination in time and space, only 3 of 25 (12%) children have recurrent disease, one each with relapsing-remitting MS, relapsing NMO and recurrent ON. The other 22 children have remained well for a mean of 3.3 years (range 0.8-5.4 years) on follow up. Ethnicity was not a risk factor for a first ADS, but relapsing disease was seen only in ethnic Chinese and Malay children.

Date: 15th June 2013
Time: 1150 - 1215
Symposium 2: CNS immune disease and other infection
Venue: Colosseum 1, Level 1

❋ Acute muscular sarcocystosis due to Sarcocystis Nesbitti infection causing febrile myositis associated with distinctive facial swelling from jaw muscle myositis

Tan Chong Tin
University of Malaya, Kuala Lumpur, MALAYSIA

ABSTRACT

Sarcocystis species are intracellular protozoan parasites with complex life cycles that include an asexual sarcocyst stage in skeletal muscles. Although human muscular sarcocystosis is prevalent in Southeast Asia, the Sarcocystis species involved is still unknown. The infection was thought to be largely asymptomatic with only a few case reports of eosinophilic myositis. We report a recent large outbreak of symptomatic human muscular sarcocystosis. In January 2012, a group of 92 students and teachers attended a tertiary college retreat on Pangkor Island, off the west coast of Peninsular Malaysia. About 10-12 days after returning home, 89 (97%) of the participants developed fever and other non-specific symptoms. Myalgia, involving various parts of the body was reported in 88% of patients with 45% grading the pain as moderate or severe. 14 patients (16%) had localised muscle swelling; 9 involved the jaw muscles (temporalis and masseter), 4 involved the calves and 1 involved the first dorsal interosseus muscle of the right hand. Jaw muscles involvement was associated with prominent and distinctive facial swelling. Elevated creatinine kinase and mild eosinophilia were found. Muscle MRI in 8 patients demonstrated focal and multifocal high signal changes on T2-weighted and STIR sequences clearly indicating the affected muscles. 4 of these patients underwent biopsy of involved muscles, from which sarcocysts were identified. Myositis was mild except in 1 patient who showed moderate inflammation. There was only focal necrosis and eosinophils were not prominent. PCR analysis confirmed Sarcocystis nesbitti infection. In conclusion, Sarcocystis nesbitti can cause a febrile myositis associated with focal muscle swelling with an especially distinctive facial swelling due to jaw muscle myositis. This is the largest outbreak of human muscular sarcocystosis ever reported.

Date: 15th June 2013
Time: 1400 - 1430
Symposium 3: Motor neuron disease
Venue: Colosseum 1, Level 1

❋ United in the worldwide ght against ALS/MND: Challenges, cooperation, collaboration

Carol Birks
National Executive Director, MND Australia

ABSTRACT
The challenges of supporting people living with ALS/MND are universal. The rapid progression results in increasing support needs to maintain quality of life and social inclusion. The social impact of MND is amplified by its complex nature, the speed of its progression and the spiralling series of losses, which pose:

- huge problems of adjustment for people who have MND;
- an escalating burden on carers and families; and
- a challenge to health and community care professionals involved in meeting the variable and complex care needs

MND care needs to be addressed through a coordinated multi/interdisciplinary team approach with timely referrals to services that will address identified needs.

In Australia these challenges are amplified due to the size of Australia and its relatively small population. In addition care provision for people with MND crosses traditional State and Federal funding silos including; health, disability, chronic disease, aged and palliative care. This funding system and the number of services involved is a frequent barrier to a coordinated, seamless, multi/inter disciplinary team approach and equitable access to quality end of life care.

MND Australia is the national voice for people living with MND. MND Australia works in cooperation with other organisations, health and community care professionals, its members, the State MND Associations and its research arm the MND Research Institute of Australia to promote MND care and research nationally.

MND Australia is a member of the International Alliance of ALS/MND Associations. An objective of the Alliance is to increase awareness of ALS/MND, to exchange and disseminate information, and to improve quality of care and education of professionals in developing countries. The Partnership Program developed to support this objective has become the cornerstone of the Alliance. In addition the Annual Alliance meeting provides opportunities for members to present the programs, resources and models of care available in their countries to support and encourage collaborations worldwide. The Alliance is currently developing a database of people to support regional/geographic and issue/expertise specific collaborations.

Date: 15th June 2013
Time: 1430 - 1500
Symposium 3: Motor neuron disease
Venue: Colosseum 1, Level 1

❊ MND in Malaysia

Goh Khean Jin
Division of Neurology, Department of Medicine, University of Malaya, Kuala Lumpur

Motor neuron disease is a degenerative disorder of the motor neurons. In its most severe form, amyotrophic lateral sclerosis (ALS), there is involvement of both the upper and lower motor neuron with progressive limb, bulbar and respiratory muscle weakness and is uniformly fatal. This is likely to commonest subtype of MND in Malaysians, although milder forms include focal muscular atrophy (Hirayama disease) and hereditary spinal muscular atrophy are also not uncommon. There have been no population based studies in Malaysia although studies have suggested lower incidence and mortality rates of ALS in Asians compared to Caucasian populations. A tertiary hospital series reported a mean age of onset of 51.5 (+11.3) years and median survival of 44.9 (+ 5.8) months. Poor prognostic factors were bulbar onset disease, shorter time from onset to diagnosis and worse functional score at presentation. Ethnic Indians had shorter median survival compared to other groups. Therapeutic interventions with riluzole, PEG feeding and respiratory support was not routine in all patients as this was dependent on availability and affordability of the treatment.

Date: 15th June 2013
Time: 1500 - 1530
Symposium 3: Motor neuron disease
Venue: Colosseum 1, Level 1

❊ Palliative care for MND patients

Loh Ee Chin
Department of Medicine, Faculty of Medicine, University of Malaya

ABSTRACT
Motor Neuron Disease (MND) is characterized by selective loss of neurons in motor cortex, cranial nerve, and anterior horn cells. The common symptoms presented are dysphasia, salivation, dysphagia, weakness, fall, difficulty in breathing and cough. Besides the physical symptoms, psychological symptoms such as depression, anxiety and insomnia would be other concern as well. MND patients seen in neurology clinic will be referred to the palliative care team from time of diagnosis and follow up since then through telephone consult, sms message, day care or outpatient clinic. A group of MND patients were interviewed for evaluation of their symptom burden due to disease progression and psychosocial wellbeing. Respiratory distress and dysphagia are the main symptoms in MND patients which affect patients' quality of life and the survival outcome. Hence, the use of medical intervention such as non-invasive ventilation and percutaneous endoscopic gastrostomy will be offered to these patients through discussion of the pro and cons of each intervention. Discussion of end of life care or advanced care plan is another important part of in the management of MND. It is important for patient and main care giver to understand and anticipate the potential complications and treatment options.

Date: 16th June 2013
Time: 0830 - 0930
Plenary lecture: Headache and pain
Venue: Colosseum 1, Level 1

❊ Updates in the management of headache disorders

Charles Siow
Siow Neurology, Headache and Pain Centre

In this talk, I will be presenting an overview of the treatment of primary headache disorders. These include migraine, tension type headaches and cluster headaches. Specifically I will talk about new and emerging therapies for these disorders. I will also speak on the current treatment modalities for these headache disorders.

At the end of the talk, attendees should be confident in diagnosing and managing the common headache disorders as well being aware of he upcoming treatment options which may be available soon.

Date: 16th June 2013
Time: 0930 - 1000
Symposium 4: Headache and pain
Venue: Colosseum 1, Level 1

❊ Diagnostic and management challenges of headache in children

Mohd Feizel Alsiddiq Mohd Fakharuddin
Department Of Paediatrics, Faculty Of Medicine And Health Sciences
University Putra Malaysia

Headaches are very common in children especially in school going age, increasing into adolescence. Most cases of childhood headaches are still managed at a primary care level in Malaysia. Multiple causes of headaches are identified ranging from common, benign causes to rare, harmful aetiologies.

Symptoms of headache among children is influenced by the age, severity, functional implications and parental perception. Evaluation needs to be tailored accordingly. Wholistic management in childhood headache includes allaying anxiety among parents and extensive discussion on initiating medications for children with migraine. The limited high quality studies on pharmacotherapy of headaches and childhood migraines are discussed.

Date: 16th June 2013
Time: 1000 - 1030
Symposium 4: Headache and pain
Venue: Colosseum 1, Level 1

❋ Neurogenetic and neurometabolic causes for recurrent headache and migraine

Choy Yew Sing
Prince Court Medical Centre, Kuala Lumpur
Sime Darby Medical Centre, Subang Jaya

True migraine is a primary headache disorder with strong familial influence and a diagnosis of exclusion. Migrainous like headache can be secondary to a variety of disorders including tumour, infection, vascular malformation, genetic and metabolic disorders. Familial hemiplegic migraine (FHM) is a form of ion channelopathy due to mutations in the calcium channel CACNA1A gene, Na-K ATPase (ATP1A2) gene and sodium channel SCN1A gene encoding the FHMI, FHM II and FHM III respectively. CADASIL (Cerebral Autosomal Dominant Arteriopathy Subcortical Infarct Leucoencephalopathy) due to mutation in the Notch 3 gene is another neurogenetic cause of migrainous headache with its onset in the middle age. Treatable neurometabolic causes of migrainous headache includes mitochondrial cytopathy particularly MELAS (Mitohdondrial Encephalopathy Lactic Acidosis Stroke -like episodes), urea cycle defect particularly partial OTC deficiency in females, Fabry disease and some of the late onset or adult onset organic acid and amino acid disorders.

In mitochondrial disorders, particularly MELAS, migrainous headache may precede long before the onset of other signs and symptoms. There is enormous variability in the manifestation and severity of involvement in individuals with the same mutation but different mutation load in the same pedigree. Some of the individuals in the family only have migrainous like headache while the others have catastrophic stroke or other organ involvement due to somatic heterogeneity of the mitochondrial mutation. The migrainous headache may be accompanied by transient and episodic weakness, vomiting, visual disturbances and auditory disturbances often mistaken as aura and part of migrainous attacks in patients with MELAS. Diagnosis can be missed as the lactic acidosis may be absent and short-lived. In some patients seizures can occur due to cortical involvement and catastrophic deterioration can occur if mitochondrial toxic anti-convulsants such as valproate acid and barbiturate are given to an undiagnosed patient. It is therefore important to diagnose the condition. Furthermore, the migraine and stroke like episodes can be effectively treated with L-arginine, a precursor of nitric oxide which is a potent vasodilator. In a cohort of 33 Malaysian patients with MELAS, 8 of them (25%) have only migrainous headache as the sole manifestation and they have maintained their health for years with the diagnosis made. In contrast 8 patients passed away due to delayed in recognition and severe involvement.

In order to diagnosed these neurogenetic or neurometabolic disorders with migraine, careful clinical evaluation of various organs in addition to full neurologic evaluation is needed .Three generation family history taking is important to determine the possible underlying cause. Various seemingly unrelated disorders on the maternal side of family may suggest mitochondrial inheritance. Appropriate and timely neuro-diagnostic imaging including MR spectroscopy and ophthalmologic evaluation by an experience ophthalmologist familiar with these disorders is also helpful in the diagnostic pathway of these disorders beside referral to the geneticist for further metabolic and genetic testing.

Date: 16th June 2013
Time: 1125 - 1150
Symposium 5: Headache and pain
Venue: Colosseum 1, Level 1

❋ Trigeminal Neuralgia

Goh Khean Jin
Division of Neurology, Department of Medicine, University of Malaya, Kuala Lumpur

Trigeminal neuralgia (TN) is a severe sharp but intermittent and short-lasting usually unilateral neuropathic pain in the distribution of the Vth cranial nerve. It may be spontaneous or evoked by light touch over specific trigger points. It is more common in the older age group and women. TN can be idiopathic or due to vascular compression of the nerve (classical TN) or secondary to tumour, multiple sclerosis or skull abnormalities (symptomatic TN). Presence of atypical features, younger age of onset and sensory deficits should warrant an MRI brain to exclude symptomatic TN. Initial treatment is with antiepileptic drugs specifically carbamazepine but surgical intervention e.g. microvascular decompression can be considered if no response or unacceptable adverse drug reactions. There have been no direct comparisons between pharmacotherapy and surgical therapy. Spontaneous recovery of classical TN is rare and it tends to be cyclical with relapses and remissions.

Date: 16th June 2013
Time: 1150 - 1215
Symposium 5: Headache and pain
Venue: Colosseum 1, Level 1

❋ Pharmacological Journey of a Synthetic Curcuminoid Derivative: Combatting Pain and Inammatory Responses in Experimental Setting

Lee Ming-Tatt, Chau-Ling Tham, Daud A. Israf, Nordin Lajis, Mohd R. Sulaiman
Inflammation and Pain Research Group, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Pain is often associated with inflammation as protective mechanism to indicate intrusion of foreign antigens that leads to tissue injury. However, chronic pain resulting from prolonged inflammatory condition produces severe physical and psychological distress for patients. Current treatments for pain and inflammation exert undesirable adverse effects thus limited their use. Thus novel and safer substances with potential anti-inflammatory and antinociceptive properties are of research interest. 2,6-bis-4-(hydroxyl-3-methoxybenzilidine)-cyclohexanone or BHMC is a synthetic chemical analogue of curcumin, the active compound of *Curcuma* longa which exhibit wide range of pharmacological effects but limited by its low bioavailability. The design of BHMC was aimed to overcome this limitation and provide a novel candidate for pharmacological exploration. Pharmacological potency of BHMC was first discovered in *vitro*. It significantly inhibited proinflammatory cytokines release possibly via selective inhibition on p38 MAP kinase activity, which corresponded with further in *vivo* evaluation of BHMC that showed significant inhibition in leukocyte migration and vascular permeability. On the other hand, antinociceptive profile study showed that systemic administration of BHMC exerted dose-dependent inhibition on acute (thermal, mechanical and chemical-induced) and chronic (arthritis and neuropathy-induced) models of nociception. Possible mechanisms of action study indicated the possible involvement of descending modulatory pathway activation and K^+ channel opening, resulting in disruption of pain impulse transmission in nociceptive neurons by BHMC. Meanwhile, our recent acquisition in High Performance Liquid Chromatography (HPLC) technique enabled us to further explore the pharmacokinetics of BHMC. Further investigations are continuously conducted to fully explore the pharmacological efficacy of BHMC as potential drug lead for inflammatory and pain complications.

POSTER ABSTRACTS

Poster Judges - Prof Tan Kay Sin, Prof Dato Dr Raymond Azman Ali, Dato Dr Hanip Rafia

Abstract ID 001

Functional transcriptomic analysis of the postnatal brain of Ts1Cje mouse model for Down syndrome revealed global disruption of interferon-related molecular networks.

Pike-See Cheah[1,3] , Kai-Leng Tan[1,3], Chelsee A. Hewitt[2], Ken Simpson[4], Lavinia Hyde[4], Gordon Smyth[4], Tim Thomas[4] and Hamish S. Scott[4,5,6] & King-Hwa Ling[1]

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Introduction:

Down Syndrome (DS) is a genetic disorder resulting from trisomy or partial trisomy of human chromosome 21 (HSA21). DS individuals are found to be presented with various neuropathology features related to cognitive impairment. Since the human samples are difficult to obtain, the use of Ts1Cje, a mouse model for DS was employed in this study to unravel the molecular mechanisms underlying the cognitively relevant phenotypes in DS individuals. Ts1Cje mice harbour with segmental triplication of mouse chromosome 16 (MMU16) in which this chromosome has significant genetic homology with HSA21.

Methods :

72 microarray datasets were generated from three brain regions (cerebral cortex, cerebellum and hippocampus) collected at four postnatal time points; post natal (P)1, P15, P30 and P84 [triplicates samples]. Then, hierarchical clustering of microarray data was performed followed by gene ontology and molecular network enrichment analysis. Finally, the expression profile of gene of interest was validated via qRT-PCR.

Result :

By comparing transcriptomes from different brain regions between the wildtype and Ts1Cje mice, 340 differentially expressed transcripts (DGEs) were identified. Then, functional clustering of 340 DEGS based on gene ontologies further revealed six significant functional clusters related to pathways such as interferon-related signaling pathways and neuronal signaling pathways. Interestingly, three DEGs from the triplicated MMU16 regions were found to be enriched in the presented functional clusters; namely Ifnar1, Ifnar2 and Ifngr2. These genes were found within two annotation clusters for six interferon-related signaling pathways included interferon alpha signaling pathway, toll-like receptor signaling pathway, Jak-STAT signaling pathway. Their expression profile was also validated using RT-qPCR.

Conclusion:

Interferon-related pathways were identified as the most significantly dysregulated molecular networks attributed mainly to the upregulation of interferons receptors, which were encoded by trisomic genes, Ifnar1, Ifnar2 and Ifngr2.

Abstract ID 002

Comparison of Attitudes toward epilepsy between rural and urban Malaysian Malays, using the Public Attitudes Toward Epilepsy (PATE) scale.

Wo MCM[1], Lim KS[1], Tan CT[1], Bhaskar Shalini[2]

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[2]Department of Medicine, School of Medical Sciences, University Sains Malaysia, Kelantan, Malaysia

Introduction:

The people with epilepsy in rural population had been shown to encounter greater stigmatization, probably secondary to variation in attitudes toward epilepsy. This survey aimed to ascertain the variation in attitudes among Malay population toward epilepsy between rural and urban regions in Malaysia, using a validated Malay version of Public Attitudes toward Epilepsy (PATE) scale.

Method:

253 Malay subjects (57.3% female) with a mean age of 38.93±13.49 years were recruited, 160 from Kuala Lumpur (urban) and 93 from Kelantan (rural).

Results:

The rural Malays in this survey were significantly older, less educated, less full-time employed and had lower monthly income ($p<0.001$). There was no significant different in the mean total scores in PATE scale as well as in personal and general domains of the PATE scale. On subcategory analysis, the rural group showed more favorable attitude in items related to marriage ($p<0.05$).

Conclusion:

Rural Malays were more positive toward marriage in people with epilepsy. However, the differences might be related to other socio-economic factors.

Abstract ID 003

Repetitive Transcranial Magnetic Stimulation (rTMS) or Transcranial Direct Current Stimulation (tDCS)?

Goh Hui Ting

Introduction:
Non-invasive brain stimulations, including rTMS and tDCS, have been shown to enhance stroke recovery. However, to date, there is no single study has directly compared the effects of rTMS and tDCS among stroke patients. The objective of the present study was to compare the effect of high frequency rTMS and anodal tDCS on corticospinal excitability among individuals post-stroke

Methods:
Seven chronic post-stroke individuals participated in this study (mean age = 59.6 years). Each participant visited the laboratory twice; one for high frequency rTMS and one for anodal tDCS sessions with counterbalanced order. For high frequency rTMS session, we applied 5Hz rTMS at 90% motor threshold (MT) over the affected primary motor cortex (M1) with total number of pulses of 1200. For the anodal tDCS, we applied 1mA direct current over the affected M1 for 20 minutes via anodal electrode. Corticospinal excitability was quantified by motor evoked potential (MEP) amplitude of the first dorsal interosseous muscle of the affected hand. We measured MEP before brain stimulation and immediately, 15, 30 and 60 minutes after the stimulation. Repeated measures ANOVA was used to analyze the MEP data.

Results:
No single adverse effect was reported. Both types of intervention increased MEP significantly and lasted up to 60 minutes. There was no difference between the types of stimulation.

Conclusion:
Both anodal tDCS and 5Hz rTMS are safe and effective to up-regulate corticospinal excitability of the damaged hemisphere in stroke. Cost-effectiveness and patients' preference should be taken into consideration.

Abstract ID 004

Case Report: Alteplase and dabigatran

Law Zhe Kang, Rabani Remli, Sharul Azmin, Wan Nur Nafisah, Tan Hui Jan, Norlinah Mohd Ibrahim, Ramesh Sahathevan
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56000 Kuala Lumpur

Introduction:
A 67-year old lady was admitted to PPUKM with right sided weakness associated with speech difficulty. Onset of symptoms was at 1615hrs and she was assessed in ED at 1635hrs. She was recently diagnosed with atrial fibrillation (AF) and started on dabigatran. She had had hypertension for approximately 10 years and was under investigation for suspected ischemic heart disease. On examination, her vital signs were normal and she had dense right hemiparesis with aphasia. Her NIHSS was 17. A CT perfusion of the brain showed an increased time to peak of the left middle cerebral artery (inferior division) territory. There was penumbra of approximately 50%. Her blood results revealed a normal PT/INR and APTT. Intravenous alteplase (0.9mg/kg) was administered at 1730 hours since she had significant penumbra and the APTT was normal, although she was on dabigatran. The peri-thrombolysis period was unremarkable and the routine repeat CT scan at 24 hours showed no haemorrhagic transformation. On discharge her MRS was 4. At her first follow-up 2 months later her MRS was 3 but she had regained full function of speech.

Dabigatran is a novel direct thrombin inhibitor, recommended for prevention of stroke in patients with AF. Unlike warfarin there is no routine blood test used to monitor dabigatran's effect on the coagulation cascade. This has lead to trepidation regarding the use of alteplase in stroke patients on dabigatran. Recent consensus suggests that alteplase may be safely administered to patients on dabigatran with a normal APTT. More data is required to evaluate the safety of this recommendation.

Abstract ID 005

Case Report: A young stroke thrombolysed at 5.5 hours based on CTP finding

Law Zhe Kang[1], Rabani Remli[1], Sharul Azmin[1], Wan Nur Nafisah[1], Tan Hui Jan[1], Norlinah Mohd Ibrahim[1], Ramesh Sahathevan[1], Shahizon Azura Mohamed Mukari[2]

[1]Department of Medicine, Pusat Perubatan UKM
[2]Department of Radiology, Pusat Perubatan UKM
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56000 Kuala Lumpur

Introduction:

A 30-year-old man was admitted to PPUKM with sudden right sided weakness. Onset was at 1715hrs and he was assessed at ED at 1915hrs. Based on information obtained later, the patient had been smoking since the age of 13 (approximately 20 pack years). There was no history of any other vascular risk factors or chronic disease. He denied use of illicit drugs or other banned substances. On examination his vital signs were normal and he had dense right hemiparesis, ipsilateral facial weakness and dysphasia. His NIHSS was 20. The rest of his physical examination was unremarkable. A CT perfusion of the brain showed a left M1 occlusion with an increased time to peak (TTP) over the entire left middle cerebral artery territory. There was an established infarct of the left lenticulostriate territory and penumbra was estimated at 30-50%. He was given intravenous alteplase at 2250hrs based on the presence of significant penumbra. There were no complications during the peri-thrombolysis period. All investigations to determine the cause of stroke were negative. On discharge a week later, he was still unable to swallow and required assistance with activities of daily living and walking (MRS 3). His speech was still impaired. Two months later he no longer required a nasogastric tube and was able to walk into the clinic with assistance or aid (MRS 1).

Current guidelines recommend that the cut-off for thrombolysis is 4.5 hours. However, there are times when the practice of medicine must also be guided by good sense and sound clinical judgment. This case illustrates the point.

Abstract ID 006

Ostepenia and Osteoporosis in Patients with Parkinson's Disease in UKMMC: A Case Control Study

Ahmad Shahir M (M.MED)[1], A.G Rohana (M.MED)[2], M K Nor Azmi M.MED[2], HJ Tan MRCP(UK)[1], Nafisah WY, MMED(UKM)[1] , Norlinah M.I, MRCP(Ire)[1].

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[2]Endocrinology Unit, Department of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Cheras, Kuala Lumpur, Malaysia.

Background:

Few studies in the Western region showed patients with Parkinson's disease (PD) had lower bone mineral density (BMD) compared to general population. As osteoporosis is highly prevalent among Asians, we aimed to study the prevalence of osteoporosis and osteopenia among our PD patients.

Objective:

To study (1) the prevalence and risk factors for osteopenia and osteoporosis among PD patients (2) correlation between BMD and Hoehn and Yahr staging, (3) correlation between BMD with dose and duration of levodopa therapy and (4) correlation between BMD with serum 1,25 dihydroxyvitamin D.

Methods:

This was a case control study involving 100 PD patients and 100 age and gender-matched historical controls. Clinical parameters such as BMI, stages of PD recorded and serum calcium, phosphate, alkaline phosphatase and 1,25 dihydroxyvitamin D were measured.

Results:

Prevalence of osteoporosis and osteopenia were 26% and 36% respectively in the PD patients and 3 times higher than the controls. Females (72%) were more likely to have osteoporosis or osteopenia compared to the male patients (53%). The lumbar and femoral neck BMD were significantly lower in the PD group compared to controls (p value 0.002 and 0.01). Femoral neck BMD was 27% lower compared to lumbar BMD. There were no differences in serum 1,25 dyhydroxyvitamin D levels among PD patient with osteoporosis, osteopenia or normal BMD.

Conclusions:

Osteoporosis was highly prevalent among PD patients. BMD measurements were lower at the femoral neck in comparison to lumbar spine. It was lowest in older women with advanced age and low BMI.

Keywords:

Parkinson's disease (PD), osteoporosis , 1,25 dihydroxyvitamin D

Abstract ID 007

Parkinsonism and other neurological complications following dengue fever.

ZK Law, S Azmin, R Remli, WY Nafisah, R Sahathevan, HJ Tan AA Raymond, MI Norlinah.

Department of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia.

Introduction:

Dengue is a common illness in the tropics. Equally common are neurological complications that stem from dengue infection. However, to date, parkinsonism following dengue fever have not been reported in medical literature.

Case presentation:

A previously well 18 year-old man was admitted to hospital with serology confirmed dengue fever. He recovered at day 7 of illness. At day 10, he developed neurological symptoms which included parkinsonism, cerebellar ataxia, and right upeer limb weakness. His higher mental functions remained intact. A contrast enhanced brain MRI was normal and blood investigations did not reveal an alternative etiological cause. He was given intravenous methylprednisolone 500mg od for 3 days. At 1 month review in clinic, all his neurological symptoms had resolved except for upper limb weakness. A nerve conduction study and electromyogram showed features consistent with right brachial plexopathy.

Conclusions:

The authors detail the first reported case of parkinsonism complicating dengue fever. Keeping rare presentations of common illnesses in mind, it behoves clinicians to consider parkinsonism as a complication following dengue infection. This would prevent injudicious treatment with L-dopa and dopamine agonists. Immunosupression with steroids have been shown to be helpful in selected cases.

Abstract ID 008

Prevalence & Factors influencing Verbal Learning & Memory Dysfunction among Epilepsy Patients in UKMMC

Sivarao S[1], Tan HJ[2]., Normah CD[3]., Syed Z[4]., Khairiyah M[5].

[1]Medical Registrar, [2]Consultant Neurologist, [3]Clinical Psychologist, [4]Deputy Dean & [5]Science officer, UKM Medical Centre, National University of Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

Introduction:

Cognitive impairment particularly memory dysfunction is a commonly seen problem among patients with epilepsy. Memory impairment are sometimes more debilitating than seizures itself however often overlooked due to attribution to aging as well as busy clinical settings. Multiple factors confound the effect against memory in epilepsy patients making it a daunting process but worthwhile as the investigation may shed light in key diagnostic and treatment consideration. This is currently an ongoing cross sectional study involving epilepsy patients under UKMMC neuromedical clinic follow up with the aim to determine the prevalence and factors influencing verbal learning & memory dysfunction. Initial analysis of patients (N:50, male 25, female 25) showed 58% having idiopathic generalized seizure (IGE), 40% having partial seizures (CPS-complex partial seizures & SPS-simple partial seizures) and others 2%. Most of them were diagnosed with epilepsy at age group of 11-15 (42%) with frequency less than 6% after age of 30. Majority of them had seizures ranging 6-10 years with 1-2 antiepileptic drugs. Among seizure types, verbal learning is mostly affects partial seizures with CPS scoring lower than SPS. Patients with CPS do also score lower in interference list as well as in immediate and delayed recall. Seizure onset at earlier age also corresponds with lower overall verbal memory scores. Initial analysis does not show any difference between verbal memory scores between patients with left or right hippocampal sclerosis but this may need a larger sample size to be statistically relevant.

Key words:

epilepsy, verbal memory

Abstract ID 009

A Case Report of Japanese Encephalitis in a Middle-aged Gentleman

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[2]Infectious Diseases Unit, Sarawak General Hospital, Kuching, Sarawak, Malaysia

Introduction:

Japanese Encephalitis (JE) is endemic in Sarawak, with high morbidity and mortality. The introduction of childhood JE vaccination in 2001, saw a shift to an older age group, in a disease thought to affect primarily the paediatric population.

Case Presentation:

We present a case of JE in a 51-year-old man, admitted with 2 days of fever, dizziness, vomiting, diarrhoea and left hemiparesis. Examination revealed GCS E3V5M6, and left hypotonic hemiparesis. Initial CT Brain reported right corona radiata hypodensity. Blood leukocytes were $14.0x10^3$/L. He was initially covered with ceftriaxone, acyclovir, and intubated for GCS deterioration to E3V1M3. Lumbar puncture opening pressure was $31cmH_2O$. Cerebrospinal fluid (CSF) cell count was 35 per mm^3, all lymphocytes; protein 0.547g/L; glucose 4.1mmol/L (plasma glucose 8.1). Fever settled on Day7 illness, but GCS remained 2+T/15, and he further developed right-sided seizures on Day8. Electroencephalogram (D10 illness) showed no epileptiform discharges, but findings suggested encephalopathy. A repeat CT Brain (D10 illness) showed increased right thalamic hypodensity, with unchanged right corona radiata lesion. Unfortunately, he succumbed to ventilator-associated pneumonia on Day19 illness. Serologically, on Day4 illness, blood for JE IgM was weakly positive, becoming strongly positive on Day16. CSF JE IgM was negative on Day4, converting to positive on D19 (postmortem lumbar puncture).

Conclusion

Physicians now need to have a higher index of suspicion for JE in adults with acute encephalitis. Further epidemiological research is sorely needed for this likely under-diagnosed and under-reported endemic disease.

Abstract ID 010

Establishment of an in vitro blood-brain barrier model using primary brain endothelial cells

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Introduction:

For many studies of blood-brain barrier (BBB) function, in vitro models offer advantageous preparations for examination of mechanistic detail. The initial models were derived from primary cultured brain endothelial cells, and now a number of useful immortalized cell lines have also become available. However, for the most complete BBB phenotype, primary cultured models still have several advantages, chiefly the ability to make tight cell monolayers with well-organized tight junctions, good preservation of apical-basal polarity for transporters and receptors, and expression of the several mechanisms by which solutes can move or be transported across the cells. This means that the most reliable in vitro models for permeability screening (e.g. of drugs, biologics) are based on primary cultures.

Methods:

We have isolated primary porcine brain endothelial cells and have continued to optimize, validate and explore the applications of the cells as a highly practical in vitro BBB model.

Results:

Here, we will report on methods of development and validation of the in vitro BBB model established.

Abstract ID 011

Melioidosis with brain abscess in a lymphoma patient.

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Abstract:

Melioidosis is a potentially fatal infection due to the saprophytic organism Burkholderia pseudomallei. Risk factors for acquiring melioidosis include chronic medical illness like diabetes mellitus, chronic alcoholism, chronic renal disease, thalassaemia and occupational or environmental exposure in an endemic area. The clinical course of disease can be acute, subacute or chronic. Central nervous system (CNS) involvement in melioidosis is rare. We describe a case of a lymphoma patient undergoing chemotherapy who presented with seizure and multiple cerebral abscesses caused by melioidosis.

The 16 year old patient presented 8 days after his fourth chemotherapy cycle with one episode of brief seizure at home and fever. He was treated for neutropenic fever with intravenous piperacillin-tazobactam and subcutaneous filgrastim. The admission blood culture isolated Pseudomonas spp. which was sensitive to piperacillin-tazobactam. The patient improved clinically and antibiotics were de-escalated. On the 7th day of admission he had another seizure and fever recurred. Computed tomogram of the brain showed the presence of brain abscesses and ultrasonographic examination found multiple liver abscesses. He was treated as suspected melioidosis which was later confirmed when the blood culture isolated B. pseudomallei. He completed 6 weeks of parenteral antibiotics with good response. He resumed and completed chemotherapy uneventfully after the treatment of his cerebral abscess.

A high index of clinical suspicion leads to early diagnosis and successful treatment of a potentially lethal condition.

Abstract ID 012

Artificial Intelligence Based Headache Diagnosis

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Abstract:

Headache is a common medical condition. The growing burden of headache is a major public health concern now. The number of the headache patients in adult population is very high (47% for headache in general, 10% for migraine, 38% for tension-type headache, and 3% for chronic headache), which may be due to physical and mental stresses related to our modern daily life. There are different types of headaches, and the management of headache is not similar in every case. A proper diagnosis of headache is necessary for choosing the right medication. Unfortunately, there is no single investigation available to confirm diagnosis of headache, or to differentiate between types of headache. Besides, neurologists are the only expert to differentiate different types of headache accurately. However, patients usually do not consult a neurologist for headache from the very beginning. Moreover, due to fewer numbers of the neurologists in many countries (especially developing countries), it is not always possible for patients to consult a neurologist for headache. It is also not cheap to consult neurologist in private hospitals/clinics. That is why majority of the patients with headache visit a general physician for the treatment. This necessitates the need of a diagnostic system for diagnosing headache and its types accurately. In our project, we used International Classification of Headache Disorders (second edition) and Case Based Reasoning (CBR) to formulate Expert System Headache Solution (ESHS), which converts neuro-expert's knowledge to an expert artificial intelligence system for diagnosing of headache and its type.

Disclaimer:

The findings of this project has been published in IEEE Conference Publications (2012) and indexed in SCOPUS

Abstract ID 013

Cognitive and motor effects of 3rd generation ω-3 fatty acid-deficient mice

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Introduction:

Dietary ω-3 fatty acid deficiency during development is associated with impairment in cognitive and motor functions. However, the effects of multiple generations of ω-3 fatty acid deficiency on cognitive and motor impairments remain unclear. In the present study, we examined the effects of 3 generations of deficiency with or without repletion in the final generation. In addition, we examined the hypothesis that cognitive and motor impairments of ω-3 fatty acid deficient mice is due to eicosanoid production from an arachidonic acid (AA)-cyclooxygenase (COX) pathway. Male C57BL/6J mice were bred for three generations and fed diets either deficient (DEF) or sufficient (SUF) in ω-3 fatty acids. At postnatal day 21, the third generation (F3) offspring were kept on the dam's diet or switched from dam's diet to the opposite diet, creating four groups [F3 SUF-SUF; F3 DEF-DEF; F3 SUF-DEF; F3 DEF-SUF; n=15/group]. In addition, two groups that remained on the dam's diet were treated with a COX inhibitor [naproxen, 0.01mg/kg in drinking water; F3 SUF-SUF(+); F3 DEF-DEF(+); n=15/group]. At 19 weeks of age, spatial recognition memory was tested on a Y-maze. At 21 weeks of age, motor function was performed by rotarod test. Results showed that the F3 DEF-DEF animals had significantly impaired spatial recognition memory compared to the F3 SUF-SUF animals. The F3 SUF-DEF animals also showed impaired on spatial recognition memory performance. Performance in the Y-maze of the F3 DEF-SUF animals was not different to that of the F3 SUF-SUF. Treatment with the COX inhibitor prevented the spatial recognition memory deficits in the F3 DEF-DEF animals. No significant difference was observed in latency to fall from the rotarod test. Thus, cognitive impairment caused by ω-3 fatty acid deficient diet in the F3 DEF animals appears to be mediated by products of the AA-COX pathway and can be prevented by 16 weeks of dietary repletion with ω-3 fatty acids or COX inhibition. In addition, motor activity did not contribute to the cognitive memory impairment associated with ω-3 fatty acid deficiency or COX inhibition.

Abstract ID 014

Validation of seizure questionnaire as a screening tool for differentiating focal vs. generalized seizure, preliminary result

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Introduction:

There are guidelines available to assess clinicians worldwide with the treatment of Epilepsy according to seizure types. We aim to develop a first-line questionnaire-based screening tool to be used by general physicians in (i) differentiating seizures from non-epileptic attacks, and (ii) classifying seizures into focal vs. generalized.

Methods:

This is a questionnaire-based prospective study, and we reported the preliminary results correlating the clinical features and EEG findings. 119 patients referred for outpatient EEG investigations for seizures from 2011-2012 were recruited in University Malaya Medical Centre.

Results:

There were 41 (34.4%) EEGs with interictal epileptiform discharges (IEDs), of which 35 were focal. Patients with history of automatism and screaming during attacks were more likely to have abnormal discharges on EEG ($p<0.05$). Out of 25 patients who reported having automatism, 13 (52.0%) was found to have focal IEDs ($p= 0.008$), which were temporal in 6 (46%). For those with tongue biting, generalized IEDs were seen in 3/21 (14.3%, $p<0.05$) and temporal IEDs in 8/21 (38.1%, $p<0.01$). Patients with blurred vision (37) mostly had a normal EEG (67.6%). A logistic regression analysis showed that the presence of automatism and the absence of blurred vision were significant predictors for focal IEDs (specificity 92.9% and sensitivity 33.3%, positive predictive value 66.7%).

Conclusion:

This preliminary result identified automatism as a positive and blurred vision as a negative feature in predicting focal IEDs in the EEG. The analysis of our study will be extended to include the clinical diagnosis and outcome of these patients.

Abstract ID 015

Clinical Features And Outcomes Of Patients With Cerebral Venous Thrombosis In Sarawak General Hospital

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Introduction:

Cerebral venous thrombosis (CVT) is not an uncommon neurological emergency. It accounts for about 5% of stroke cases in Sarawak General Hospital (SGH). The demographics, clinical features and risk factors in association with outcomes of CVT vary depending on aetiology.

Methods:

A total of 8 patients with CVT admitted to medical department between August 2011 and April 2013 were identified. Clinical features, risk factors and outcomes were analyzed retrospectively. The diagnosis was confirmed by computed tomography/magnetic resonance venogram.

Methods:

Females account for 75%(n=6) while males constitute 25%(n=2) of cases. Mean age was 48 years (range 35 to 76 years). Majority of patients presented with headache (75%, n=6) and altered consciousness (75%, n=6). Other clinical features were seizures (37.5%, n=3), visual impairment (37.5%, n=3), paresis (25%, n=2) and ophthalmoplegia (25%, n=2). All patients had single sinus thrombosis. Frequency of sinus involvement was 37.5%(n=3) for superior saggital sinus, 25%(n=2) for lateral sinus, 25%(n=2) for cavernous sinus and 12.5%(n=1) for straight sinus. Common risk factors were oral contraceptive use and infection. Mortality rate was 25%(n=2), which was observed in infection-related CVT, of which both had cavernous sinus thrombosis.

Conclusion:

Infection-related CVT is associated with poorer outcomes, consistent with previous literature report. Presentation is heterogenous hence requires a high index of suspicion for early recognition and prompt treatment.

Abstract ID 016

Outcome Of Decompressive Hemicraniectomy In Large MCA Infarct

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Introduction:

Background: Ischemic Stroke is a devastating disease accounting for 6 million deaths per year globally. Ten percent of patients with ischemic strokes develop life threatening cerebral edema; which carries 78% mortality rate despite best medical therapy.

Objectives:

To review the surgical outcome of patients presenting with large middle cerebral artery (MCA) territory infarction in our hospital.

Methods:

Patients with large MCA infarct with pressure effects who were operated from March 2007 to February 2012 were included in this part retrospective and prospective study. Surgical outcome at 6 months were determined using modified Rankin scale (mRS).

Results:

Eighteen patients were recruited consisting of 12 male and 6 female patients. The age ranged from 35-70 years old. Sixteen patients (88.9%) had midline shift >5mm. The initial mean Glasgow Coma Scale (GCS) score was 13±2 points whilst the mean value of GCS score before surgery was 8±3 points. Five patients underwent surgical decompression in less than 24 hours, while 12 in less than 48 hours. At 6-month follow up, 10 patients (56%) survived. All survivors had poor outcome (mRS score ≥4).

Conclusion:

Surgical decompression achieved 56% 6-month survival rate in our series, clearly distinct from the 22% survival rate of medically treated patients from the current available literature. Nevertheless, surgical intervention must be emphasized that it serves only as a lifesaving procedure, and that all survivors are severely debilitated. The decision for surgery thus, needs to be carefully reevaluated. A more refined criteria for patient selection and correct timing for surgery will be necessary for future studies.

Abstract ID 017

The Success of Ictal SPECT in University Malaya Medical Centre

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Introduction:
Single-photon emission computed tomography (SPECT CT) is a functional radionuclide imaging in localising seizure origin by measuring the regional cerebral blood flow after the administration of technetium-99m hexamethylpropyleneamine oxime (99m Tc-HMPAO, Ceretec (Amersham Int Plc, Amersham, England). This study aimed to audit the role of SPECT in epilepsy pre-surgical assessment.

Method:
Patients with refractory focal epilepsy who had undergone video-EEG telemetry and 99^{m} Tc-HMPAO injection were recruited into the study. Anti-epileptic drugs were withdrawn in all cases. The radiotracer 99m Tc-HMPAO was prepared in nuclear medicine department and transported immediately to EEG lab. Radiotracer was injected within one hour of ictal EEG, and this was termed ictal injection. If no seizures occurred during the period of injection, this was considered an interictal injection. SPECT images were co-registered with MRI (magnetic resonance imaging) FSPGR (fast spoiled gradient-echo) sequence with multiplanar reformats. Ictal scans delineated the symptomatic zone as areas of cerebral hyperperfusion. Seizures foci showed areas of hypoperfusion in interictal scan.
A final protocol was established between the nuclear medicine department and EEG laboratory for radiotracer preparation and injection in May 2012.

Results:
18 patients had SPECT performed, of which 7 were ictal and 11 were interictal. The success rate in acquiring ictal SPECT increased from 25% (2 out of 8) to 50% (5 out of 10) after the final protocol was established in May 2012. The concordance rate between ictal SPECT and MRI/EEG was higher than interictal SPECT and MRI/EEG. All ictal SPECT were concordant with the EEG localization.

Abstract ID 018

Epidemiology and Outcome of Hypertensive Intracerebral Hemorrhage in Sarawak

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Introduction:
Cerebrovascular accident (CVA) affects fifteen million people annually. Among these, five million succumbed and another five million are permanently disabled.

Aim:
To ascertain outcome of medically managed vs surgically managed hypertensive intracerebral hemorrhage and its demographic data.

Method:
All surgically and non-surgically treated hypertensive intracerebral hemorrhage (ICH) patients are included in this prospective study from 1.1.2011 to 31.12.2011. Outcome upon discharge and at 3 months follow-up are determined with Modified Rankin scale (mRS).

Results:
There are 151 male and 93 female patients, of which 221 (90.6%) were treated non-surgically (medically) and 23 patients (9.4%) were treated surgically. Fifty percent of the patients were below 60 years old. A total of 156 (53%) of the patients are known hypertensives with 65% of them being non-compliant to therapy. At 3 months follow-up; 137 patients were included in analysis as the rest were lost in follow-up. We note that 75 (63.6%) medically treated patients and 16 (84.2%) surgically treated patients faired poorly (mRS $\geq$ 4). Mortality rate at 3 months were 39.8% (47 patients) and 31.6% (6 patients) respectively in the medically treated group and the surgically treated group.

Conclusion:
Here, the disasterous outcome of hypertensive ICH is clearly highlighted. Regardless of the mode of treatment, all efforts are futile with the survivors being badly dependent. To date, there is still insufficient evidence to suggest a consistent optimal therapeutic strategy for ICH. Thus, primary prevention is of upmost importance and should be re-emphasized while awaiting further promising study.

Abstract ID 019

Percutaneous Radiofrequency Thermocoagulation of Sphenopalatine Ganglion for Recalcitrant Trigeminal Neuralgia

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Introduction:
Trigeminal neuralgia, also known as 'Tic Doloureux', is a common painful condition of the face along the distribution of trigeminal nerve. Pharmacological treatment is the treatment of choice for trigeminal neuralgia. When pharmacological treatment fails, other treatment options which include minimal invasive pain interventions should be considered.

Method:
We present two female patients suffering from trigeminal neuralgia for more than 10 years, who did not have symptomatic pain relief and functional improvement with maximum dose of oral anti-epileptic and anti-neuropathic. Both patients were offered percutaneous radiofrequency thermocoagulation of sphenopalatine ganglion, which consisted of 80oC lesioning for 60 seconds (2 cycles). Post treatment, patients was evaluated on a monthly basis by utilizing visual analogue score (VAS), level of physical activity, quality of sleep and total amount of oral medication usage.

Results:
Following a single radiofrequency thermocoagulation, both patients had significant pain relief. VAS, level of physical activity and quality of sleep showed dramatic improvement. Patients' symptoms were also more responsive to oral medication with much lower dosage over 8 month follow-up period. No neurological side-effects or complications related to the procedure were reported.

Conclusion:
Percutaneous radiofrequency thermocoagulation of sphenopalatine ganglion is a relatively safe and effective minimally invasive treatment. This treatment can be considered for trigeminal neuralgia when pharmacological treatments are ineffective.

Abstract ID 020

Prevalence and factors associated with intracranial stenosis in asymptomatic type II diabetic patients in UKMMC

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Background:
Intracranial stenosis (ICS) in type II diabetes mellitus has been shown to be highly associated with stroke, particularly in Asians. Epidemiology and risk factors assessment of asymptomatic patients are not well documented and requires further evaluation.

Objectives:
To determine the prevalence of ICS amongst asymptomatic type II diabetic patients and the factors associated with it.

Design and methods:
Ongoing case-control study involving patients with no prior history of stroke or ischaemic heart disease. All individuals underwent a brain Magnetic Resonance Angiography (MRA) at baseline.

Results:
Out of 50 diabetics screened (male:female 17:33, mean age 51.3 years), Malays make up 32%, Chinese 32% and Indians 36%. One or more ICS were detected in 7 subjects (14%), involving the right ICA cavernous branch, left ICA cavernous branch, right supraclinoid, right vertebral, basilar and left P1 PCA branch, of whom 2 (28.6%) had moderate lesions. Several common factors were observed: 6 subjects were female (85.7%), long duration of diabetes (mean duration 11 years), poor diabetes control (mean HbA1c 9.0mmol/L), advanced age (mean age 58 years), 5 patients (71.4%) with co-morbidity of hyperlipidemia and hypertension, on high dose insulin treatment/oral hypoglycaemic agents/statins/Aspirin. 23 subjects (46%) had leucoariosis and 3 (6%) had Grade 1 microhemorrhages. Incidentally 4 different patients were found to have aneurysms involving the ICA (6%) and PCA (2%).

Conclusions:
The prevalence of ICS in asymptomatic diabetics were 14%. Longer duration of diabetes, poor glycaemic control, advanced age and female gender were independently associated with ICS.

Keywords:
type II diabetes, intracranial stenosis, Magnetic Resonance Angiography (MRA), associated factors.

Abstract ID 021

Malaysia National Stroke Registry: Lesson learned from three year observational study in Hospital Sultanah Nur Zahirah

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Background and Purpose:
The Malaysia National Stroke Registry (NSR) was initiated in 2009 incorporates nine stroke KPI. The quality of ischemic stroke care in our hospital was evaluated by using this performance measures.
Method:
Data from Malaysia NSR for Hospital Sultanah Nur Zahirah, Terengganu from 2010 to 2012 was used to assess and compare our yearly performance adherence to these nine KPI.
Results:
There were 1715 acute ischaemic stroke patients registered within three observational periods. Throughout three year, there were significant improvement in seven of nine stroke KPI, namely antithrombotic therapy within 48 hours of admission (90.1%, 90.9%,and 97.3%, p<0.001),deep vein thrombosis (DVT) prophylaxis (43.2%, 75.7% and 89.2 %,p<0.001), discharged on antithrombotic therapy (88.8%, 86.2% and 95.1%,p<0.001), dysphagia screening (91.2%, 97.8% and 99.2%,p<0.001), assessed for rehabilitation (81.3%, 80.7%, and 89.3%, p=0.001) and stroke education (72.0%,75.0% and 97.3%, p<0.001), whereas for anticoagulation therapy for atrial fibrillation (AF) (44.1%,55.6% and 55.4%,p=0.505) ,and discharged on cholesterol reduction medication (89.1%, 87.2% and 91.5%,p=0.058),there were not significant different in performance for these three years. Performance measures of thrombolytic therapy administered was not included as there is no provision of such facility in our hospitals.
Conclusion:
Stroke KPI is useful tool for assessing and improving quality of stroke care. Apart from registry purpose, it also functional as an audit to assess and improve the stroke management performance and quality. Hence, we strongly suggest all hospitals to participate in this registry.

Abstract ID 022

A study of young stroke patients in Malaysia

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Background and Purpose:
Young stroke incidence in Malaysia has not been well studied. The purpose of this study was to determine young stroke incidence, and compare in term of stroke classifications, and outcome between young and older stroke patients.
Method:
A retrospective observational study from Jan 2010 to December 2012 had been conducted in eleven participating hospital. Data involving patients with aged 12 – 45 years were collected by using National Stroke Registry case report form and further analysed by using SPSS 18 with p<0.05 is considered significant.
Results:
There were 365 cases of young stroke (55.9% men, 74.0% Malays, 7.4% Chineses, 7.9% Indians, and 10.7% others) which represented 8.2% of total stroke patients. Further analysis revealed that, the proportion of haemorrhagic stroke in young stroke patient was significantly higher compared to older patients (25.5% vs 20.3%, p<0.001) .We also found that more young stroke patient were smoker (51.9% vs 36.2%,p < 0.001) but with lower underlying hypertension and diabetes mellitus(55.9% vs 71.4%, 30.1 vs 43.9%, p<0.001). However, there were no association between genders, length of hospital stay, and mortality rate in both groups.
Conclusion:
Even though the incidence of young stroke is low, but high percentage of haemorrhagic stroke with worsen disability rate need to be highlighted since they are still in reproductive years. Further action need to be emphasized especially in term of risk factors controlled in order to avoid the incidence.

Abstract ID 023

Proportion of anxiety symptoms and their associated factors among patients with hemifacial spasm in a tertiary hospital

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Introduction:
Hemifacial spasm (HFS) causes visual and verbal disabilities and significant social embarrassment. Anxiety symptoms among HFS patients could potentially cause significant morbidity. There is limited data in Malaysia regarding this issue.

Methods:
This was a case control study involving 60 HFS patients and 60 age and gender-matched controls conducted in a tertiary hospital. The proportion of anxiety symptoms was determined using the Hamilton Anxiety Rating Scale (HAM-A), Depression, Anxiety and Stress Scale -21 (DASS 21) and Hospital, Anxiety and Depression Scale (HADS). Factors associated with anxiety such as age, gender, co-morbidities, duration of illness, severity, types and treatment duration of HFS were analysed.

Results:
The HFS patients had a mean age of 57.5 ± 12.3 (50.5-67.5) years, comprising of 66.7 % females and with a mean severity score of 2.6 ± 0.7 (2.0-3.0). The mean HAM-A score was significantly higher in HFS group compared to controls (9.5 ± 6.1 vs. 6.0 ± 4.9, p = 0.001). There was a significant positive correlation between both self-rated DASS-21anxiety and HADS anxiety scores with clinician-rated HAM-A scores, (rs = 0.603, p = 0.0005) and (rs = 0.646, p = 0.0005), respectively. Amongst HFS group, 16.7 % had significant anxiety symptoms compared to 5.0 % in controls (p = 0.04). HFS patients were 3.3 times more likely to have anxiety symptoms compared to the general population.

The mean HAM-A score was significantly higher in HFS patients with anxiety symptoms compared to those without (19.5 ± 3.6 vs. 7.5 ± 4.3, p <0.0005). They also had a higher DASS-21 anxiety and HADS anxiety score; (10.8 ± 4.8 vs. 5.7 ± 4.1, p = 0.003) and (10.7 ± 3.4 vs. 4.4 ± 3.0), respectively. HFS patients with significant anxiety symptoms tend to be of younger age group (p =0.07), and especially if the age at onset of illness was less than 50 years old (p = 0.038). The severity of HFS was the only significant independent associated factor of anxiety symptoms in HFS (p = 0.017).

Conclusion
Anxiety symptoms were prevalent among HFS patients particularly in those with high severity grade and were closely associated with younger age group. Early recognition of high risk patients is important to prevent significant morbidity arising from anxiety.

Keywords:
Hemifacial spasm, anxiety symptoms

Abstract ID 024

Effects of Helicobacter pylori eradication in patients with Parkinson's disease.

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Background:
Helicobacter pylori (H. pylori) infection has been shown to affect the bioavailability of levodopa in PD patients, and eradication of *H. pylori* led to significant improvement in motor disability and clinical status in these patients, by modifying the pharmacokinetics of levodopa.

Objectives:
To determine the effects of *H. pylori* eradication on motor, non-motor symptoms and quality of life parameters based on UPDRS, PDQ39, PDNMSQ and PDNMSS questionnaires.

Design and methods:
Seventy-six consecutive PD patients were recruited and subjected to ^{13}C-urea breath test (UBT), for *H. pylori* detection. Patients who UBT positive were given eradication therapy in an open label, single arm design. Patients were assessed at baseline (prior to) and at 6 and 12 weeks post eradication, using the UPDRS, PDNMSQ, PDNMSS and PDQ39 questionnaires. The 'onset' time and 'ON' duration following oral levodopa were also recorded.

Results:
82 patients recruited, 27 (32.9%) had positive UBT. *H. pylori* positive patients had significantly poorer total UPDRS (p=0.005) and PDQ39 (p<0.001) scores compared to *H. pylori* negative patients. At 12 weeks post-eradication, there was a significant reduction in levodopa 'onset' time (p=0.023), and improvement in 'ON' duration (p=0.023). The total UPDRS scores (p<0.001), scores for parts II (p<0.001), III (p=0.001) and IV (p<0.009) were significantly better. The total PDQ39 scores (p<0.001) and subdomains mobility (p=0.001), ADL (p<0.001), stigma (p=0.047) and cognition (p=0.01) significantly improved. The PDNMSQ and PDNMSS did not show significant improvement.

Conclusions
H. pylori eradication in PD patients significantly improves levodopa onset time, 'ON' duration, motor and quality of life parameters.

Keywords
Parkinson's disease (PD), *Helicobacter pylori (H. Pylori)*, ^{13}C-Urea Breath Test (UBT), Unified Parkinson's Disease Rating Scale (UPDRS), 39-Item Parkinson's Disease Questionnaire (PDQ-39), Parkinson's Disease Non-Motor Symptom Questionnaire (PD NMSQ), NMS Assessment Scale for Parkinson's Disease (PDNMSS).

Abstract ID 025

Tuberculous Meningitis in Malaysia

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Introduction:
Tuberculous meningitis (TBM) is uncommon extrapulmonary manifestation of tuberculosis (TB). Our objective is to evaluate the clinical features, radiological features and correlation with clinical outcome of TBM patients admitted to two tertiary hospitals in Malaysia.

Methods:
The patients with TBM admitted to University Malaya Medical Centre (UMMC) and Hospital Kuala Lumpur (HKL) between 2008 and 2013 were recruited. The data for demography, clinical features, cerebrospinal fluid (CSF) analysis and radiological features from CT scan and MRI brain were collected. TB meningitis is diagnosed based on standard criteria.

Results:
Ten patients with TBM were recruited; nine patients from UMMC and one from HKL. The mean age was 34.4 (range 23-67). Four patients were male and the rest were female. .The ethnic groups were Malays (n=2), Chinese (n=2), Indians (n=4) and Indonesians (n=2). All the patients are HIV negative. The common clinical features were fever (n=9), headache (n=8) and confusion (n=7). The mean CSF glucose was 1.4 mmol/L and mean CSF protein was 4.6 g/L. The common radiological features were hydrocephalus (nine patients), Five had basal ganglia infarct. There was good correlation between clinical outcome and hydrocephalus in 9 out of 10 patients (9/10), basal ganglia infarct in 8/10, leptomeningeal enhancement in 7/10 and vasculitis in 6/10.

Conclusion:
Vasculitis was common in our TBM patients and was found more commonly at the MCA. 50% of our patients had basal ganglia infarct. The best predictor of clinical outcome was hydrocephalus.

Abstract ID 027

Impulse-control behaviours in patients with Parkinson's disease: Genetic correlations

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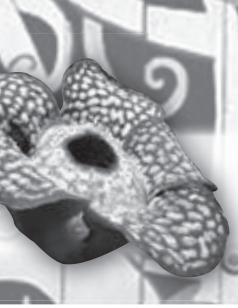
Introduction:
Impulse control behaviours have been well documented for the past 10 years among Parkinson's disease patients. The majority of the data are derived from studies conducted in the west. We conducted a study to investigate the prevalence and its associated factors towards developing impulse control behaviours in Parkinson's disease patient in the Asian population.

Methodology:
This was a prospective case control study conducted on patients with Parkinson's disease attending out-patient clinic. Eighty patients were screened for impulse control behaviours by questionnaire. Patients screened positive, and an equal number screened negative as control, were referred for psychiatric evaluation for impulse control disorder. Blood for genetic analysis of DRD2 were collected.

Results:
Prevalence of impulse control behaviour among our patients is 11.3%. There is an increased risk among those with a higher education (p=0.022), advance stage of disease (p=0.026), higher levodopa dose(p=0.01). Punding/hobbyism and compulsive medication use were the commonest impulse control behaviour (67%), followed by hypersexuality (44%), compulsive buying (33.3%), compulsive eating and pathological gambling (11.1%). An early age of onset of Parkinson's disease was not associated increased risk of impulse control behaviour. There is also no significant association between DRD2, Rs6286 gene with questionnaire-positive patients.

Conclusion:
The prevalence of impulse control behaviour among Parkinson's disease patient is 11.3%. It is associated with higher levodopa dose, patients of a higher educational background and an advanced stage of PD. Punding and hobbyism is the commonest form of impulse control behaviour in our study population.



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