Headache classification

• 1st Edition of The International Headache Classification (ICHD-1)
• 2nd Edition of The International Headache Classification (ICHD-2)
• 3rd Edition of The International Headache Classification (ICHD-3) - 2016

Classification

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

Part 2: The secondary headaches
5. Headache attributed to trauma or injury to the head and/or neck
6. Headache attributed to cranial or cervical vascular disorder
7. Headache attributed to non-vascular intracranial disorder
8. Headache attributed to a substance or its withdrawal
9. Headache attributed to infection
10. Headache attributed to disorder of homoeostasis
11. Headache or facial pain attributed to disorder of the cranium, neck, eyes, ears, nose, sinuses, teeth, mouth or other facial or cervical structure
12. Headache attributed to psychiatric disorder

Part 3: Painful cranial neuropathies and other facial pains
## Classification

Part 3: Painful cranial neuropathies, other facial pains and other headaches

13. Painful cranial neuropathies and other facial pains

14. Other headache disorders

## 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

## 2. Tension-type headache

2.1 Infrequent episodic tension-type headache

2.2 Frequent episodic tension-type headache

2.3 Chronic tension-type headache

2.4 Probable tension-type headache

## 3. Trigeminal autonomic cephalalgias (TACs)

3.1 Cluster headache

3.2 Paroxysmal hemicrania

3.3 Short-lasting unilateral neuralgiform headache attacks (SUNCT)

3.4 Hemicrania continua

3.5 Probable trigeminal autonomic cephalalgia

## 4. Other primary headaches

4.1 Primary stabbing headache

4.2 Primary cough headache

4.3 Primary exertional headache

4.4 Primary headache associated with sexual activity

4.5 Hypnic headache

4.6 Primary tunderclap headache

4.7 Hemicrania continua

4.8 New daily-persistent headache (NDPH)

## Headache

- characteristics
- quality
- intensity
- localisation
- response on the physical activity
- accompanying signs

Haas, D.C., SUNY Upstate Medical University, 2002
**Headache**

- Accompanying signs
  - nauzea, vomitus
  - phonophoby, photophoby
  - aura

- informations about drugs which are used

**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

**Pathophysiology of migraine**

- Hypothalamus and limbic system prodroms
- Neuronal dysfunction and vascular changes

**Pathophysiology of migraine**

- There is unknown mechanism of activation nuclei in brainstem (n. caudalis trigeminalis)
  - by spreading depression
  - by biochemical changes
  - both

Activation stimulate peripheral findings of n.V.
Pathophysiology of migraine

• After stimulation of n. V. - production of P substance P and neurokinin A → neurogenic inflammation
• Stimulation of serotoninergic cells

Pathophysiology of migraine

• Receptors of 5-HT (serotonin):
  • activation of inhibiting 5-HT₁B/1D receptors → production of serotonin, P substance, neurokinin → block of neurogenic inflammation
  • agonists of these receptors (triptans) – treatment of migraine

Factors provoke attack of migraine

• Hormonal (menstruation, kontraceptives)
• Dietetical (alcohol, Na glutamat, chocolate, cheese)
• Psychological (stress, anxiety, depression)
• From environment (odors, changes of weather, high above sea-level)
• Drugs (NTG, histamin, reserpin, estrogens)
• Others (head injury, physical activity)

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 (e.g., 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. ≥2 of the following 4 characteristics:
  1. ≥1 aura symptom spreads gradually over ≥5 min, and/or ≥2 symptoms occur in succession
  2. each individual aura symptom lasts 5-60 min
  3. ≥1 aura symptom is unilateral
  4. aura accompanied or followed in <60 min by headache
D. Not better accounted for by another ICHD-3 diagnosis, and TIA excluded

Migraine with aura

• Aura - visual
  - sensoric
  - afasic
  - motoric

IHS – lasts: 4 – 60 min. (70% do 30’)

IHS – lasts: 4 – 60 min. (70% do 30’)

07.04.2017
Migraine with aura

- Visual aura
  scintillating scotoma
  small point is enlarging to cik-cak border (scintillation), in the middle is dark scotoma

Haas, D.C., SUNY Upstate Medical University, 2002

Migraine with aura

- Visual aura
  coloured scintillating scotoma

Haas, D.C., SUNY Upstate Medical University, 2002

Migraine with aura

- Positive phenomena
  cik-cak
- Negative scotomas

Haas, D.C., SUNY Upstate Medical University, 2002

Migraine

- Nausea
- Phonophobia
- Photophobia
- Pain
- Unilateral
- Pulsating
- Provoked by physical activity
- Lasts 4 – 72 hours

Haas, D.C., SUNY Upstate Medical University, 2002

1.6. Complications of migraine

- 1.6.1. Status migrinosus
  Headache lasts more than 72 hours
- 1.6.2. Brain infarct
  Neurological deficit is not reversible till 7 days and/or infarct on CT or others

Haas, D.C., SUNY Upstate Medical University, 2002

Migraine - therapy

- Triptans (electriptan, naratriptan, rizatriptan, sumatriptan, zolmitriptan) - middle or severe attacks of headache
- ASA
- Paracetamol + ASA + cofeein
- Ibuprofen
- Naproxen
- DHE sc, im, iv

Haas, D.C., SUNY Upstate Medical University, 2002
Migraine – therapy

mechanism of triptans

- Vasoconstriction of meningeal, cerebral, pial vessels
  activation 5-HT_{1B} receptors in smooth muscles of vessels

- Inhibition of neurogenic inflammation
  stimulation 5-HT_{1D} receptors at the endings of trigeminal \( C \) and \( A \) fibers (subst. P, neurokinin A, CGRP)

- Central inhibition of pain
  activation 5-HT_{1D, 1F} receptors in brainstem
  decrease excitability of neurones ncl. trig. caudalis

Migraine – therapy

- Prevention – more than 3 attacks/month
  betablockers, blockers of calcium, channels, antiepileptics

2. Tension-type headache

2.1 Infrequent episodic tension-type headache
2.2 Frequent episodic tension-type headache
2.3 Chronic tension-type headache
2.4 Probable tension-type headache

Tension headache

- The most often chronic headache

- Prevalence - women – 88%
- Prevalence – men – 69%

- the most days outside of work

Tension headache

- Pain
  - around the head
  - nonpulsating
  - bilateral
  - 30 min. – 7 days
  - not increased by physical activity

3. Trigeminal autonomic cephalalgias (TACs)

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

Haas, D.C., SUNY Upstate Medical University, 2002
Cluster headache

- 6 times more frequent in men
- Pain
  - periorbital
  - frontal, temporal
  - UNILATERAL
  - burning

Haas, D.C., SUNY Upstate Medical University, 2002

Cluster headache

- Pain
  - beginning at night
  - lasts: 15 – 180 min.
  - shorter than migraine
  - Congestion
  - Lacrimation
  - Conjunctival inflammation

07.04.2017

Cluster headache

- 02, triptans, DHE

Cluster headache

- Increased muscle tone in the neck
- Straight cervical lordosis

Tension headache

- Therapy
  - Analgetics, myorelaxants, nonsteroid antiflogistics, physioteraphy,
  - psychoteraphy, local 1% mesocain

13.1.1 Classical trigeminal neuralgia

A. At least 3 attacks of unilateral facial pain fulfilling criteria B and C
B. In ≥3 divisions of trigeminal nerve, with no radiation beyond trigeminal distribution
C. Pain has ≥3 of the following 4 characteristics:
1. recurring in paroxysmal attacks lasting from a fraction of a second to 2 min
2. severe intensity
3. electric shock-like, shooting, stabbing or sharp in quality
4. precipitated by innocuous stimuli to affected side of face
D. No clinically evident neurological deficit
E. Not better accounted for by another ICHD-3 diagnosis

Trigeminal neuralgia

- Etiology – focal demyelinisation of n.V.
  - or of ganglion
- Idiopatic – pulsations of arteries near n.V.
- Symptomatic – tumors
- Prevalence – 6/100000, more women, and older people
**Trigeminal Neuralgia**

- **Clinical feature**
  - Shooting pain in area of n.V., increasing after chewing, in symptomatic - trigger area, loose of weight

- **Therapy**
  - Anticonvulsants – Gabapentin,
  - Alcoholisation of ganglion, surgery

**Temporal Arteritis**

- **Inflammation of a. temporalis superficialis**

- **Age – risk factor**

- **Headache in temporal region, thick, painful temporal superficial artery, chewing claudications, stronger pain**

- **Polymyalgia Rheumatica – spasm and pain of masticatory muscles**

- **Late diagnosis – risk of blindness and stroke**

- **Dg. – laboratory – FW, CRP,**
  - AG, biopsy

- **Therapy – Prednison – 60 (100) mg/day**
  - Long time, after decreasing – control of FW, ↑ FW – back to former dose