wfns SPINE COMMITTEE 12th AESC

The 5th WFNS Spine Committee Biennial Conference in conjunction with
The 22nd Annual Scientific Meeting of Indonesian Neurosurgical Society (INS)
The 12th Asian Epilepsy Surgery Congress (AESC) and
The 2nd International Fujita Bantane Interim Meeting of Neurosurgery

Bali 2018
October 25th - 27th, 2018
Bali Nusa Dua Convention Center (BNDCC)
Bali, Indonesia

"Meeting the Challenges Facing the Future"

Re: Invitation Letter of WFNS Spine Committee-INS-AESC-Fujita Bantane

Dear Diah Kurnia Mirawati, MD

On behalf of the Organizing Committee, we have the pleasure to inform you that *The 5th WFNS Spine Committee Biennial Conference in conjunction with The 22nd Annual Scientific Meeting of Indonesian Neurosurgical Society (INS) The 12th Asian Epilepsy Surgery Congress (AESC) and The 2nd International Fujita Bantane Interim Meeting of Neurosurgery*". The theme chosen for this meeting is **"Meeting the Challenges, Facing the Future"**, will be held on **October 25 – 27, 2018 at Nusa Dua Bali Convention Center (BNDCC), Nusa Dua Bali, Indonesia**.

The Organizing Committee herewith would like to invite you as **FACULTY** for this important meeting. It will be a great honor for us to have your participation, which we truly believe will bring a great contribution to the success of this important meeting

We herewith would like to inform your itinerary during **WFNS Spine Committee-INS-AESC-Fujita Bantane 2018**, as follow:

As Faculty, your lecture/s is scheduled on:

Day 1, Friday, October 26th, 2018:

INDONESIAN EPILEPSY SCHOOL **Moderator: Zainal Muttaqin (Indonesia)** Room: Uluwatu 1	
14.30 – 15.00	**SESSION 2:** Managing Antiepileptic Drug, Starting, Changing, and Stopping AED's **Diah Mirnawati (Indonesia)**

Please kindly send to us for your:

1. Abstract Presentation
2. CV
3. Photo

For complete **WFNS Spine Committee-INS-AESC-Fujita Bantane 2018** program please click following link: www.wfns-ins-aesc.org

We wish you will be a pleasant stay in Bali and we herewith would like to invite you to the following occasion:

For further information

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"Meeting the Challenges Facing the Future"

Bali, October 26th, 2018

To: **Diah Minawarti, MD**

Dear **Diah Minawarti, MD**

On behalf of the organizing committee, we would like to express our sincere gratitude for your participation as our **FACULTY** during **WFNS Spine Committee-INS-AESC-Fujita Bantane 2018,** with theme: ***"Meeting the Challenges Facing the Future"***, that took place in Bali Nusa Dua Convention Center 1 (BNDCC1), Bali, Indonesia, on 25 - 27 October 2018. We aimed for the best organizing. We hereby apologize for any discomfort or mistakes which occurred during the meeting.

Thank you for your kind attention and support. Without your contribution, our meeting would not have been the success that it was. We sincerely hope to have another opportunity to collaborate with you again in the future.

Sincerely Yours,

Indonesian Neurosurgical Society 2018

Prof. Sri Maliawan
Congress Chairman

Prof. Abdul Hafid Bajamal
President of Indonesian Neurosurgical Society (INS)

Prof. Zainal Muttaqin
President of Asian Epilepsy Surgery Congress (AESC)

For further information

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Scientific Program of The12th Asian Epilepsy Surgery Congress (AESC)

October 26th – 27th, 2018

Bali Nusa Dua Convention Center (BNDCC), Nusa Dua Bali, Indonesia

Day 1, Friday, October 26th, 2018

INDONESIAN EPILEPSY SCHOOL **Moderator: Zainal Muttaqin (Indonesia)** Room: Uluwatu 1	
14.00 – 14.30	**SESSION 1:** Drug Refractory Epilepsy, How do We Diagnose DRE **Zainal Muttaqin (Indonesia)**
14.30 – 15.00	**SESSION 2:** Managing Antiepileptic Drug, Starting, Changing, and Stopping AED's **Diah Mirnawati (Indonesia)**
15.00 – 15.30	**SESSION 3:** Neuroimaging in Epilepsy: Best Imaging Sequence for Best Detection of Epileptogenic Lesion **Tan Siauw Koan (Indonesia)**
15.30 – 16.00	**SESSION 4:** EEG and Semiology in Focal or Partial Seizures **M. Thohar Arifin (Indonesia)**
16.00 – 16.30	**SESSION 5:** Starting Comprehensive Epilepsy in Surabaya: Challenge, Opportunity and Strategy **Heri Subianto (Indonesia)**
16.30 – 17.00	**Session 6:** Candidates for Epilepsy Surgery **Ryosuke Hanaya (Japan)**

17.00 – 18.30	**BUSINESS MEETING ASIAN EPILEPSY SURGERY CONGRESS (AESC) – Invitation ONLY** Room: Uluwatu 2

Day 2, Saturday, October 27th 2018

08.15 – 08.30	**Opening Ceremony The 12th Asian Epilepsy Surgery Congress** - **Prof. Zainal Muttaqin, President of AESC** - **Seung-Chyul Hong, Secretary General of AESC** Room: Uluwatu 1
08.30 – 09.00	**Presidential Lecture** Establishing Advance Epilepsy Surgery Program in Developing Countries **Zainal Muttaqin (Indonesia)**
09.00 – 09.45	**Special Lecture 1** **Moderator: Zainal Muttaqin (Indonesia)** Autonomic Changes in Patients with Intractable Epilepsy **Gary W. Mathern (USA)**
09.45 – 10.00	**Coffee Break**
10.00 – 10.30	**Special Lecture 2** **Moderator: Haruhiko Kishima (Japan) & Asra Al Fauzi (Indonesia)** Presurgical Planning of Intracranial Electrode Insertion in Patients with Cortical Migration Disorders **Seung-Chyul Hong (Republic of Korea)**
11.30 – 12.40	**Related Free Paper**
10.30 – 10.40	Identification of Genes Associated with Cortical Malformation using a Transposon-Mediated Somatic Mutagenesis Screen in Mice **Hsin-Hung Chen (Taiwan)**
10.40 – 10.50	Utility of Statistical Parametric Mapping Analysis for Detection of Epileptic FOCI in [18F] FDG and [11C] Flumazenil Pet Studies **Motoki Inaji (Japan)**
10.50 – 11.00	Multi-Institutional Study of Epilepsy and Glia in Japan **Taketoshi Maehara (Japan)**
11.00 – 11.10	Stereo-EEG for Periventricular Nodular Heterotopia with Drug-Resistant Epilepsies **Cheng-Chia Lee (Taiwan)**
11.10 – 11.20	Fully-implantable Wireless ECoG Device **Toshiki Yoshimine (Japan)**
11.20 – 11.30	Cavernoma Related Epilepsy: Controversy on Management **Asra Al Fauzi (Indonesia)**
11.30 – 11.40	Epilepsy Surgery for Tuberous Sclerosis Complex **Hsin-Hung Chen (Taiwan)**

11.40 – 12.40	**Lunch Symposium** **Moderator: Seung-Chyul Hong (Republic of Korea)** Vagal Nerve Stimulations (VNS) **Kensuke Kawai (Japan)**
12.40 – 13.30	**Lunch Break**
13.30 – 14.00	**Special Lecture 3** **Moderator: Chun Kee Chung (Republic of Korea) & Yuriz Bakhtiar (Indonesia)** Epilepsy Surgery for Tuberous Sclerosis Complex **Haruhiko Kishima (Japan)**
14.00 – 15.00	**Related Free Paper**
14.00 – 14.10	Automated Brain Anatomy Labeling and Localization for Stereo - Electroencephalography (SEEG Anatomy Labeling) **Syu-Jyun Peng (Taiwan)**
14.10 – 14.20	TBA **Chun Kee Chung (Republic of Korea**
14.20 – 14.30	Endoscopic Epilepsy Surgery: Indication and Technique **Heri Subianto (Indonesia)**
14.30 – 14.40	Microscopic Corpus Callosotomy: Long Term Outcome **M. Thohar Arifin (Indonesia)**
14.40 – 14.50	Evaluation of Cognitive Function in Temporal Lobe Epilepsy **Yuriz Bakhtiar (Indonesia)**
14.50 – 15.00	Stigma and Epilepsy Surgery in PWE in Ethiopia **Eunik Son (Republic of Korea)**
15.00 – 15.30	**Special Lecture 4** **Moderator: Ryosuke Hanaya (Japan) & Heri Subianto (Indonesia)** SEEG Investigation and Surgery Treatment for Insular Epilepsy **Guoming Luan (China)**
15.30 – 15.40	TBA **Bomin Sun (China)**
15.40 – 15.50	Long-Term Outcome of Epilepsy Surgery in Pediatric Patients **Ryosuke Hanaya (Japan)**
15.50 – 16.00	**Closing Remarks The 12th AESC**

12th AESC

Bali 2018

CERTIFICATE

of Attendance

this is certify to

Diah Kurnia Mirawati

as

SPEAKER

The 12th Asian Epilepsy Surgery Congress (AESC)

October 26th - 27th, 2018

Bali Nusa Dua Convention Center (BNDCC), Nusa Dua Bali, Indonesia

Prof. Sri Maliawan, MD, Ph.D
Congress Chairman

Prof. Zainal Muttaqin, MD, Ph.D
President of 12th AESC

Accredited by the Indonesian Medical Association (IDI) SK PB IDI No: 02489/PB/A.4/10/2018 | | Participant: 8 SKP, Speaker: 12 SKP, Moderator: 4 SKP, Committee: 2 SKP

MANAGING ANTIEPILEPTIC DRUG, STARTING, CHANGING AND STOPPING AED's

Diah Kurnia Mirawati

Neurology Department Medical Faculty of Sebelas Maret University

Abstract

Epilepsy is a disease of the brain defined by any of the following conditions at least two unprovoked (or reflex) seizures occurring >24 hours apart, one unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years, diagnosis of an epilepsy syndrome. Epilepsy can cause many consequences, such as using long-term antiepileptic drugs.

It is important to know when drug administration starts and the right drug selection. The choice of type of drug is mainly based on the type of seizure. Other factors to consider are the age of the patient and the existing comorbidities. In the course of efforts to achieve seizure free, sometimes the addition of drugs or drug substitution is needed. Absolute drug substitution is done if serious side effects occur to the patient. The other indication of drug substitution is if there is no improvement in the frequency and severity of the seizure.

After a seizure-free period is reached, the next problem is when to stop the drug. Discontinuation of the drug has the consequence of the risk of recurrent seizures. But on the other hand, the cessation of AED in some cases corrects the side effects that arise from the drug. Some literatures suggest the termination of OAE begins after 3 years of seizure free. But when referring to the definition of epilepsy issued by ILAE in 2014, that epilepsy is considered to be resolved for individuals who have remained seizure-free for the last 10 years, with no seizure medicines for the last 5 years, then the cessation of the drug is carried out after 5 years of seizure-free period.

INTRODUCTION

Epilepsy is a disease of the brain defined by any following condition, at least two unprovoked (or reflex) seizures occurring >24 hours apart, one unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years, diagnosis of an epilepsy syndrome. This is an operational (practical) definition of epilepsy, published by ILAE in 2014. This definition is continued with another statement that epilepsy is considered to be resolved for individuals who had an age-dependent epilepsy syndrome but are now past the applicable age or those who have remained seizure-free for the last 10 years, with no seizure medicines for the last 5 years. Based on the ILAE 2014 definition, a patient with epilepsy will be taking therapy in a long enough period of time.

When a person had the first seizure, it has to be confirmed whether it is an epileptic seizure or not, and whether it is a provoked seizure or not. If the first seizure is an unprovoked epileptic seizure with high possibility of recurrence, then the patient is diagnosed with epilepsy. The antiepileptic drug therapy has to be started immediately. While if the first seizure is an unprovoked epileptic seizure but

does not meet the criteria, the possibility of recurrence is very high, the patient needs observation first.

There is a term “seizure beget seizures”, which means if a seizure is not treated immediately, it will potentially cause subsequent seizures. Therefore, if there is a patient with seizure, it has to be evaluated completely, whether there is a possibility of diagnosis of epilepsy in this case. A patient with epilepsy will cause many consequences. The patient and their families will be burdened financially because they have to pay for the drugs. The patient will be affected physically if the seizure is not treated immediately. The patient and their families may also be affected by psychosocial work-related conditions, such as getting driving job and so on. Therefore, establishing a diagnosis of epilepsy should be done very carefully.

The principal therapy of epilepsy is managing to achieve the optimum quality of life with controlling the seizure, so the patient will free from seizure or has very minimal seizure. The paradigm of antiepileptic drug (AED) medication is done with “monotherapy, start low go slow”. The choice of antiepileptic drug must pay attention to some factors, such as type of seizures, syndromes of epileptic, age, gender, patient’s conditions, and the comorbid diseases. After free from seizure period is reached, it is necessary to be careful when stopping the AED. Stopping the OAE should pay attention to some factors, such as risk of recurrence after stopping the AED, the EEG’s pattern, and structural lesion in brain.

STARTING AED

When will the antiepileptic drug (AED) therapy starts? AED is given when the diagnosis of epilepsy has made. However, sometimes some questions are not easy to be answered. Some things that sometimes requires caution to start giving an epileptic drugs are:

- Epileptic syndrome in adolescent or young adults (Rolandic epilepsy syndrome). Seizure occurs during sleep
- A patient with recurrence of seizure occurs during sleep (not frequently)
- A person with a first seizure

In 2015, AAN issued a guideline for patients with an unprovoked first seizure will have the chance of high risk for seizure recurrence, in some conditions:

- Prior brain insult (level A)
- EEG with epileptiform abnormalities (level A)
- Significant brain imaging abnormalities (level B)
- Nocturnal seizure (level B)

In addition, there are high risk for seizure recurrence in the conditions:

- History of epilepsy in sibling

- History of Todd's paralysis
- Multiple seizures or status epilepticus at onset.

Based on the AAN 2015 recommendation and adjusted on the ILAE 2014 practical / operational definition of epilepsy, some conditions meet the criteria for diagnosis of epilepsy, so that the antiepileptic drugs treatment can be started. While in history of Todd's paralysis, there is possible abnormalities found in brain imaging, multiple seizures or status epilepticus most likely will be found abnormalities in EEG's recording.

In some conditions below, maintenance of AED are not required :

- Acute symptomatic seizures
- Febrile convulsion
- Alcohol withdrawal
- Specific benign epileptic syndrome

Based on the ILAE 2014 operational definition of epilepsy, some conditions above (besides the specific benign epileptic syndrome) are provoked seizures, so that it cannot be included in the definition of epilepsy.

If it has been decided when to start giving the AED therapy, the next question is, which AED will be chosen? Before choosing AED therapy, always remember the paradigm of epileptic therapy, which is "monotherapy, start low go slow". First choice of AED should be monotherapy. This is to reduce the possibility of interactions between some drugs that may occur when using poly therapy. The next paradigm is start low, which means starting with the minimum dose that can control seizure and under observation. If at a minimum dose cannot control seizures, then the dosage can be increased slowly (go slow) until the optimum dose to control seizures is reached.

When choosing AED, there are some factors to be considered, such as the characteristics of AED, the patients and policies of a country.

Some factors to be considered when choosing AED are :

- Seizure types or epilepsy syndrome specific efficacy or effectiveness
- Dose-dependent adverse effects
- Idiosyncratic reactions
- Teratogenicity
- Carcinogenicity
- Pharmacokinetics
- Interaction potential
- Formulations

Some of patient-specific factors to be considered when choosing AED :

- Genetic background
- Age
- Gender
- Comedications
- Comorbidities
- Insurance coverage
- Ability to swallow pills / tablet

Nation specific factors must be taken into account when choosing AED :

- AED availability
- AED cost
- Insurance coverage

AED SUBSTITITION

In managing patient with epilepsy, sometimes seizure cannot be controlled with AED given or there is a serious drug side effect. In such conditions, it is necessary to substitute the AED. However, before substituting the AED, especially if it caused by uncontrolled seizure, it is necessary to question some things as follows:

- Is the diagnosis of epilepsy correct?
- Is the individual taking his or her medication?
- Is the wrong AED for the seizure type being prescribed?
- Has a progressive underlying condition, e.g. glioma, been missed?
- Is there undeclared use of alcohol or drugs?

In choosing the AED substitution, it is still by following some considered factors when choosing the AED, with the addition of AED selection with different work mechanism from previous AED.

STOPPING AED

The result from several studies show that about two-thirds of epilepsy patients will achieve seizure free with appropriate and adequate AED administration. As the seizure free period has been reached, there will be some questions, such as: is the drug needs to be continued or stopped? If it is continued,

until when? If it is stopped, when will it be? How to stop the AED?

Sometimes, it is not easy to answer the questions above. To consider whether the drug is continued or stopped, it needs cooperation between the doctor and the patient or the patient's family. Patients and/or their families have the right to determine whether the drug will be continued or stopped if a seizure free period has been reached. Even there is still no official agreement between the experts about when the AED can be stopped. In general, AED dose starts to be lowered when there is at least 2 years of seizure free period. Based on the ILAE 2014 definition of epilepsy is considered to be resolved, then stopping the AED is done after 5 years of seizure free period.

The experts that agree to stop AED after seizure free period has been reached consider that stopping the AED will improve some AED side effects to:

- Cognitive function
- Learning difficulties
- Lipid profile
- Cardiac function.

Meanwhile some experts who disagree to stop the AED consider that stopping AED will increase the risk of seizure recurrence, which will result to some consequences:

- Mental strain
- Protection against seizure-related accidents
- Losing job
- Losing driving license

In pediatric patients, there are some factors to be considered when stopping the AED. Stopping AED will increase the risk of seizure recurrence, especially in some conditions as follows:

- Early onset of seizures (< 2 years)
- Onset of seizures in adolescence (> 10 years)
- Symptomatic epilepsy (seizure-generating substrate determined on MRI scan)
- Special epilepsy syndromes, e.g. Lennox- Gastaut syndrome or juvenile myoclonic epilepsy
- Neurological deficit
- Several types of seizure
- Developmental delay
- Use of more than one antiepileptic drug
- Pathological EEG, epileptiform activity or slow background activity

For adult patients, the risk of seizure recurrence will increase after stopping AED in some conditions as follows:

- Late onset of seizures (> 16 year)
- Generalized epileptiform EEG disturbances in the last year
- Information regarding myoclonic seizures, focal seizures with impaired awareness and/or tonic-clonic seizures
- Seizure after start of treatment
- Use of more than one antiepileptic drug
- Neurological outcomes

Therefore, careful consideration and good cooperation are needed when deciding to stop AED.