Classification of primary headaches (ICHD-3)

Jes Olesen
Chair international headache classification committee
Professor of neurology
Danish Headache Center
Part 1:
The primary headaches

1. Migraine
2. Tension-type headache
3. Trigeminal autonomic cephalalgias
4. Other primary headache disorders
1. Migraine

1.1 Migraine without aura
1.2 Migraine with aura
1.3 Chronic migraine
1.4 Complications of migraine
1.5 Probable migraine
1.6 Episodic syndromes that may be associated with migraine
1.1 Migraine without aura

A. At least 5 attacks fulfilling criteria B-D
B. Headache attacks lasting 4-72 h (untreated or unsuccessfully treated)
C. Headache has ≥2 of the following characteristics:
   1. unilateral location
   2. pulsating quality
   3. moderate or severe pain intensity
   4. aggravation by or causing avoidance of routine physical activity (*eg*, walking, climbing stairs)
D. During headache ≥1 of the following:
   1. nausea and/or vomiting
   2. photophobia and phonophobia
E. Not better accounted for by another ICHD-3 diagnosis
1.2 Migraine with aura

A. At least 2 attacks fulfilling criteria B and C
B. ≥1 of the following fully reversible aura symptoms:
   1. visual; 2. sensory; 3. speech and/or language; 4. motor; 5. brainstem; 6. retinal
C. ≥3 of the following 6 characteristics:
   1. ≥1 aura symptom spreads gradually over ≥5 min
   2. ≥2 symptoms occur in succession
   3. each individual aura symptom lasts 5-60 min
   4. ≥1 aura symptom is unilateral
   5. At least one symptom is positive (scintillations or pins and needles)
   6. aura accompanied or followed in <60 min by headache
D. Not better accounted for by another ICHD-3 diagnosis, and TIA excluded
1.2 Migraine with aura

1.2.1 Migraine with typical aura
1.2.2 Migraine with brainstem aura
1.2.3 Hemiplegic migraine
1.2.4 Retinal migraine
1.2.1.2 Typical aura without headache

A. Fulfils criteria for 1.2.1 *Migraine with typical aura*
B. No headache accompanies or follows the aura within 60 min
1.2.2 Migraine with brainstem aura

A. At least 2 attacks fulfilling criteria B and C below, and criteria C and D for 1.2.1 Migraine with typical aura

B. Aura of fully reversible visual, sensory and/or speech/language symptoms, but not motor or retinal

C. ≥2 of the following brainstem symptoms:
   1. dysarthria
   2. vertigo
   3. tinnitus
   4. hypacusis
   5. diplopia
   6. ataxia
   7. decreased level of consciousness
1.2.3 Hemiplegic migraine

A. At least 2 attacks fulfilling criteria B and C
B. Aura consisting of both of the following:
   1. fully reversible motor weakness; 2. fully reversible visual, sensory and/or speech/language symptoms
C. $\geq 3$ of the following 6 characteristics:
   1. $\geq 1$ aura symptom spreads gradually over $\geq 5$ min
   2. $\geq 2$ symptoms occur in succession
   3. each individual aura symptom lasts 5-60 min
   4. $\geq 1$ aura symptom is unilateral
   5. At least one symptom is positive (scintillations or pins and needles)
   6. aura accompanied or followed in $<60$ min by headache
D. Not better accounted for by another ICHD-3 diagnosis, and TIA excluded
1.3 Chronic migraine

A. Headache (TTH-like and/or migraine-like) on ≥15 d/mo for >3 mo and fulfilling criteria B and C

B. In a patient who has had ≥5 attacks fulfilling criteria B-D for 1.1 Migraine without aura and/or criteria B and C for 1.2 Migraine with aura

C. On ≥8 d/mo for >3 mo fulfilling any of the following:
   1. criteria C and D for 1.1 Migraine without aura
   2. criteria B and C for 1.2 Migraine with aura
   3. believed by the patient to be migraine at onset and relieved by a triptan or ergot derivative

D. Not better accounted for by another ICHD-3 diagnosis
1.4 Complications of migraine

1.4.1 Status migrainosus
1.4.2 Persistent aura without infarction
1.4.3 Migrainous infarction
1.4.4 Migraine aura-triggered seizure
1.4.1 Status migrainosus

A. A headache attack fulfilling criteria B and C
B. In a patient with 1.1 Migraine without aura and/or 1.2 Migraine with aura, and typical of previous attacks except for its duration and severity
C. Both of the following characteristics:
   1. unremitting for >72 h
   2. pain and/or associated symptoms are debilitating
D. Not better accounted for by another ICHD-3 diagnosis
1.5.1 Probable migraine without aura

A. Attacks fulfilling all but one of criteria A-D for 1.1 Migraine without aura

B. Not fulfilling ICHD-3 criteria for any other headache disorder

C. Not better accounted for by another ICHD-3 diagnosis
1.5.2 Probable migraine with aura

A. Attacks fulfilling all but one of criteria A-C for 1.2 Migraine with aura or any of its subforms
B. Not fulfilling ICHD-3 criteria for any other headache disorder
C. Not better accounted for by another ICHD-3 diagnosis
Case

• 27 y.o. female with daily headache.
• Sometimes medium, sometimes severe. Has different location and is usually bilateral. Sometimes constant sometimes pulsating.
• Sometimes nausea and vomiting, sometimes visual symptoms. A few times weakness in one side.
1.6 Episodic syndromes that may be associated with migraine

1.6.1 Recurrent gastrointestinal disturbance
   1.6.1.1 Cyclic vomiting syndrome
   1.6.1.2 Abdominal migraine

1.6.2 Benign paroxysmal vertigo

1.6.3 Benign paroxysmal torticollis
2.1 Infrequent episodic TTH

A. At least 10 episodes of headache occurring on <1 d/mo (<12 d/y) and fulfilling criteria B-D

B. Lasting from 30 min to 7 d

C. ≥2 of the following 4 characteristics:
   1. bilateral location
   2. pressing or tightening (non-pulsating) quality
   3. mild or moderate intensity
   4. not aggravated by routine physical activity

D. Both of the following:
   1. no nausea or vomiting
   2. no more than one of photophobia or phonophobia

E. Not better accounted for by another ICHD-3 diagnosis
3. Trigeminal autonomic cephalalgias (TACs)

3.1 Cluster headache
3.2 Paroxysmal hemicrania
3.3 Short-lasting unilateral neuralgiform headache attacks
3.4 Hemicrania continua
3.5 Probable trigeminal autonomic cephalalgia
3.1 Cluster headache

A. At least 5 attacks fulfilling criteria B-D
B. Severe or very severe unilateral orbital, supraorbital and/or temporal pain lasting 15-180 min (when untreated)
C. Either or both of the following:
   1. ≥1 of the following ipsilateral symptoms or signs:
      a) conjunctival injection and/or lacrimation; b) nasal congestion and/or rhinorrhoea; c) eyelid oedema; d) fore-head and facial sweating; e) forehead and facial flushing; f) sensation of fullness in the ear; g) miosis and/or ptosis
   2. a sense of restlessness or agitation
D. Frequency from 1/2 d to 8/d for > half the time when active
E. Not better accounted for by another ICHD-3 diagnosis
3.4 Hemicrania continua

*Recoded from 4.7, and revised criteria*

A. Unilateral headache fulfilling criteria B-D
B. Present >3 mo, with exacerbations of moderate or greater intensity
C. Either or both of the following:
   1. $\geq 1$ of the following ipsilateral symptoms or signs:
      a) conjunctival injection and/or lacrimation; b) nasal congestion and/or rhinorrhoea; c) eyelid oedema; d) fore-head and facial sweating; e) forehead and facial flushing; f) sensation of fullness in the ear; g) miosis and/or ptosis
   2. a sense of restlessness or agitation, or aggravation of pain by movement
D. Responds absolutely to therapeutic doses of indometacin
E. Not better accounted for by another ICHD-3 diagnosis
4. Other primary headache disorders

4.1 Primary cough headache
4.2 Primary exercise headache
4.3 Primary headache associated with sexual activity
4.4 Primary thunderclap headache
4.5 Cold-stimulus headache
4.6 External pressure headache
4.7 Primary stabbing headache
4.8 Nummular headache
4.9 Hypnic headache
4.10 New daily persistent headache (NDPH)
4.1 Primary cough headache

A. At least 2 headache episodes fulfilling criteria B-D
B. Brought on by and occurring only in association with coughing, straining and/or other Valsalva manoeuvre
C. Sudden onset
D. Lasting between 1 s and 2 h
E. Not better accounted for by another ICHD-3 diagnosis
4.2 Primary exercise headache

A. At least 2 headache episodes fulfilling criteria B and C
B. Brought on by and occurring only during or after strenuous physical exercise
C. Lasting <48 h
D. Not better accounted for by another ICHD-3 diagnosis
4.3 Primary headache associated with sexual activity

A. At least 2 episodes of pain in the head and/or neck fulfilling criteria B-D
B. Brought on by and occurring only during sexual activity
C. Either or both of the following:
   1. increasing in intensity with increasing sexual excitement
   2. abrupt explosive intensity just before or with orgasm
D. Lasting from 1 min to 24 h with severe intensity and/or up to 72 h with mild intensity
E. Not better accounted for by another ICHD-3 diagnosis
4.4 Primary thunderclap headache

A. Severe head pain fulfilling criteria B and C
B. Abrupt onset, reaching maximum intensity in <1 min
C. Lasting for ≥5 min
D. Not better accounted for by another ICHD-3 diagnosis
4.5 Cold-stimulus headache

*Recoded from 13.11*

4.5.1 Headache attributed to external application of a cold stimulus

4.5.2 Headache attributed to ingestion or inhalation of a cold stimulus
4.7 Primary stabbing headache

A. Head pain occurring spontaneously as a single stab or series of stabs and fulfilling criteria B-D
B. Each stab lasts for up to a few seconds
C. Stabs recur with irregular frequency, from one to many per day
D. No cranial autonomic symptoms
E. Not better accounted for by another ICHD-3 diagnosis
4.8 Nummular headache

New entrant to main classification, recoded from A13.7.1

A. Continuous or intermittent head pain fulfilling criterion B
B. Felt exclusively in an area of the scalp, with all of the following 4 characteristics:
   1. sharply-contoured
   2. fixed in size and shape
   3. round or elliptical
   4. 1-6 cm in diameter
C. Not better accounted for by another ICHD-3 diagnosis
4.9 Hypnic headache

A. Recurrent headache attacks fulfilling criteria B-E
B. Developing only during sleep, and causing wakening
C. Occurring on ≥10 d/mo for >3 mo
D. Lasting ≥15 min and for up to 4 h after waking
E. No cranial autonomic symptoms or restlessness
F. Not better accounted for by another ICHD-3 diagnosis
4.10 New daily persistent headache (NDPH)

Revised criteria

A. Persistent headache fulfilling criteria B and C
B. Distinct and clearly-remembered onset, with pain becoming continuous and unremitting within 24 h
C. Present for >3 mo
D. Not better accounted for by another ICHD-3 diagnosis
Conclusions

• Primary headache disorders are diseases in their own right
• Distinguish them as they require different treatments
• Highly valid diagnostic criteria
• Much more knowledge required e.g. NDPH