Classification of headaches

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Headache center

Headache in adults:
1-year prevalence

Population or community-based surveys of >500 participants covering ages 25-60 y

<table>
<thead>
<tr>
<th>Region</th>
<th>Prevalence (%)</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>21.6</td>
<td>2</td>
</tr>
<tr>
<td>Asia</td>
<td>58.6</td>
<td>5</td>
</tr>
<tr>
<td>Australia</td>
<td>50.0</td>
<td>1</td>
</tr>
<tr>
<td>Europe</td>
<td>56.1</td>
<td>8</td>
</tr>
<tr>
<td>N. America</td>
<td>53.5</td>
<td>3</td>
</tr>
<tr>
<td>S. America</td>
<td>41.3</td>
<td>4</td>
</tr>
</tbody>
</table>

Mean: 50.5
Median: 50

World Headache Maps
The single most important document to read for doctors taking an interest in the diagnosis and management of headache patients.

It is intended equally for research and clinical practice.

It is summary of everything that we know about headaches.


160 pages, about 200 diagnosis

Classify:
- to recognize the different entities to order in a meaningful fashion

Available evidence:
- clinical description
- longitudinal studies
- epidemiological studies
- treatment results
- genetics
- neuroimaging
- pathophysiology

The classification would certainly change with increase of our knowledge.
Do we have to know ICHD-II by heart?

Even members of the Headache Classification Subcommittees are unable to remember all of it.

(from the introduction of ICHD-II)

ICHD-II is hierarchically organized

<table>
<thead>
<tr>
<th></th>
<th>Primary headaches:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Migraine</td>
</tr>
<tr>
<td>2.</td>
<td>Tension-type headache</td>
</tr>
<tr>
<td>3.</td>
<td>Cluster headache and other trigeminal autonomic cephalalgias</td>
</tr>
<tr>
<td>4.</td>
<td>Other primary headaches</td>
</tr>
<tr>
<td>5-12.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Secondary headaches</td>
</tr>
<tr>
<td>14.</td>
<td>Cranial neuralgias and central causes of facial pain</td>
</tr>
<tr>
<td></td>
<td>Other headache, cranial neuralgia, central or primary facial pain</td>
</tr>
</tbody>
</table>

Appendix
**ICHD-II is hierarchically organized – 3 (4) digit levels**

<table>
<thead>
<tr>
<th>Group</th>
<th>Primary headache</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Migraine</td>
</tr>
<tr>
<td>Subtype</td>
<td>1.1</td>
</tr>
<tr>
<td>Subform</td>
<td>1.2 .1</td>
</tr>
<tr>
<td></td>
<td>1.2 .2</td>
</tr>
<tr>
<td></td>
<td>1.2 .3</td>
</tr>
<tr>
<td></td>
<td>1.2 .5</td>
</tr>
<tr>
<td></td>
<td>4.7</td>
</tr>
</tbody>
</table>

1<sup>0</sup> or 2<sup>0</sup> Primary care physician
3<sup>0</sup> or 4<sup>0</sup> Neurologist, headache expert

**The ICHD-II codes correspond to the ICD-10 codes**

<table>
<thead>
<tr>
<th>ICHD-II code</th>
<th>ICD-10 code</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>G43</td>
<td>Migraine</td>
</tr>
<tr>
<td>1.2</td>
<td>G43.0</td>
<td>Migraine without aura</td>
</tr>
<tr>
<td>1.2.5</td>
<td>G43.105</td>
<td>Sporadic hemiplegic migraine</td>
</tr>
<tr>
<td>4.7</td>
<td>G44.80</td>
<td>Hemicrania continua</td>
</tr>
</tbody>
</table>

- In many places ICHD-II code is more detailed than ICD-10 code.
- Some headache types are not uniquely coded under the ICD-10 system but the most appropriate ICD-10 code has in each case been attached to the ICHD-II code.
The headache diagnosis is based on:

- Symptoms
  primary headache disorders

- Etiology
  secondary headache disorders

ICHD-II content

One chapter – one headache’s type

The chapter:
- the classification for that chapter
- introduction
- different headaches, one by one, in the order of classification
- selected bibliography

For each major headache disorder, there are:
- previously used terms
- related disorders coded elsewhere in the ICHD-II
- short description
- explicit diagnostic criteria
- written comment

explicit – unambiguous, precise and with as little room for interpretation as possible
How to use ICHD-II

• Patients receive a diagnosis according to headache phenotypes that they currently present or that they have presented within the last year.

• Each distinct type of headache that the patient has must be separately diagnosed and coded.
  
  1.1 Migraine without aura
  2.2 Frequent episodic tension-type headache
  8.2 Medication-overuse headache

• Listed in the order of importance to the patient (not to the doctor!)

How to use ICHD-II

• If one type of headache in a particular patient fulfils two different sets of explicit diagnostic criteria, then all other available information should be used to decide which of the alternatives is the correct or more likely diagnosis.
  
  longitudinal headache history
  family history
  effect of drugs
  menstrual relationship
  age, gender

• Description of untreated or unsuccessfully treated attack

• Probable diagnostic category
How to use ICHD-II

• If there are different types of headaches in a particular patient

  The attacks are NOT different
  Typical attacks ≈ diagnosis
  Typical + atypical ≈ frequency

  The attacks are different
  Headache diary

• There is no possibility to code the frequency or severity of headaches. The recommendation is to specify that in free text.

How to use ICHD-II

Primary or secondary headache

• New headache in close temporal relationship to + another disorder that is known cause of headache

  The diagnosis is SECONDARY headache, even if it is
  migraine-like headache,
  tension-type – like headache or cluster-like headache.
How to use ICHD-II

Primary or secondary headache

• Pre-existing primary headache is made worse
  + another disorder that is known cause of headache

  One diagnosis: the PRIMARY headache disorder or
  Two diagnosis: the PRIMARY headache and the SECONDARY
  headache according to the other disorder

• close temporal relationship
• marked worsening of the headache
• good evidence of causal relationship
• improvement or disappearance of headache after relief of “cause”

Our case as an example

M.L., female, 42 years

• Migraine without aura, 2/m, from her twenties
• Gradual increase in headache frequency, 4-5/m, from 37 year
• Normal results on physical and neurological examinations.
Our case as an example

- CT brain scan was performed and revealed the tumor-like zone in temporal and parietal region on the left.
- DSA: Arteriovenous malformation

Our case as an example

Migraine without aura or Migraine without aura and Headache secondary to AVM

- close temporal relationship?
- marked worsening of the headache?
- good evidence of causal relationship

Causality or comorbidity

In our case the removal of AVM resulted in headache disappearance, and we concluded the diagnosis of secondary headache disorder.

- improvement or disappearance of headache after relief of “cause”
ICHDI - Appendix

• “orphan headaches” - novel entities that have not been sufficiently validated by research studies
  - Menstrual migraine
  - SUNA
  - Nummular headache

• Alternative sets of diagnostic criteria to those in the main body of classification

• The first step in eliminating disorders included as diagnostic entities because of tradition, but without sufficient evidence
  - alternating hemiplegia of childhood

ICHDI is 8 years old, now...

• There is a lot of new studies testing the ICHDI in clinical practice

• New proposals for revision the criteria

The MOH diagnosis should no longer request improvement after discontinuation of medication overuse but should be given to patients if they have a primary headache plus ongoing medication overuse.

The chronic migraine diagnosis should no longer request \( \geq 15 \) days with migraine but should be given to patients with \( \geq 15 \) days of headache of which only 8 (or only 4) is migraine.

4. Other primary headaches

6412 patients consult due to HA

97 (1.5%) consult due to provoked HA

Cough HA
64.70%

Exertional HA
11.11%

Sexual HA
18.19%

Primary Secondary Primary Secondary Primary Secondary
28.41% 40.59% 9.82% 2.18% 16.89% 2.11%

Other posterior Chiari type I SAH SAH/Hydrocephalus
fossa lesions 32.80%

Pascual et al. 2008

Cluster headache and paroxysmal hemicrania: differential diagnosis

J Zdvrkovic, A Pavlovic, M Mijajlovic, Z Jovanovic, N Sternic & VS Kostic
Department of Craniofacial Disorders and Headache, Institute of Neurology, Clinical Centre of Serbia, Belgrade, Serbia and Montenegro

Table 2: Features of headache attacks in patients with cluster headache (CH) and paroxysmal hemicrania (PH)

<table>
<thead>
<tr>
<th>Headache features</th>
<th>CH (%)</th>
<th>PH (%)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocular involvement</td>
<td>50 (56)</td>
<td>10 (12)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Duration of attacks (min)</td>
<td>65±44</td>
<td>45±34</td>
<td></td>
</tr>
<tr>
<td>Phases of typical headache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>0–8 to 18</td>
<td>3–6</td>
<td></td>
</tr>
<tr>
<td>Tension headache attacks, n (%)</td>
<td>17 (31.5)</td>
<td>1 (2.5)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Nocturnal attacks, n (%)</td>
<td>24 (62.0)</td>
<td>4 (50.0)</td>
<td>0.200</td>
</tr>
<tr>
<td>Nocturnal attack predominance, n (%)</td>
<td>14 (26.0)</td>
<td>0 (0.0)</td>
<td>0.181</td>
</tr>
</tbody>
</table>

Figure 1 Durations of attacks (%). CH, PH

Figure 2 Frequency of attacks. CH, PH
When to use ICHD-II?

We have to know diagnostic criteria for:
- migraine with and without aura
- tension-type headache
- cluster headache

It is also useful to recognize medication-overuse.

We will use ICHD-II:
- For uncertain diagnosis in clinical practice
- To be sure that all patients in examined group satisfy diagnostic criteria for headache disorder that we would like to study.