

Clinical Questions and Learning Objectives

Headache Master School 2013 in Asia

A. Topics to be lectured and discussed at the plenary sessions

0. Introduction: Good morning ICHD-III!

Let's start at the very beginning. When you read you begin with A-B-C, so when you learn headache you begin with ICHD-III.

Chair: **Sakai F**

Speaker: **Goadsby P**

Clinical Questions:

- ✓ Why ICHD-II had to be revised?
- ✓ Are there any difference in classification between ICHD-II and ICHD-III?
- ✓ Which diagnostic criteria were revised and why?

Learning Objectives: At the end of this session, the participants will be able to:

- ✓ Explain the importance of the revision of ICHD.
- ✓ Explain the new classification of headache in ICHD-III.
- ✓ Explain the important points in revised ICHD-III.

1. “Mechanisms of Migraine” (sponsored by Pfizer)

Chair: **Dodick D**

A short presentation by a student: **Shibata M**

Speaker: **Charles A** on “Central mechanism”

Speaker: **Burstein R** on “Neuro-anatomy relevant to migraine pathophysiology”

Clinical Questions:

a) Central mechanism in migraine

- ✓ Is migraine headache largely central pain?
- ✓ What is the role of hypothalamus in generating migraine?
- ✓ How does the descending pain modulation system work in migraine

pathophysiology?

- ✓ Does allodynia play a role in the progression and chronification of migraine?

b) Neuro-anatomy relevant to clinical manifestations of migraine

- ✓ Is migraine provoked by the nociception at the dural trigeminal nerve terminals?
- ✓ What causes the release of neuropeptides from dural trigeminal nerve terminals in the generation of migraine headache?
- ✓ Is the severity of migraine related to the spread of the neurogenic inflammation?
- ✓ What is the biological basis of photophobia, phonophobia, nausea and vomiting?

c) Additional questions: CSD in migraine pathophysiology

- ✓ Does CSD activate peripheral trigeminal nociceptors to cause migraine headache?
- ✓ Can CSD directly activate central trigeminal sensory neurons without afferent peripheral sensory input?
- ✓ What are the potential triggers to cause CSD in migraine patients?

Learning Objectives: At the end of this session, the participants will be able to:

- ✓ Explain the concept of “migraine syndrome”.
- ✓ Relate the temporal profile of migraine symptomatology.
- ✓ Explain the significance of CSD in the generation of aura symptoms.
- ✓ Interpret the initiation of migraine in relation to the hypothalamic and limbic abnormalities.
- ✓ Explain the role of the sensory system in the development of migraine headache.
- ✓ Explain the anatomical basis of migraine-related clinical manifestations.
- ✓ Design abortive and preventive therapeutic measures based on migraine pathophysiology from the pharmacological and electrophysiological perspectives.

2. Triptans, What we have learned (sponsored by Eisai)

Chair: **Suzuki N**

Speaker: **Ferrari M**

Clinical Questions:

- ✓ How do triptans ameliorate migraine attacks?
- ✓ What are the sites of actions of triptans in relieving migraine attacks?
- ✓ How do we choose one triptan from the others for a migraine patient?
- ✓ What is the most appropriate timing of triptan administration for patients with migraine with aura?
- ✓ Can we administer triptans to patients taking SSRI/SNRI?
- ✓ Does chronic triptan use increase the risk of ischemic stroke?
- ✓ Which subtype of serotonin receptors is the most important target of triptans?
- ✓ How do we treat non-responders or inconsistent responders to triptans?

Learning Objectives: At the end of this session, the participants will be able to:

- ✓ Administer a specific triptan for a migraine patient in consideration of its pharmacological properties.
- ✓ Assess the potential risk of triptan use in consideration of the clinical status of patients.
- ✓ Describe the pharmacological mechanisms of triptans relevant to their migraine-aborting actions.

3. History taking by world-leading headache experts

Chair: **Purdy A**

Interviewers: **MacGregor A, Dodick D,**

Discussants: **Goadsby P, Ferrari M**

Two patients with headache are interviewed by teachers. One teacher interview one of the two patients (15 min for each interview and 5 min for diagnosis and treatment choice). A Japanese-English interpreter is available. (A little more complicated case than Kate's Case in AHS Scottsdale, but similar objectives of case based learning). After the interviews and the comments, we have a plenary discussion session chaired by Purdy A.

Clinical questions

- ✓ How world-leading headache experts interview and examine patients with headache?
- ✓ How do they make diagnosis and treatment choice with patients.

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Take a history of a headache patient in an efficient manner to clarify the type of the headache in a limited time.
- ✓ Identify the principle of abortive and preventive therapy and strategies to optimize patient 'compliance
- ✓ Implement an evidence-based preventive treatment program for patients with migraine
- ✓ Make a correct diagnosis and understand various factors influencing migraine.
- ✓ Learn the management of low frequency leading to high frequency migraine.
- ✓ Plan a strategy for balanced approach to therapy and management of migraine.

4. Chronic Migraine (CM) and Chronic Tension-type Headache (CTTH)

Chair: **Wang S**

Case presentation by a student by a student: **Shimizu T**

Speaker: **Rapoport A** Differential diagnosis and classification

Speaker: **Schoenen J** Pathophysiological mechanisms and management

Clinical Questions

- ✓ How do we diagnose CM and CTTH using ICHD-III?
- ✓ What are factors that contribute to chronification of migraine and TTH?
- ✓ What are the roles of the central sensitization in the chronification of migraine and TTH?
- ✓ How can we treat CM and CTTH patients?

Chronic migraine

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Describe the disease course and clinical features of chronic migraine.
- ✓ Identify risk factors of migraine chronification.
- ✓ Correctly apply ICHD-III diagnostic criteria of chronic migraine.
- ✓ Distinguish between chronic migraine and medication-overuse headache.
- ✓ Relate postulated disease mechanisms to clinical manifestations of chronic migraine.
- ✓ Implement evidence-based multidisciplinary strategies for the management and prevention of chronic migraine.

Chronic tension-type headache (CTTH)

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Describe the disease course and clinical features of chronic tension-type headache.
- ✓ Correctly apply ICHD-III diagnostic criteria of CTTH.
- ✓ Discuss the role of central sensitization in the development of CTTH.
- ✓ Implement evidence-based multidisciplinary strategies for the management and prevention of CTTH.

5. Headache in children and adolescents

Chair: **Qi Wan**

Speaker: **Guidetti V**

Clinical Questions

- ✓ How to establish differential diagnosis of daily headache in children and adolescents?
- ✓ What are the major points of differences from adult cases, especially for non-pediatrician (neurologists, neurosurgeon, and physicians)?
- ✓ What is the technique asking questions of the child headache subjects?
- ✓ What are the tips and pitfalls in use of triptans in children and adolescents (usage, dosage and brands)?
- ✓ How to manage dizziness/vertigo and abdominal pain in childhood periodic syndromes?

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Correctly apply ICHD-II (ICHD-III) diagnostic criteria of childhood periodic syndrome.
- ✓ Explain the major techniques for medical interviews and history taking in childhood headache sufferers.
- ✓ Explain the multidisciplinary strategies for the management of migraine headache and migraine precursors in children and adolescents.
- ✓ Describe the course and clinical features of childhood periodic syndrome that are commonly precursors of migraine, i.e. cyclic vomiting, abdominal migraine, benign paroxysmal vertigo of childhood.

6. Update in migraine research “highlight”

Chair: **Macalintal-Canlas R**

Speaker: **Dodick D**

Discussant: **Burstein R**

Clinical Questions

- ✓ What are the highlights of the most important research advances in the past 2 years from Cephalalgia, Headache and other journals as well as the highlights from International meetings that participants will not have had the opportunity to attend (e.g. AHS Scientific meeting, IHC, EHMTIS)?
- ✓ Does the genetic basis of migraine explain the migraine syndrome and give rationale to the current and future treatment?

7. Trigeminal Autonomic Cephalalgias (TACs) (sponsored by GSK)

Chair: **Kitagawa Y**

Case presentation by a student: **Matsumori Y**

Speaker: **Goadsby P**

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Classify the TACs according to the ICHD-III diagnostic criteria.
- ✓ Describe clinical features of cluster headache and other TACs.
- ✓ Identify the anatomical connections between the trigeminal and autonomic systems.
- ✓ Discuss the prevailing concepts regarding the pathogenesis of the TACs
- ✓ Describe the diagnostic evaluation to patients presenting with TACs
- ✓ Implement evidence-based acute therapy for cluster headache attacks.
- ✓ Implement evidence-based preventive therapy for cluster headache.
- ✓ Discuss the role of peripheral and central neurostimulation for medically refractory TACs.

8. Medication-overuse headache (MOH; sponsored by Pfizer)

“Do all analgesics cause MOH and need detoxification?”

Chair: **Rapoport A**

Rapoport A: Overview

Case presentation by a student: **Imai N**

What do headache specialists think about the mechanisms and management of MOH?

Charles A

Diener C

Discussion

Clinical Questions:

- ✓ How can we differentiate MOH from chronic migraine that is coexistent with medication overuse?
- ✓ Does ICHD-III clarify the diagnostic criteria of MOH?
- ✓ What kind of acute headache medication is likely to cause MOH?
- ✓ Are NSAIDs protective or causative to the development of MOH?
- ✓ Does medication-overuse cause chronic headache (migraine)?
- ✓ What are the best management and the outcome of MOH?

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Diagnose MOH by applying the ICHD-III criteria.
- ✓ Identify acute-phase medications causative of MOH.
- ✓ Describe the pathophysiological basis of MOH.
- ✓ Identify the medications possibly cause MOH.
- ✓ Implement rational management of MOH.
- ✓ Discuss the need of liaison therapy with psychologists or psychiatrists.

9. Women's issues in headache medicine (sponsored by GSK)

Chair: **Hirata K**

Case presentation by a student: **Unno Y**

Speaker: **MacGregor A**

Clinical Questions

- ✓ Why do women have high incidence of migraine?
- ✓ Why are the menstrual migraine attacks long-lasting and severe?
- ✓ Is menstrual migraine more resistant to triptans
- ✓ How does the contraceptive pill affect the menstrual migraine?
- ✓ Tips in the treatment for the menstrual migraine.
- ✓ How do we use prophylactic triptans for menstruation-related migraine?
- ✓ Are nondrug therapies useful for menstrual migraine?
- ✓ Suggested migraine treatment for pregnant and breast-feeding women.
- ✓ Issues regarding risk of stroke in women with migraine and how hormone therapy influence this risk

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Obtain tips and pearls on the most effective treatment of menstrual migraine.

- ✓ Develop a treatment plan for migraine in women who are pregnant or breast-feeding.
- ✓ Discuss the relationship between and management of migraine with aura in young women and ischemic stroke.

10. Integrated approaches at the headache centers (Kyowa-Kirin)

Chair: **Kim JM**

Integrated approach including preventive medication: **Göbel H**

Discussant: **Schoonman G**

Clinical Questions

- ✓ What types of headache patients visit headache centers?
- ✓ What kind's types of headaches are treated by integrated headache care?
- ✓ What types of treatments are included in the integrated headache care?
- ✓ Why are some patients refractory to conventional therapies?
- ✓ What are the mechanism(s) underlying the efficacy of and resistance to migraine preventive medication?
- ✓ How valproic acid is used for the prevention of migraine?
- ✓ Are non-pharmacological treatments effective for refractory headaches?

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Identify the headache types and patient population most appropriate for and responsive to integrated headache care.
- ✓ Discuss the evidence that supports the effectiveness of multidisciplinary integrated headache care.
- ✓ Implement the evidence and experience-based tips and pearls in managing patients with refractory headache

11. Procedural medicine

Chair: **Diener C**

Botulinum toxin injection: **Dodick D**

Nerve blocks and neurostimulation (peripheral and deep brain):

Schoenen J

Clinical Questions

- ✓ What is the evidence base supporting the use of OnabotulinumtoxinA, extracranial nerve blocks, and peripheral and deep brain neurostimulation for the treatment of medically intractable headache?
- ✓ What is the mechanism of action of OnabotulinumtoxinA, extracranial

nerve blocks, and neurostimulation therapies?

- ✓ How do you optimize the selection of headache and patient types for procedural therapies?

Learning Objectives: At the end of the session, the participants will be able to

Describe the evidence base, potential mechanism(s), and optimal patient selection for treatment with OnabotulinumtoxinA, extracranial nerve blocks, and peripheral and deep brain neurostimulation.

12. General Discussion

Chair: Purdy A

Comments on Headache Master School 2013 in Asia from teachers, students and organizers

- ✓ Teachers: what we taught & the issues that remain
- ✓ Students: what we learned & how I changed
- ✓ Organizer: what is the impact of the Headache Master School 2013 on headache medicine in Asia, and where do we go from here?

B. Case-based group learning

“How to diagnose and manage primary or secondary headaches”

Presentation by teachers of most instructive cases

Q&A and discussions

Learning Objectives: At the end of the session, the participants will be able to:

- ✓ Describe diagnosis and treatment of various types of headache
- ✓ Diagnose secondary headaches and describe the principals involved in distinguishing primary from secondary such as CSF leaks, IIH, thunderclap headaches, and its various causes, etc.
- ✓ Define the state of refractoriness of headache disorders.
- ✓ Identify factors responsible for headache refractoriness.
- ✓ Design therapeutic approaches for difficult headaches