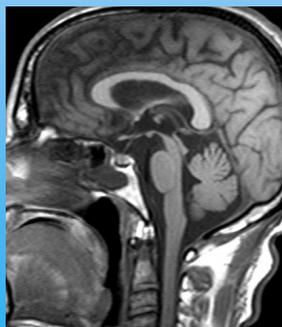
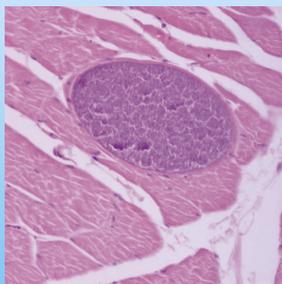
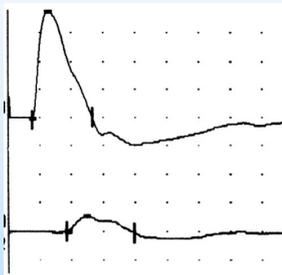


# Brunei International Medical Journal

Official Publication of  
the Ministry of Health,  
Brunei Darussalam

Volume 9, Supplement 1

19 October 2013 (14 Zulhijjah 1434H)



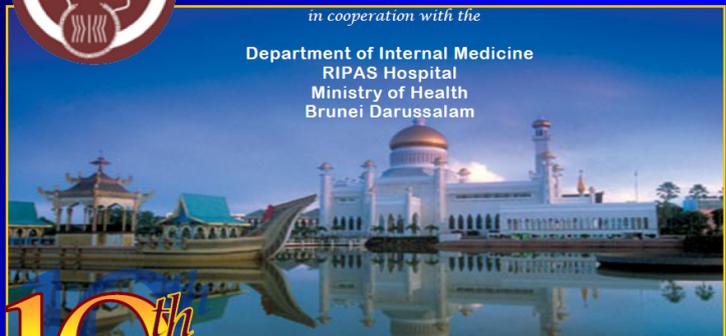
ISSN 1560 5876 Print  
ISSN 2079 3146 Online



**ASEAN Neurological Association  
(ASNA)**

*in cooperation with the*

Department of Internal Medicine  
RIPAS Hospital  
Ministry of Health  
Brunei Darussalam



**10<sup>th</sup> ASNA  
Biennial Convention**

October 18-20, 2013

Online version of the journal is available at [www.bimjonline.com](http://www.bimjonline.com)

# Brunei International Medical Journal (BIMJ) Official Publication of the Ministry of Health, Brunei Darussalam

## EDITORIAL BOARD

|                                |   |
|--------------------------------|---|
| <b>Editor-in-Chief</b>         | Vui Heng CHONG  |
| <b>Sub-Editors</b>             | William Chee Fui CHONG<br>Ketan PANDE   |
| <b>Editorial Board Members</b> | Nazar LUQMAN<br>Muhd Syafiq ABDULLAH<br>Alice Moi Ling YONG<br>Ahmad Yazid ABDUL WAHAB<br>Pandare SUGATHAN<br>Jackson Chee Seng TAN<br>Dipo OLABUMUYI<br>Pemasari Upali TELISINGHE<br>Roselina YAAKUB<br>Pengiran Khairol Asmee PENGIRAN SABTU<br>Dayangku Siti Nur Ashikin PENGIRAN TENGAH<br>Ian BICKLE |

## INTERNATIONAL EDITORIAL BOARD MEMBERS

|                                       |  |
|---------------------------------------|--|
| Lawrence HO Khek Yu (Singapore)       | Surinderpal S BIRRING (United Kingdom) |
| Emily Felicia Jan Ee SHEN (Singapore) | Leslie GOH (United Kingdom)            |
| John YAP (United Kingdom)             | Chuen Neng LEE (Singapore)             |
| Christopher HAYWARD (Australia)       | Jimmy SO (Singapore)                   |
| Jose F LAPENA (Philippines)           | Simon Peter FROSTICK (United Kingdom)  |
| Ranjan RAMASAMY (United Kingdom)      |  |

### Advisor

Wilfred PEH (Singapore)

### Past Editors

Nagamuttu RAVINDRANATHAN  
Kenneth Yuh Yen KOK

### Proof reader

Dayangku Siti Nur Ashikin PENGIRAN TENGAH, Grace ANG and Uday Kumar UMESAN

**ISSN 1560-5876 Print**  
**ISSN 2079-3146 Online**

# Aim and Scope of Brunei International Medical Journal

The Brunei International Medical Journal (BIMJ) is a six monthly peer reviewed official publication of the Ministry of Health under the auspices of the Clinical Research Unit, Ministry of Health, Brunei Darussalam.

The BIMJ publishes articles ranging from original research papers, review articles, medical practice papers, special reports, audits, case reports, images of interest, education and technical/innovation papers, editorials, commentaries and letters to the Editor. Topics of interest include all subjects that relate to clinical practice and research in all branches of medicine, basic and clinical including topics related to allied health care fields. The BIMJ welcomes manuscripts from contributors, but usually solicits reviews articles and special reports. Proposals for review papers can be sent to the Managing Editor directly. Please refer to the contact information of the Editorial Office.

## Instruction to authors

### Manuscript submissions

All manuscripts should be sent to the Managing Editor, BIMJ, Ministry of Health, Brunei Darussalam; e-mail: editor-in-chief@bimjonline.com. Subsequent correspondence between the BIMJ and authors will, as far as possible via should be conducted via email quoting the reference number.

### Conditions

Submission of an article for consideration for publication implies the transfer of the copyright from the authors to the BIMJ upon acceptance. The final decision of acceptance rests with the Editor-in-Chief. All accepted papers become the permanent property of the BIMJ and may not be published elsewhere without written permission from the BIMJ.

### Ethics

Ethical considerations will be taken into account in the assessment of papers that have experimental investigations of human or animal subjects. Authors should state clearly in the Materials and Methods section of the manuscript that institutional review board has approved the project. Those investigators without such review boards should ensure that the principles outlined in the Declaration of Helsinki have been followed.

### Manuscript categories

#### Original articles

These include controlled trials, interventional studies, studies of screening and diagnostic tests, outcome studies, cost-effectiveness analyses, and large-scale epidemiological studies. Manuscript should include the following; introduction, materials and methods, results and conclusion. The objective should be stated clearly in the introduction. The text should not exceed 2500 words and references not more than 30.

#### Review articles

These are, in general, invited papers, but unsolicited reviews, if of good quality, may be considered. Reviews are systematic critical assessments of

literature and data sources pertaining to clinical topics, emphasising factors such as cause, diagnosis, prognosis, therapy, or prevention. Reviews should be made relevant to our local setting and preferably supported by local data. The text should not exceed 3000 words and references not more than 40.

### Special Reports

This section usually consist of invited reports that have significant impact on healthcare practice and usually cover disease outbreaks, management guidelines or policy statement paper.

### Audits

Audits of relevant topics generally follow the same format as original article and the text should not exceed 1,500 words and references not more than 20.

### Case reports

Case reports should highlight interesting rare cases or provide good learning points. The text should not exceed 1000 words; the number of tables, figures, or both should not be more than two, and references should not be more than 15.

### Education section

This section includes papers (i.e. how to interpret ECG or chest radiography) with particular aim of broadening knowledge or serve as revision materials. Papers will usually be invited but well written paper on relevant topics may be accepted. The text should not exceed 1500 words and should include not more than 15 figures illustration and references should not be more than 15.

### Images of interest

These are papers presenting unique clinical encounters that are illustrated by photographs, radiographs, or other figures. Image of interest should include a brief description of the case and discussion with educational aspects. Alternatively, a mini quiz can be presented and answers will be posted in a different section of the publication. A maximum of

three relevant references should be included. Only images of high quality (at least 300dpi) will be acceptable.

#### **Technical innovations**

This section include papers looking at novel or new techniques that have been developed or introduced to the local setting. The text should not exceed 1000 words and should include not more than 10 figures illustration and references should not be more than 10.

#### **Letters to the Editor**

Letters discussing a recent article published in the BIMJ are welcome and should be sent to the Editorial Office by e-mail. The text should not exceed 250 words; have no more than one figure or table, and five references.

#### **Criteria for manuscripts**

Manuscripts submitted to the BIMJ should meet the following criteria: the content is original; the writing is clear; the study methods are appropriate; the data are valid; the conclusions are reasonable and supported by the data; the information is important; and the topic has general medical interest. Manuscripts will be accepted only if both their contents and style meet the standards required by the BIMJ.

#### **Authorship information**

Designate one corresponding author and provide a complete address, telephone and fax numbers, and e-mail address. The number of authors of each paper should not be more than twelve; a greater number requires justification. Authors may add a publishable footnote explaining order of authorship.

#### **Group authorship**

If authorship is attributed to a group (either solely or in addition to one or more individual authors), all members of the group must meet the full criteria and requirements for authorship described in the following paragraphs. One or more authors may take responsibility 'for' a group, in which case the other group members are not authors, but may be listed in an acknowledgement.

#### **Authorship requirement**

When the BIMJ accepts a paper for publication, authors will be asked to sign statements on (1) financial disclosure, (2) conflict of interest and (3) copyright transfer. The correspondence author may sign on behalf of co-authors.

#### **Authorship criteria and responsibility**

All authors must meet the following criteria: to have participated sufficiently in the work to take public responsibility for the content; to have made substantial contributions to the conception and de-

sign, and the analysis and interpretation of the data (where applicable); to have made substantial contributions to the writing or revision of the manuscript; and to have reviewed the final version of the submitted manuscript and approved it for publication. Authors will be asked to certify that their contribution represents valid work and that neither the manuscript nor one with substantially similar content under their authorship has been published or is being considered for publication elsewhere, except as described in an attachment. If requested, authors shall provide the data on which the manuscript is based for examination by the editors or their assignees.

#### **Financial disclosure or conflict of interest**

Any affiliation with or involvement in any organisation or entity with a direct financial interest in the subject matter or materials discussed in the manuscript should be disclosed in an attachment. Any financial or material support should be identified in the manuscript.

#### **Copyright transfer**

In consideration of the action of the BIMJ in reviewing and editing a submission, the author/s will transfer, assign, or otherwise convey all copyright ownership to the Clinical Research Unit, RIPAS Hospital, Ministry of Health in the event that such work is published by the BIMJ.

#### **Acknowledgements**

Only persons who have made substantial contributions but who do not fulfill the authorship criteria should be acknowledged.

#### **Accepted manuscripts**

Authors will be informed of acceptances and accepted manuscripts will be sent for copyediting. During copyediting, there may be some changes made to accommodate the style of journal format. Attempts will be made to ensure that the overall meaning of the texts are not altered. Authors will be informed by email of the estimated time of publication. Authors may be requested to provide raw data, especially those presented in graph such as bar charts or figures so that presentations can be constructed following the format and style of the journal. Proofs will be sent to authors to check for any mistakes made during copyediting. Authors are usually given 72 hours to return the proof. No response will be taken as no further corrections required. Corrections should be kept to a minimum. Otherwise, it may cause delay in publication.

#### **Offprint**

Contributors will not be given any offprint of their published articles. Contributors can obtain an electronic reprint from the journal website.

## **DISCLAIMER**

All articles published, including editorials and letters, represent the opinion of the contributors and do not reflect the official view or policy of the Clinical Research Unit, the Ministry of Health or the institutions with which the contributors are affiliated to unless this is clearly stated. The appearance of advertisement does not necessarily constitute endorsement by the Clinical Research Unit or Ministry of Health, Brunei Darussalam. Furthermore, the publisher cannot accept responsibility for the correctness or accuracy of the advertisers' text and/or claim or any opinion expressed.

# Organising Committee for the 10<sup>th</sup> ASEAN Neurological Association

## Scientific Committee

Dr Lim Shih Hui (Chair) - *Singapore*

|  |   |
|--|---|
| Dr Bernardo Conde - <i>Philippines</i>     | Dr CT Tan - <i>Malaysia</i>                   |
| Dr Md Arif Abdullah - <i>Brunei</i>        | Dr Chang Hui Meng - <i>Singapore</i>          |
| Dr NV Ramani - <i>Singapore</i>            | Dr Supoch Tunlayadechanonti - <i>Thailand</i> |
| Dr Marilyn Ortiz - <i>Philippines</i>      | Dr Lim Shen Yang - <i>Malaysia</i>            |
| R Josephine Gutierrez - <i>Philippines</i> | Dr Anam Ong - <i>Singapore</i>                |
| Dr Hj Hameed - <i>Brunei</i>               | Dr Alvin Seah - <i>Singapore</i>              |
| Dr Khean Jean Goh - <i>Malaysia</i>        | Yotin Chinvarun - <i>Thailand</i>             |

## Local Organising Committee

|                               |  |
|-------------------------------|--|
| Chair                         | Dato Seri Laila Jasa Dr Hj Md Arif Abdullah  |
| Deputy Co-Chairs              | Dr Dk Hj Norazeida PHM Yassin<br>Dr Hj Anas Naomi Dato Paduka Hj Harun   |
| Treasurer                     | Datin Dr Hj Haslinda Hj Hassan   |
| Logistics                     | Dr Hj Awg Mohamad Zulkhairi Hj Mohamad   |
| Registrations and Secretariat | Dr Hj Md Athaailah Hj Abdullah<br>Dr Hj Aziman POKMK DPS Hj Yaakub   |
| Local Scientific              | Dr Chong Vui Heng  |
| Publicity                     | Dr Jessie Talimay Colacion   |
| Socials                       | Dr Chan Guan Choon<br>Dr Hj Md Amri Hj Masri   |
| Advisors                      | DGMS Office Ministry of Health<br>CEO Office RIPAS Hospital<br>Ms Janice Wong<br>Dr Hj Shahul Hameed Nainar<br>Dr Allimuthu Nithyanandam |

## Invited Speakers

Asso Prof Md Arif Abdullah - *Brunei*  
Dr Norazeida Yassin - *Brunei*  
Dr Naomi Harun - *Brunei*  
Dr Jessie Colacion - *Brunei*  
Dr Hj Hameed - *Brunei*  
Dr Mohan Ramlingam - *Brunei*  
Dr Dk Norashikin Pg Hj Tengah - *Brunei*  
Prof Uta Meyding-Lamade - *Brunei/Germany*

Dr NV Ramani - *Singapore*  
Asso Prof Chang Hui Meng - *Singapore*  
Dr Alvin Seah - *Singapore*  
Asso Prof Au Wing Lok - *Singapore*  
Asso Prof Umapathi N Thirugnanum - *Singapore*  
Prof Fong Kok Yong - *Singapore*  
Dr Derrick Chan Wei Shih - *Singapore*  
Dr Amu Quek - *Singapore*  
Prof Nobuhiro Yuki - *Singapore*  
Dr Nagaendran Kandiah - *Singapore*  
Dr Eng Soh Ping Elliot - *Singapore*  
Dr Lim Li Ling - *Singapore*  
Dr See Siew Ju - *Singapore*

Dr Khean Jin Goh - *Malaysia*  
Prof Lim Shen Yang - *Malaysia*  
Dr Tan Kay Sin - *Malaysia*  
Dr Julia Shahnaz Merican - *Malaysia*  
Dr Suhaila Abdullah - *Malaysia*  
Prof CT Tan - *Malaysia*  
Prof Lai Choo Ong - *Malaysia*  
Prof Raymond Azman Ali - *Malaysia*

Dr Ahmad Rizal Ganiem - *Indonesia*  
Dr Paulus Anam Ong - *Indonesia*  
Dr Yohanna Kasuma - *Indonesia*  
Dr Dede Gunawan - *Indonesia*

Dr Marilyn Ortiz - *Philippines*  
Dr R Josephine Gutierrez - *Philippines*  
Dr Roland Dominic G Jamora - *Philippines*  
Dr Regina Maclintal-Canlas - *Philippines*  
Dr Lillian V Lee - *Philippines*  
Prof Bernardo Conde - *Philippines*  
Dr Joseree-Ann S Catindig - *Philippines*  
Dr Ludwig F Damian - *Philippines*

Dr Yotin Chinvarun - *Thailand*  
Dr Supoch Tunlayadechanont - *Thailand*  
Dr Yonchai Nilanont - *Thailand*  
Dr Ronngroj Bhidayasiri - *Thailand*  
Dr Siwaporn Chankrachang - *Thailand*  
Dr Surat Tanprawate - *Thailand*  
Asso Prof Naraporn Prayoonwiwat - *Thailand*  
Asso Prof Anannit Visudtibhan - *Thailand*  
Dr Vorapun Senanarong - *Thailand*  
Dr Riwapphan Witoonpanich - *Thailand*

Dr Janis Miyasaki - *Toronto (Canada)*  
Dr Akira Homma - *Japan*

---

## Message from the President of ASEAN Neurological Association



Dr. Dede Gunawan, Sp S (k)

Dear Colleagues,

It has been almost 20 years since ASNA was established at a meeting in Manila in 1994.

From the five founding member, we have grown to include all 10 ASEAN members.

We are a diverse society, with different socio-economic development. So the level of health service, specially neurology is also different, ranging from excellent to almost none.

It is specially our duty to help, and with our limited resource the less developed ones. For the beginning, we try in giving limited scholarship/teaching courses to the needed. We have also been to Laos, Myanmar, Vietnam, etc., mostly with regional teaching staff. We will try to ask the WFN to be more involved.

Also we have to increase the publication of neurological data from our region as until now there are few data presented in medical journals.

Neurology Asia, under the editorship of Prof Dato CT Tan is something to be proud of.

Let us also pay tribute to the ASNA Chairs before me.

Lastly, I wish you all a successful meeting, and enjoy the hospitality of our host Brunei Darussalam

---

---

## Message from the Over-All Convention Chair, 10<sup>th</sup> ASNA Biennial Convention



Dato Seri Laila Jasa Dr Hj Md Arif Abdullah

I would like to personally welcome each of you to the 10th ASEAN Neurological Association Scientific meeting here in Bandar Seri Begawan. As you know, this is the first time that Brunei will be hosting the ASNA convention. It is an exciting time for us to organise such event, and I hope that the speakers and participants would also have an exciting and enjoyable time here in Brunei Darussalam. The world of neurology is an exciting area in which to work and to study, and we are very excited to meet and bring inspiring people together in conferences like this, to ensure our ASNA as a whole, remains at the cutting edge.

To give you an idea of what to expect, and what we hope to achieve over the few days. We have organised. Preconvention Workshops on Neurosonology, Movement Disorders and Headache: a teaching course entitled Neurology for Non-neurologists—an approach to; a series of plenary sessions and simultaneous symposia on the key topics such as stroke, dementia, movement disorders, epilepsy, neuro-infectious disease, paediatric neurology, headache, neuro-ophthalmology and neuro-otology, neuro-immunology and systemic disease, as well as the state of neurological training and practice in the ASEAN countries. We sincerely hope that these sessions will help you learn and practice neurology. We should all be very proud of where we are today, and excited about where we are headed.

I would also like to thank each of you for attending our conference, and for our speakers, for bringing their expertise to our gathering. You, as future leaders, have the vision, the knowledge and experience to help us pave our way in the future. Throughout this conference, I ask you to stay engaged, focused, keep us proactive and help shape the future of Neurology in the ASEAN region.

My personal respect and thanks goes to all of you.

---

**Friday 18<sup>th</sup> October 2013 Workshop**

| <b>Time</b> | <b>Basic Neurosonology Workshop</b>  | <b>Movement Disorders Workshop</b>   | <b>Learning Headache for Better Care workshop</b>   |
|-------------|--|--|---|
| 08.00-08.15 | Registration   | Registration   | Registration  |
| 08.15-08.30 |  |  |   |
| 08.30-08.45 |  | Introduction by Lim Shen Yang  | Introduction by Hj Hameed   |
| 08.45-09.00 | Ultrasound physics, cerebrovascular anatomy and physiology:<br><b>Speaker:</b> Tan KS (Malaysia) | Differential diagnosis of parkinsonian disorders<br><b>Speaker:</b> Lim Shen Yang (Malaysia)   | ABC of Headaches: how to take history and physical examination<br><b>Speaker:</b> Regina Macalintai (Philippines) |
| 09.00-09.15 |  |  | Review of ICHD—III Beta Classification<br><b>Speaker:</b> Siwapom Chankrachang (Thailand)                         |
| 09.15-09.30 | Extracranial ultrasound<br><b>Speaker:</b> Yongchai Silanont (Thailand)                          | Management of Parkinsonian disease (motoric aspects)<br><b>Speaker:</b> Au Wing Lok (Singapore)  | Primary Headache<br><b>Speaker:</b> Hj Hameed (Brunei)  |
| 09.30-09.45 |  |  |   |
| 09.45-10.00 | Transcranial Doppler<br><b>Speaker:</b> Chang Hui Meng (Singapore)                               | Q&A / Comments (Faculty)   | Tea   |
| 10.00-10.15 |  |  |   |
| 10.15-10.30 | Tea  | Tea  | Secondary Headache<br><b>Speaker:</b> Julia Merican (Malaysia)  |
| 10.30-10.45 |  |  |   |
| 10.45-11.00 | Transcranial Imaging<br><b>Speaker:</b> NV Ramani (Singapore)                                    | Application of botulinum toxin in the movement disorders clinic<br><b>Speaker:</b> Janis Miyasaki (Toronto)                              | TACs, cluster headache<br><b>Speaker:</b> Surat Tanprawate (Thailand)   |
| 11.00-11.15 |  |  |   |
| 11.15-11.30 | Advanced TCD<br><b>Speaker:</b> Yohanna Kusuma (Singapore)                                       | Approach to tremor<br><b>Speaker:</b> Au Wing Lok (Singapore)  | Case Approach: Live demonstration by faculty  |
| 11.30-11.45 |  |  |   |
| 11.45-12.00 | Artifacts and pitfalls<br><b>Speaker:</b> NV Ramani (Singapore)                                  | Q&A / Comments (Faculty)   | Lunch   |
| 12.00-12.15 |  |  |   |
| 12.15-12.30 | NSRG MCQ exams<br><b>Speaker:</b> NV Ramani (Singapore)  |  |   |
| 12.30-12.45 |  |  |   |
| 12.45-13.00 |  |  |   |
| 13.00-13.15 | Lunch  | Lunch  |   |
| 13.15-13.30 |  |  |   |
| 13.30-13.45 |  |  |   |
| 13.45-14.00 |  |  | Tips and tricks in treating headache: Show time by Faculty  |
| 14.00-14.15 | Demo (Yohanna & Chang HM)  | Interesting / unusual movement disorders video case:<br><b>Speakers :</b> Roongroj Bhidayasiri (Thailand) & Dominic Jamora (Philippines) |   |
| 14.15-14.30 |  |  |   |
| 14.30-14.45 | NSRG Practical Exams by NV Ramani & KS Tan   | Closing Remarks by Lim Shen Yang   |   |
| 14.45-15.00 |  |  |   |
| 15.00-15.15 |  |  |   |
| 15.15-15.30 |  |  |   |
| 15.30-15.45 |  |  |   |
| 15.45-16.00 | Hands-on (All Speakers)  |  |   |
| 16.00-16.15 |  |  |   |
| 16.15-16.30 |  |  |   |
| 16.30-16.45 |  |  |   |
| 16.45-17.00 |  |  |   |

**Time**

**Saturday 19<sup>th</sup> October 2013 (Day 1 Convention)**

|             |  |  |                                       |
|-------------|--|--|---------------------------------------|
| 07:30-07:45 | <b>Registration</b>  |  |                                       |
| 07:45-08:00 |  |  |                                       |
| 08:00-08:15 | <b>OPENING CEREMONY</b>  |  |                                       |
| 08:15-08:30 |  |  |                                       |
| 08:30-08:45 |  |  |                                       |
| 08:45-09:00 |  |  |                                       |
| 09:00-09:15 |  |  |                                       |
| 09:15-09:30 | <b>Speaker:</b> Chang Hui Meng (Singapore)   |  |                                       |
| 09:30-10:00 | Coffee Break   |  |                                       |
| 10:00-11:30 | <b>Symposium 1: Stroke</b><br>(Chair: NV Ramani/Chang HM)  | <b>Symposium 2: Neurology of Immunology &amp; Systemic Diseases</b> (Chair: Hj Md Arif)            | <b>Registration</b>                   |
| 10:00-11:30 | Causes of Stroke: How hard do we look?<br><b>Speaker:</b> Tan KS (Malaysia)  | Iron and Neurological disorders<br><b>Speaker:</b> Hj Md Arif Abdullah (Brunei)                    |                                       |
| 10:00-11:30 | Managing the Young Stroke—forgotten issues ?<br><b>Speaker:</b> NV Ramani (Singapore)                                    | Update on NMO<br><b>Speaker:</b> Naraporn Prayoonwiwat (Thailand)                                  | <b>ASEPA EEG Part 1 Exam</b>          |
| 10:00-11:30 | Thrombolysis in Acute Stroke—What have we learnt?<br><b>Speaker:</b> Yongchai K (Thailand)                               | CNS Lupus<br><b>Speaker:</b> Fong Kok Yong (Singapore)   |                                       |
| 10:00-11:30 | Blood Pressure in Stroke—How low do we go?<br><b>Speaker:</b> Yohanna K (Indonesia)                                      | Autoimmune Encephalitis<br><b>Speaker:</b> Suhaila Abdullah (Malaysia)                             |                                       |
| 11:30-13:00 | <b>Symposium 3: Paediatric Neurology</b><br>(Chair: M Ortiz)   | <b>Symposium 4: Neurological Training and Practice in ASEAN Countries</b> (Chair: CT Tan)          |                                       |
| 11:30-13:00 | Movement disorders in Children<br><b>Speaker:</b> Lilian Lee (Philippines)   | The role of research in the training of Neurologist<br><b>Speaker:</b> CT Tan (Malaysia)           |                                       |
| 11:30-13:00 | Paediatric Stroke<br><b>Speaker:</b> Ong Lai Choo (Malaysia)   | Neurological training and Practice in Indonesia<br><b>Speaker:</b> Dede Gunawan (Indonesia)        |                                       |
| 11:30-13:00 | Common and Important Epilepsy Syndromes<br><b>Speaker:</b> Derrick Chan (Singapore)                                      | Neurological training and Practice in Thailand<br><b>Speaker:</b> Naraporn Prayoonwiwat (Thailand) |                                       |
| 11:30-13:00 | Epilepsy in Neurodevelopmental Disorders<br><b>Speaker:</b> Annanit Visudtibhan (Thailand)                               | Neurological training and Practice in Philippines<br><b>Speaker:</b> B Conde (Philippines)         |                                       |
| 13:00-14:30 | Lunchtime Symposium<br><b>Speaker:</b> Metha Apiwaattanankul   |  |                                       |
| 13:00-14:30 |  |  |                                       |
| 14:30-15:00 | <b>Plenary Lecture 2 (Dementia):</b> "Dementia care in Asian countries : Experiences in Japan"                           |  |                                       |
| 14:30-15:00 | <b>Speaker:</b> Akira Homma (Japan)  |  |                                       |
| 15:00-15:30 | <b>Plenary Lecture 3 (Movement Disorders):</b> Palliative care for patients with parkinsonian disorders—A neglected area |  |                                       |
| 15:00-15:30 | <b>Speaker:</b> Janis Miyasaki (Toronto)   |  |                                       |
| 15:30-16:00 | Coffee Break   |  |                                       |
| 16:00-17:30 | <b>Symposium 5: Neuro-infection</b><br>(Chair: Supoch Tunlayadechanont)  | <b>Symposium 6: Movement Disorders</b><br>(Chair: Lim Shen Yang)                                   |                                       |
| 16:00-17:30 | Some specific Nervous infections in the tropics<br><b>Speaker:</b> Supoch Tunlayadechanont (Thailand)                    | Non-motor symptoms of PD<br><b>Speaker:</b> Lim Shen Yang (Malaysia)                               |                                       |
| 16:00-17:30 | Viral Meningoencephalitis<br><b>Speaker:</b> Uta Meyding-Lamade (Germany)  | Dystonia<br><b>Speaker:</b> Dominic Jamora (Philippines)   |                                       |
| 16:00-17:30 | Meningitis: Aetiology and management in the ASEAN setting<br><b>Speaker:</b> Ahmad Rizal Gaimien (Indonesia)             | Infectious Diseases and Movement disorders<br><b>Speaker:</b> Roongroj Bhidayasiri (Thailand)      |                                       |
| 16:00-17:30 | TB meningitis<br><b>Speaker:</b> Siwaporn Chankrachang (Thailand)  |  |                                       |
| 17:30-18:30 |  |  | <b>ASNA Executive Council Meeting</b> |
| 19:30-21:30 | <b>Cultural Night Dinner</b>   |  |                                       |

**Time**

**Sunday 20<sup>th</sup> October 2013 (Day 2 Convention)**

|             |   |  |  |
|-------------|---|--|--|
| 08:00-08:30 | <b>Registration</b>   |  |  |
| 08:00-08:30 |   |  |  |
| 08.30-08.45 | <b>Plenary Lecture 4: Epilepsy</b> —Autoimmune Epilepsies: Clinical Characteristics and Immunotherapy                   |  |  |
| 08.45-09.00 | <b>Speaker:</b> Amy Quek (Singapore)  |  |  |
| 09.00-09.15 | <b>Plenary Lecture 5: Neuroinfection</b> —Sarcocystis   |  |  |
| 09.15-09.30 | <b>Speaker:</b> CT Tan (Malaysia)   |  |  |
| 09.30-09.45 | <b>Plenary Lecture 6: Neuromuscular diseases</b>  |  |  |
| 09.45-10.00 | <b>Speaker:</b> Nobuhiro Yuki (Singapore)   |  |  |
| 10.00-10.30 | Coffee Break  |  |  |
| 10.30-12.00 | <b>Symposium 7:</b> Epilepsy<br>(Chair: Josephine Gutierrez- Philippines)   | <b>Symposium 8:</b> Dementia; Epidemiology of dementia in SEA (Chair: Anam Ong)  | Teaching course in Neurology for Non-Neurologists                    |
| 10.30-12.00 | Diagnostic challenge: Psychogenic Non-epileptic seizures—an update<br><b>Speaker:</b> Josephine Gutierrez (Philippines) | Prevalence of dementia in Indonesia<br><b>Speaker:</b> Anam Ong (Indonesia)  |  |
| 10.30-12.00 | Treating epilepsies with medical comorbidities<br><b>Speaker:</b> Raymond Ali (Malaysia)                                | Alzheimer’s Disease amongst Asians: Contribution of Vascular factor to Cognitive and Clinic Characteristics<br><b>Speaker:</b> Nagaedran Kandiah (Singapore) | Lim Shih Hui (Singapore): Neurologic history and Examination         |
| 10.30-12.00 | Survey for drug resistant Epilepsy: Indications, Evaluation and Outcomes<br><b>Speaker:</b> Yotin Chinvarun (Thailand)  | Epidemiology of Dementia in Thailand<br><b>Speaker:</b> Vorapun Senanarong (Thailand)  | Goh Khean Jin (Malaysia): Use of Neurodiagnostic Studies             |
| 10.30-12.00 | Failed Initial Monotherapy: Substitution or Add-on<br><b>Speaker:</b> Shih Hui Lim (Singapore)                          | Prevalence of Dementia in Philippines<br><b>Speaker:</b> JT Catindig (Philippines)   | Dk Hjh Nurashikin Pg Hj Tengah (Brunei)<br>Headaches and Facial Pain |
| 12.00-13.30 | <b>LUNCH</b>  |  |  |
| 12.00-13.30 |   |  |  |
| 13.30-15.00 | <b>Symposium 9:</b> Headache and Neuralgic Pain<br>(Chair: Hj Hameed- Brunei)   | <b>Symposium 10:</b> Neuro-otology and Neuro-ophthalmology<br>(Chair: Alvin Seah- Singapore)   | <b>TM Umapathi</b> (Singapore)<br>Dizziness                          |
| 13.30-15.00 | Burden of Headache<br><b>Speaker:</b> Hj Hameed (Brunei)  | Neuro-otology<br><b>Speaker:</b> ENg Soh Ping (Singapore)  |  |
| 13.30-15.00 | Medication Overuse Headache<br><b>Speaker:</b> Siwaporn (Thailand)  | Diplopia<br><b>Speaker:</b> Mohan Ramalingam (Brunei)  | <b>See Siew Ju</b> (Singapore)<br>Episodic Loss of Consciousness     |
| 13.30-15.00 | Migraine and the Stroke link<br><b>Speaker:</b> Regina Macalintal (Philippines)   | The Afferent Visual System<br><b>Speaker:</b> Clement Tan (Singapore)  | <b>Jesse Colacion</b> (Brunei/<br>Philippines)<br>Stupor and Coma    |
| 13.30-15.00 | Chronic Migraine Treatment<br><b>Speaker:</b> Julia Merican (Malaysia)  | Vision and Sleep<br><b>Speaker:</b> Alvin Seah (Singapore)   |  |
| 15.00-15.30 | <b>Break</b>  |  |  |
| 15.30-17.00 | <b>Symposium 11:</b> Neuromuscular Diseases<br>(Chair: KJ Goh- Malaysia)  | <b>Symposium 12:</b> Sleep Dysfunction in Patients with Neurologic Disorders<br>(Chair: Yotin C- Thailand)   | <b>Naomi Harun</b> (Brunei)<br>Sensory Disorder                      |
| 15.30-17.00 | Electrophysiological diagnosis of Neuro-muscular disease<br><b>Speaker:</b> Rawiphan (Thailand)                         | Sleep Disordered Breathing and Acute Ischaemic Stroke<br><b>Speaker:</b> Yotin Chinvarun (Thailand)  | <b>Mohan Ramalingam</b> (Brunei)<br>Visual System Disorders          |
| 15.30-17.00 | Update in the treatment of Myasthenia<br><b>Speaker:</b> Hans Damian (Philippines)                                      | Sleep Disturbances in Epilepsy<br><b>Speaker:</b> Kim Shih Hui (Singapore)   |  |
| 15.30-17.00 | Update on immune mediated neuropathies<br><b>Speakers:</b> TM Umapathi (Singapore)                                      | Movement disorders and dementia<br><b>Speaker:</b> Lim Li Ling (Singapore)   | <b>Norazeida Yassin</b> (Brunei)<br>Weakness & Gait Disorders        |
| 15.30-17.00 | Update on Limb-Girdle Muscular dystrophies<br><b>Speaker:</b> KJ Goh (Malaysia)   |  |  |

## **Table of Contents**

### **10th ASNA Biennial Convention, Brunei Darussalam**

The difference of serum prolactin and creatine kinase in epileptic seizure versus psychogenic non-epileptic seizure (PNES)

Time is brain: Stroke thrombolysis in Brunei Darussalam

Risk factors control after discharged from Acute Stroke Care

Stroke in the Young- Demographic of admitted patient into the Acute Stroke Unit, Brunei Darussalam

Demographic of patients admitted into the Acute Stroke Unit, Brunei Darussalam

Stroke in the Elderly- Demographic and Risk Factors of the Acute Stroke Unit in Brunei Darussalam

Demographic of Stroke: A Comparative Study between Brunei Darussalam Neuroscience, Stroke and Rehabilitation Centre and Krankenhaus Nordwest, Frankfurt, Germany

Association between urinary tract infection incidence and fatigue with stroke outcome

Relationship between blood pressure, hemoglobin levels and platelets levels with primary headache

The association between activation of haemostasis and uric acid level with cognitive functions in older people

Characteristic of allodynia and cognitive function in headache sufferer

The association of body mass index and level of metabolic with sleep duration in adult

Association between anti-epileptic drugs with cognitive and behaviour in patients with epilepsy

An unusual case report on physical rehabilitation of a patient with thalamic ataxia

Posters presented in the 10<sup>th</sup> ASNA (ASEAN Neurological Association) 2013 held in Brunei Darussalam between 18<sup>th</sup> and 20<sup>th</sup> October 2013

**Note:** Only registered abstracts are included in the Supplement and judged by three judges (Winner of Poster Presentation is denoted by a Blue ribbon). Presenters were given allocated time to present their findings before question and answer sessions.

## The difference of serum prolactin and creatine kinase in epileptic seizure versus psychogenic non-epileptic seizure (PNES)



Hananto Pratignyo, Suryani Gunadharna, Sobaryati.  
Faculty of Medicine, Padjajaran University, Hasan Sadikin Hospital Bandung, Indonesia

**Background:** Epileptic seizure is a neurologic disorder that requires fast and appropriate management. Diagnosis can be challenging. Other medical conditions may be misdiagnosed, including psychogenic non-epileptic seizure (PNES). The failure to diagnose will impact the management, socioeconomic, and prognosis. The gold standard in diagnosing PNES is by video EEG, which may not be available in some medical centres. Serum prolactin and creatine kinase (CK) are considered as an alternative tools to differentiate epileptic seizure and PNES. Establishing the exact significant value of the serum levels remains a challenge.

**Objective:** To assess the difference of prolactin and CK serum level in patient with epileptic seizure and PNES.

**Materials and Methods:** An analytic comparative case-control study. The subjects are patients with epileptic seizures and PNES who fulfilled the inclusion and exclusion criteria from April to October 2013. Sampling was performed by consecutive admission.

**Results:** There were 10 subjects with epileptic seizures and 8 with PNES, consisting of 9 males and 9 females with age range of 14-62 years old. Data analysis showed significant difference between the increase of prolactin in epileptic seizure group ( $7.07 \pm 3.73$ ) ng/mL and PNES ( $1.83 \pm 1.67$ ) ng/mL, ( $p < 0.05$ ). The analysis also found significant difference between CK level in epileptic seizure group 578 (176;2753) U/L and PNES group 110 (38;376) U/L, ( $p < 0.05$ ).

**Conclusion:** There was significant difference in the increase of prolactin and CK level between epileptic seizure group and PNES. Therefore, these examination could be used as alternative diagnostic tools.

## Time is brain: Stroke thrombolysis in Brunei Darussalam

GC Chan <sup>1</sup>, Uta Meyding-Lamade <sup>1,2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department of Neurology, Krakenhaus Nordwest Hospital, Frankfurt, Germany.

**Background:** Stroke is emerging as a major public health problem for Brunei Darussalam. The Neuroscience, Stroke and Rehabilitation Centre (NSRC) has recently been established and acted as a tertiary referral centre for all stroke patients in Brunei Darussalam.

**Objective:** To assess the demographic of patients admitted with ischaemic stroke into NSRC who were within the 4.5 hours thrombolytic window.

**Materials and Methods:** Medical case-notes of all patients admitted with stroke (ischemic or haemorrhagic) from July 2010 to October 2012 were reviewed. Data collected included age, gender, referral centres, time of symptoms, time of arrival in NSRC, time of thrombolysis and length of stay.

**Results:** Out of 456 charts reviewed, 21 patients (5%) patients received intravenous thrombolysis with Alteplase. There were 13 (62%) male and 8 (38%) female. 86% of patients were referred from Brunei Darussalam main hospital (RIPAS) while 14% were referred from Jerudong Park Medical Centre (JPMC). The mean age of patients was  $56 \pm 12$  years (range 23 to 88). The mean time from onset of symptoms to intravenous needle thrombolysis was  $179 \pm 62$  mins. The mean door to intravenous needle thrombolysis was  $48 \pm 22$  mins. Thus the mean time from onset of symptoms to reaching our unit (door) was 131 mins.

**Conclusion:** In our preliminary study (with small number of patients), there was a quick and efficient door to needle thrombolysis time of 48 mins. However there is a need to improve the time delay (131 mins) from the onset of symptoms to reaching our stroke unit.

## Risk factors control after discharged from Acute Stroke Care

GC Chan <sup>1</sup>, A Masri <sup>1</sup>, F Baharudin <sup>1</sup>, H Maidin <sup>1</sup>, Uta Meyding-Lamade <sup>1,2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department of

Neurology, Krakenhaus Nordwest Hospital, Frankfurt, Germany.

**Background:** Risk factors modification remains as the principal aspect of care for stroke prevention. The understanding of risk factors pattern in our stroke patients will enable health care professional to fine tune risk factors control in this high risk patient group. The Neuroscience Stroke and Rehabilitation Centre (NSRC) provides a unique care as it is a referral centre for all stroke patients in Brunei Darussalam.

**Objectives:** To assess the risk factors (blood pressure, lipid profile and diabetes) control of stroke patients after discharge from inpatient acute stroke care.

**Materials and Methods:** 30 consecutive patients who attended the Stroke outpatient clinic were studied. Information obtained included patient's blood pressure, lipid profile and HbA1c during their stroke inpatient stay. This information is compared to the patient's blood pressure, lipid profile and HbA1c at 3, 6, 9, 12 and 15 months follow-up Stroke outpatient clinic.

**Result:** There were 21 Male, 9 Female, mean age  $56 \pm 12$ . In terms of blood pressure control there was a 12% reduction of systolic blood pressure (equivalent to 20 mmHg) at 3 months, a 17% reduction of diastolic blood pressure (equivalent to 16 mmHg) at 3 months. The optimal systolic blood pressure (120-140 mmHg) is only achieved after 6 months and is maintained into the 15<sup>th</sup> month follow up. For diabetes control, at the 3 months OPD there is an increase of HbA1C to 7.3% from 6% followed by gradual decrease of HbA1c at 6 months (6.3%), 9 months (6%), 12 months (5.5%) and 15 months (5.5%). For lipid control there is improvement seen with decreasing cholesterol, TG, LDL and increasing HDL even at 3 months follow up with maximum reduction of cholesterol, LDL and highest HDL seen at 12 months OPD clinic.

**Conclusion:** In this small study we observed that in terms of blood pressure control there is a 20mmHg decrease in systolic blood pressure at 3 months follow up, although an optimal blood pressure of less than 140 mmHg is seen only at 6 months follow up. HbA1c at 3 months showed an increment likely secondary to less stringent blood sugar control to avoid hypoglycemia. Lipids profile showed a steady decline of cholesterol, LDL, triglyceride and increment of HDL until 12 months OPD.

## Stroke in the Young- Demographic of admitted patient into the Acute Stroke Unit, Brunei Darussalam

K Javier<sup>1</sup>, GC Chan<sup>1</sup>, A Pascual<sup>1</sup>, FR Estrada<sup>1</sup>, Uta Meyding-Lamade<sup>1,2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department of Neurology, Krakenhaus Nordwest Hospital, Frankfurt, Germany.

**Background:** It was estimated that about 10%-14% of all strokes occurs in young patients. It provides great challenges in diagnoses, treatment and managements of such patients group. The Neuroscience Stroke and Rehabilitation Centre (NSRC) provides a unique care as it is a referral centre for all stroke patients in Brunei Darussalam.

**Objective:** To retrospectively assess the demographic of patients age 40 and below admitted into the Acute Stroke Unit of NSRC in Brunei Darussalam

**Materials and Methods:** Medical case-notes of all in-patients 40 years and below from July 2010 to July 2013 were reviewed. Data collected included age, gender, diagnosis and length of stay.

**Results:** There were 49 patients who were 40 years old or younger consisting of 32 (65%) male and 17 (35%) female. The ratio of male to female is 2:1. The mean age was  $35 \pm 6$ . There were 21 (43%) ischaemic stroke, 5 (10%) haemorrhagic stroke, 6 (12%) transient ischaemic stroke (TIA) and 17 (35%) other diagnosis/stroke mimic. Of those with confirmed stroke (haemorrhagic and ischaemic), there were 7 female (27%) and 19 male (73%) The average length of stay for patients were  $19 \pm 28$  days.

**Conclusion:** Young patients admitted into NSRC provided challenges in diagnosing, treatment and management. There were more male to female (ratio 2:1). Only 53% of them were diagnosed with stroke (ischaemic or haemorrhagic) and the remaining with TIA and stroke mimicker. Of those with confirmed stroke there were significantly more male compared to female (ratio 3:1).

## Demographic of patients admitted into the Acute Stroke Unit, Brunei Darussalam

GC Chan<sup>1</sup>, Uta Meyding-Lamade<sup>1,2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department

of Neurology, Krakenhaus Nordwest Hospital, Frankfurt, Germany

**Background:** Stroke is emerging as a major public health problem for Brunei Darussalam. The Neuroscience, Stroke and Rehabilitation Centre (NSRC) has recently been established and acted as a tertiary referral centre for all stroke patients in Brunei Darussalam.

**Objective:** To assess the demographic of patients admitted with stroke into NSRC.

**Materials and Methods:** Medical case-notes of all patients admitted with stroke (ischaemic or haemorrhagic) from July 2010 to November 2011 were reviewed. Data collected included age, race and gender.

**Results:** 254 patients were studied (mean age of  $60 \pm 14$  years, range 22 to 95). There were 105 (41%) female (mean age of  $63 \pm 14$  years, range 33 to 95) and 149 (59%) male (mean age of  $58 \pm 15$  years, range 22 to 90). There were 218 Malays (86%), Chinese 25 (10%) and others 11 (4%). There were 1 male and no female in the 20 to 30 age group, 14 male and 5 female in the 31 to 40 age group, 36 male and 18 female in the 41 to 50 age group, 36 male and 24 female in the 51 to 60 age group, 24 male and 22 female in the 61 to 70 age group, 25 male and 22 female in the 71 to 80 age group, 12 male and 13 female in the 81 to 90, age group and no male and 1 female in the more than 90 years age group.

**Conclusion:** In our preliminary study, stroke disease happens more commonly in male especially in age group 31 to 40 (M:F; 3:1) and 41 to 50 (M:F; 2:1). The first onset of stroke disease is earlier in male patients with our youngest stroke being age of 22.

### Stroke in the Elderly- Demographic and Risk Factors of the Acute Stroke Unit in Brunei Darussalam

GC Chan <sup>1</sup>, Uta Meyding-Lamade <sup>1, 2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department of Neurology, Krakenhaus Nordwest Hospital, Frankfurt, Germany

**Background:** Stroke is emerging as a major public health problem for Brunei Darussalam. The Neuroscience, Stroke and Rehabilitation Centre (NSRC) has recently been established and acted as a tertiary referral centre for all stroke patients in Brunei

Darussalam.

**Objective:** To assess the demographic of elderly patients admitted into NSRC with Stroke.

**Materials and Methods:** Medical case-notes of patients over the age of 65 admitted from July 2010 to June 2011 were reviewed. Data collected included age, gender, length of stay, type of stroke and risk factors.

**Results:** Overall there were 62 elderly patients (> age 65) admitted. There were 41 i.e. 66% ischaemic stroke, 7 (11%) haemorrhagic stroke, 6 (10%) transient ischaemic attack and 8 (13%) other neurological conditions. Of those with confirmed stroke disease 85% were ischemic stroke and 15% haemorrhagic stroke. Of those patients with ischaemic stroke there were 26 male (63%) and 15 female (37%). 85% of them has hypertension, 46% has hyperlipidemia, 32% has diabetes mellitus and 22% has atrial fibrillation. Overall 66% of patients have at least 2 combined risk factors. 78% of all ischemic stroke involved the middle cerebral artery territory, 22% involved the posterior circulation and 5% involved the anterior cerebral artery territory. The average length of stay of patients with ischaemic stroke is 20 days.

**Conclusion:** In our preliminary study stroke disease occurs commonly in the elderly with majority i.e. 85% having ischaemic stroke. The most common area of infarction is the middle cerebral artery territory. Hypertension remains the most important risk factors with 66% patients having at least 2 risk factors.

### Demographic of Stroke: A Comparative Study between Brunei Darussalam Neuroscience, Stroke and Rehabilitation Centre and Krankenhaus Nordwest, Frankfurt, Germany

GC Chan <sup>1</sup>, B Bassa <sup>2</sup>, Uta Meyding-Lamade <sup>1, 2</sup>

<sup>1</sup> Department of Neurology, Neuroscience, Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam and, <sup>2</sup> Department of Neurology, Krankenhaus Nordwest Hospital, Frankfurt, Germany

**Background:** The Neuroscience, Stroke and Rehabilitation Centre (NSRC) of Brunei Darussalam has been working in collaboration with Krankenhaus Nordwest Hospital, Frankfurt since 2010.

**Objective:** To compare the demographic of patients between the two centres.

**Materials and Methods:** All patients admitted with

stroke (ischaemic or haemorrhagic) from July 2010 to November 2011 to both centres were reviewed. Data collected included age and gender.

**Results:** In the Brunei data, 254 patients (59% male, 41% female) were studied (mean age of  $60 \pm 14$  years, range to 95). The male to female ratio in age group 21 to 30 is 1:0, age group 31 to 40 is 3:1, age group 41 to 50 is 2:1, age group 51 to 60 is 3:2, age group 61 to 70 is 1:1, age group 71 to 80 1:1, age group > 80 is 1:1. In the Frankfurt Krankenhaus Nordwest data, 3,498 patients (50% male, 50% female) were studied (mean age  $72.45 \pm 20$  years, range 19 to 103). The male to female ratio in age group 21 to 30 is 1:3, age group 31 to 40 is 1:2, age group 41 to 50 is 1:1, age group 51 to 60 is 2:1, age group 61 to 70 is 2:1, age group 71 to 80 1:1, age group > 80 is 1:2.

**Conclusion:** Comparing Brunei NSRC to Frankfurt Krankenhaus Nordwest the mean age of stroke disease is 12 years younger in the Brunei patients and higher male to female ratio in the age group of 31 to 40 and 41 to 50. This warrant further study to identify the possible reasons for the difference in this the stroke demographic between an Asian and Western population.

### Association between urinary tract infection incidence and fatigue with stroke outcome

Anita Surya, Kiking Ritarwan, Yuneldi Anwar. Neurology Department, Faculty of Medicine, Sumatera Utara University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Medical complications after stroke is common and extend hospital length stay, worsening outcome of stroke and increases hospital care costs. The most common medical complication of stroke is infection, including urinary tract infection (UTI). Fatigue is common after stroke and associated with low survival rate and higher mortality. The frequency of self-reported fatigue approximately two times higher in post-stroke patients compared to control group

**Objective:** To assess the impact of UTI and fatigue on the outcomes of stroke.

**Materials and Methods:** A cross-sectional study was performed on stroke patients admitted to the Department of Neurology of H. Adam Malik General Hospital from July to October 2013. Diagnosis of stroke were established by history, physical examination, neurological examination and computed tomography scan. All subject underwent routine

urine examination and were assessed for the Fatigue Assessment Scale (FAS), National Institute of Health Stroke Scale (NIHSS), Barthel Index (BI), and Modified Rankin Scale (mRS).

**Results:** of 31 patients, 14 (45.5%) were males and 17 (54.5%) were females. UTI was documented in 12.9% of cases and 22.6% of cases had reported fatigue. There were no significant association between the incidence of UTI and NIHSS day 1 ( $p=0.550$ ), NIHSS day 7 ( $p=1.000$ ), NIHSS day 14 ( $p=0.415$ ), mRS day14 ( $p=1.000$ ) and BI ( $p=1.000$ ); and no significant association between fatigue and the NIHSS day 1 ( $p=0.302$ ), NIHSS day 7 ( $p=0.707$ ), NIHSS day 14 ( $p=0.415$ ), mRS day 14 ( $p=0.804$ ) and BI ( $p=1.000$ )

**Conclusion:** There were no significant association between the incidence of UTI and fatigue and stroke outcome.

### Relationship between blood pressure, hemoglobin levels and platelets levels with primary headache

Adika A. Sitepu, Alfansuri Kadri, Khairul P. Surbakti, Hasan Sjahrir.

Neurology Department, Faculty of Medicine, Sumatera Utara University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Headache is one of the most common symptoms encountered in public events and the occurrence of clinical neurology. Blood pressure associated with headache when the primary afferent fibers inverse of meningeal or cerebral blood vessels become active. Haemoglobin levels have a relationship with a headache when the lack of oxygen supply in the blood. Platelet levels associated with headache in the presence of platelet dysfunction and nitric oxide function.

**Objective:** This study aimed to investigate the relationship between blood pressure, haemoglobin levels and platelet levels with primary headache.

**Materials and Methods:** This study was a case-control study that included 116 subjects (58 with primary headache and 58 without any headache as controls). All subjects underwent detailed physical and neurological examination, blood pressure measurement and assessment of the haemoglobin and platelet levels. Study subjects also filled out a headache questionnaire (adapted from Ho KH and Ong BK-C) and underwent a head computed tomography scan.

**Results:** Of the study sample, there were 42 (36.2%) male. Blood pressure in primary headache

patients were found to be low in 0.86% (n=1), normal in 37.07% (n=43), and high in 12.07% (n=14). There were no significant association between blood pressure and headache ( $r=0.074$ ,  $p=0.429$ ). Haemoglobin level in primary headache patients were found to be low in 12.93% (n=15), normal in 35.34% (n=41) and high in 1.73% (n=2). There was no significant association between haemoglobin level and headache ( $r=0.102$ ,  $p=0.275$ ). Platelet level in primary headache patients were found to be low in 1.73% (n=2), normal in 47.41% (n=55) and high in 0.84% (n=1). There was no significant association between haemoglobin level and headache ( $r=0.0001$ ,  $p=1.000$ ).

**Conclusion:** There were no significant association between blood pressure, haemoglobin and platelet levels with primary headache.

### The association between activation of haemostasis and uric acid level with cognitive functions in older people

Neni Nurchalida, Aldy S. Rambe, Pui Pinta O. Sinurat.  
Neurology Department, Faculty of Medicine, Sumatera Utara University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Certain human cognitive abilities decline with age. In addition to age and sex, many genetic, nutritional, neuroanatomical, cerebrovascular, and metabolic factors have been shown to alter the risk of cognitive decline or dementia in elderly adults. Uric acid is associated with an increased risk for myocardial infarction, stroke, and cardiovascular mortality, by suggested mechanisms such as the inflammatory properties of soluble uric acid; and the direct effect of uric acid on endothelial function by impairing nitric oxide production. Activation of haemostasis is associated with increased risk of ischaemic vascular disease, and so these alterations in haemostasis also might be expected to be linked with cognitive decline and dementia.

**Objective:** To determine the association between activation of haemostasis and uric acid level with cognitive function in older people.

**Materials and Methods:** This is a cross-sectional study with 41 participants, age >60 years old, can read and write. Each participant underwent physical and neurological examination, filled questionnaire, Mini-Mental State Examination (MMSE) and Clock drawing test (CDT), uric acid and activation of haemostasis examination.

**Results:** There were 46 participants (45.7% male) with a mean age of  $62 \pm 4.4$  years. There was a significant correlation between MMSE score with uric acid level ( $r=0.399$ ,  $p=0.006$ ), but not with activation of haemostasis level. The CDT score with activation of haemostasis and uric acid level were not significantly correlated.

**Conclusion:** There was a significant correlation between cognitive function (MMSE score) and uric acid level.

### Characteristic of allodynia and cognitive function in headache sufferer

Lisbeth Meilina, Hasan Sjahrir, Khairul P Surbakti.  
Neurology Department, Faculty of Medicine, Sumatera Utara University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Headache is one of the most frequent neurological symptom and have ever been experienced by everyone. Several studies have reported that the prevalence of allodynia among headache sufferer is high. The influence of headache on cognitive function is still not fully understood. There are several studies have found cognitive impairment among headache sufferer.

**Objective:** The purpose of this study is to assess the characteristic of allodynia and cognitive function in headache sufferers.

**Materials and Methods:** This study was an observational and cross sectional study with descriptive analyse, where the subjects of this study consist of primary headache sufferers taken from Cephalgia Clinic of Neurology Department Haji Adam Malik Hospital. The demographic data from every subject will be taken. Headache questionnaire adapted from HO K-H & Ong BK-C study, Allodynia Symptom Checklist (ASC-12), Mini Mental State Examination (MMSE) and Clock Drawing Test (CDT) were given to every subject in this study.

**Results:** Of the 50 headache sufferers studied, there were 37 female (74%) and 13 male (26%) with a mean age of  $35.1 \pm 14.04$  year. There were 30 migraine sufferers (60%) and 20 (40%) patients with tension type headache (TTH). Mild allodynia was the most common compared to moderate & severe allodynia (26%). Mild allodynia was more common in migraine sufferer, moderate to severe intensity of headache, duration of headache 30 minutes to 24 hours and frequency of headache > 14 days/month. Cognitive impairment with MMSE (<24) was found in 2 migraine sufferers (4%) and 2 patients with TTH (4%), and CDT < 4 was found

in 1 migraine sufferer (2%) and 3 patients with TTH (6%).

**Conclusion:** Allodynia was more common in migraine sufferers. Mild allodynia was more common compare to moderate to severe allodynia in headache sufferer. Cognitive impairment with MMSE (<24) and CDT (<4) were found in migraine and patients with TTH.

### The association of body mass index and level of metabolic with sleep duration in adult

Seri Ulina barus, Cut Aria Arina, Rusli Dhanu.  
Neurology Department, Faculty of Medicine, North Sumatera University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Sleep is a natural physiological process, the need of which can differ individually, in average from 6 to 8 hours per night in the adult population. During the past few decades, sleep curtailment has become a very common, in industrialised countries this trend for shorter sleep duration has develop over the same time periode as the dramatic increase in the prevalence obesity. the prevalences of overweight and obese individuals has been increasing worldwide during recent decades, obesity is a global public health problem and expected to become the most common preventable cause of death. Major contributors to the morbidity and mortality associated with obesity include concomitant insulin resistance, type 2 diabetes melitus, sleep-disordered breathing, and cardiovascular disease.

**Objective:** The aim of this study is to investigate the association between Body Mass Index (BMI, kg/m<sup>2</sup>) and level of metabolics (lipid profiles) with sleep duration in adult

**Materials and Methods:** This is cross-sectional study with 45 subjects aged 35-55 years old. All subjects had been fasting for 8 hours and examined for level of lipid profile, they also assessed sleep duration by sleep diary test and assested BMI.

**Results:** There were 45 subjects, 18 (40%) male and 27 (60%) female). There was a significant relationship between BMI and sleep duration ( $p < 0.03$ ) and there was a significant relationship between triglyceride level and sleep duration ( $p < 0.01$ ). There were no significant relationship between cholesterol, HDL, LDL and blood pressure and sleep duration ( $p > 0.05$ ).

**Conclusion:** The result of this study showed that short sleep duration (<7 hours) was significantly

correlated with BMI and triglyceride level.

### Association between anti-epileptic drugs with cognitive and behaviour in patients with epilepsy



Siska Imelda Tambunan, Rusli Dhanu, Kiki M Iqbal, Alfansuri Kadri  
Neurology Department, Faculty of Medicine, North Sumatera University/H. Adam Malik Hospital, Medan, Indonesia

**Background:** Epilepsy is a chronic disease which can cause medical and social problems, where medical problems can affect the cognitive and mental function. Furthermore, anti-epileptic drugs (AED) have adverse effect in cognitive and behaviour by suppressing neuronal excitability or enhancing inhibitory neurotransmissions.

**Objective:** The aim of this study was to determine the association between AED with cognitive and behaviour in epilepsy patients.

**Materials and Methods:** This was a cross-sectional study conducted in the epilepsy clinic of H. Adam Malik hospital from September to December 2012 in IGE. Fifty-seven patients who had been taking AED of more than four weeks and met the inclusion criteria were assessed with the Mini-Mental State Examination (MMSE) and digit span to determine their cognitive function. Patients also filled out a questionnaire (Beck Depression Inventory [BDI] and Beck Anxiety Inventory [BAI]) to detect the presence of depression and anxiety.

**Results:** Of the 57 patients who participated, 61% were female. Types of seizures consisted of grand mal seizure in 82.5% and petit mal in 17.5%. There was a significant association between AED with cognitive impairment (MMSE,  $p = 0.021$ ), digit span ( $p = 0.014$ ) and depression ( $p = 0.001$ ). There was a significant association between the number of AED with cognitive impairment (MMSE,  $p = 0.002$ ), digit span ( $p = 0.006$ ) and no association with behaviour (BDI,  $p = 0.657$ , BAI,  $p = 0.936$ ). There was also no association between the duration of AED use with cognitive impairment, depression and anxiety except the duration of phenytoin use with cognitive (MMSE,  $p = 0.027$ ) and depression ( $p = 0.021$ ).

**Conclusion:** There was a significant association between the number and type of AED with cognitive impairment. The adverse effect of AED on behaviour showed a significant association between the type of AED with depression but not anxiety. Only phenytoin duration was associated with cognitive impairment and depression.

### An unusual case report on physical rehabilitation of a patient with thalamic ataxia

Murugavel Manivasagam<sup>1</sup>, Vivian Suk Kee Tie<sup>2</sup>, UtaMeyding-Lamade<sup>3</sup>

Brunei Neuroscience Stroke and Rehabilitation Centre, Jerudong Park Medical Centre, Bandar Seri Begawan, Brunei Darussalam, and <sup>2</sup> Department of Neurology, Krankenhaus Nordwest Hospital, Frankfurt, Germany

**Background:** Pure sensory stroke is less common occurring in approximately 6-7% of patients in an examined series of lacunar infarctions. The thalamic syndrome may occur with/without multi-sensory impairment depending upon the site of lesion. There is lack of literature detailing the treatment approach towards physical therapy management of thalamic ataxia which forms the basis for this report.

**Objective:** This case report explains the effectiveness of multimodal physical rehabilitation in a patient with thalamic ataxia and associated symptoms in thalamic stroke.

**Results:** A 61-year-old male with sub-acute infarction of left thalamus and internal capsule complained of sudden onset of right sided hemianesthesia and ataxia. Fugl Meyer Assessment of physical performance (FMA) and International Cooperative Ataxia Rating Scale (ICARS) were used as outcome measures at the onset of stroke and reviewed weekly for 4 weeks. Baseline ICAR value of 49 and FMA value of 6 points were obtained while examining the patient. Follow-up after 4 weeks showed improvements in the objective measures with ICAR and FMA at 4 and 32 points respectively.

**Conclusion:** Rehabilitation focusing on exteroceptive, proprioceptive training with balance and coordination exercises is found effective to improve the symptoms and functional disability in patients with thalamic ataxia.

Conference Report

Brunei Int Med J. 2013; 9 : xx-xx

## The 10th Biennial ASEAN Neurology Association Convention



The full report on the 10th ASNA Convention will be available in a future issue of the Brunei International Medical Journal as Conference report.