

Classification

Primary headache

The most common are:

- Tension-type headaches (TTH) - most frequent
- Migraine (*see below*)
- Cluster headaches less common (prevalence of 0.4%) due to trigeminal nerve dysfn
 - Unilateral, severe, occur in clusters over 6-12 weeks.
 - Assoc with ipsilateral autonomic symptoms: eye watering, conjunctival redness, rhinorrhoea, nasal blockage, miosis and ptosis.
 - More common in: men, smokers, age>20y
 - Occur daily, may wake the patient and last 30-90mins.

Secondary headaches

These include:

- Dangerous headaches - represent a small proportion of patients.
 - ICH incl SAH, cerebral sinus thrombosis, CNS infection, temporal arteritis, malign HT, cerebral oedema, glaucoma, pheochromocytoma, preeclampsia, hypoxia
 - <1% have intracranial lesion.
- 'Not-immediately-life-threatening' headaches
 - Substance, or its withdrawal e.g. CO, EtOH, nitrates, MAOI, medication overuse
 - Trauma or structure of head & neck e.g. sinusitis, TMJ, pseudotumor cerebri (BIH)
 - Low pressure headache - secondary to LP
 - Psychiatric problems

Epidemiology

- Lifetime prevalence is 96%
- F>M.
- 80% episodic tension-type headache and 15% of adults have migraine.

History

- Timing questions (for how long, how frequent, onset, duration, temporal pattern etc.)
- Character and site of pain. Any spread and any associated symptoms?
- **POUND** hx for migraine (**P**ulsatile, **O**n for 4-72h, **U**nlat, **N**/V, **D**isabling intensity)
- Causal factors:
 - Family history.
 - Predisposing factors and trigger factors include:
 - Stress, anxiety or depression, bright lights, loud noise, travel, weather
 - Trauma
 - Diet, incl cheese, chocolate, alcohol and citrus fruits
 - Dehydration, missed meals, sleep deprivation or excessive sleep
- Medication use (GTN, cocaine, anticoags, MAOI, prolonged use of analgesics)
- PMHx: malignancy, immunosuppression. HT, trauma

Examination

- Vital signs: Fever (infection), SaO₂ (hypoxia) or BP (hypertensive emergency).
- Full neurological exam incl eyes (fundus, IOP)
- Also: trauma, sinuses, temporal artery, TMJ, neck stiffness & ROM.

High risk features/red flags:

- Sudden onset
- First severe or worst ever
- Onset during exertion, incl coughing
- Focal neurology or papilloedema
- Altered mental status
- Toxic appearance
- Meningism
- Immunosuppression
- New onset with age > 50

Investigations

Most often none required.

LP if suspected CNS infection, ?SAH despite normal CT.

Imaging: CT if intracranial lesion or bleed suspected. Occ contrast req. MRI better if tumour.

Management

Primary HA

Tension type headache - NSAIDs / paracetamol avoid opioids (risk of medication overuse headache), manage stress or depression, suggest physical exercise.

Migraine (See below) - Identify & avoid triggers, Rx plan - IV rehydration, analgesics, dopamine-antagonist antiemetics or triptans, ?prophylaxis

Cluster headache - Oxygen, Sumatriptan SC, avoid EtOH. NSAIDs may reduce rpt freq.

Medication overuse headache - Stop drug (HA may transiently worsen), NSAIDs (amitriptyline if culprit) or paracetamol

If primary HA not improving with treatment, may need to r/o 2° causes with investigations.

Secondary HA

- Treat underlying condition
- Analgesia

Complications

- Depression secondary to chronic headache
- Medication overuse headache
- Migrainous infarction (cerebral infarction during a typical migraine with aura).

Migraine

Pathophysiology of migraine

Orig thought to be caused by cerebral vasoconstriction (aura) followed by vasodilatation. New imaging techniques suggest brainstem serotonergic system dysfn (?in dorsolateral pons) that leads to vascular and trigeminal effects.

Epidemiology

- Prevalence: 6% of men and 15%-17% of women, although in children it is M>F.
- The first attack is often in childhood and over 80% start before 30yrs.
- Usually severity decreases with advancing years.
- There is a family history of migraine in 70 to 80%.

Classification of migraine

Migraine without aura (~75%, formerly called common migraine)

- ≥5 attacks for Dx.
- Last 4-72hrs & ≥2 of Unilateral, Pulsating, Mod or sev pain, Worse on physical activity.
- In addition ≥1 or Nausea, Vomiting, Photophobia, Phonophobia

Migraine with aura (~20% formerly called classic migraine)

- ≥ 2 attacks for Dx
- May have premonitory symptoms (lethargy, food craving etc) that precede aura
- Auroras last usually <1h & are often characteristic for an individual.
- Visual auras most common e.g. homonymous flashing lights or scintillating jagged scotoma
- Unilat sensory/motor symptoms e.g. paraesthesiae or numbness and less commonly hemiparesis or speech difficulties mimicking a TIA/CVA may occur
- The headache begins during or within 1 h of the end of the aura

Migraine in children

Childhood periodic syndromes (e.g. cyclical vomiting, abdominal migraine) may be precursor conditions. Headaches often bilateral or in the middle of the head. Attacks may be shorter.

Menstrual migraine

Migraine without aura occurring regularly within a day or two of the onset of menstruation

Retinal migraine

Complicated migraine. These include chronic migraine, status migrainosus, migranous infarction and migraine-triggered seizure.

Management

- Address any predisposing or trigger factors (stress, anxiety or depression, diet)
- Conservative measures - Dark, quiet room. reassurance, fluids - IV or oral
- Drug treatment for acute migraine
 - Simple analgesic: NSAID preferred PO/PR/IM/IV. Avoid opioids if possible.
 - E.g. **aspirin** 600-900 mg (not children) or **ibuprofen** 400-600mg PO.
 - Phenothiazines - 60-95% effective, also anti-emetic
 - **Chlorpromazine** - 12.5-25mg aliquots IV. SE: sedation & \downarrow BP
 - **Prochlorperazine** - 12.5mg IV. SE: less sedation & \downarrow BP, but \uparrow risk of dystonia
 - Metoclopramide - 80% effective, anti-emetic, pro-kinetic, risk of dystonia
 - **Ketorolac** 30mg IV or 60mg IM. CI: PUD, RF
- Specific anti-migraine drugs
 - Triptans. (as ergotamine rarely used now)
 - Oral (e.g. **sumatriptan** 50mg, **zolmitriptan** 2.5mg), or SC, PR & IN
 - **CI:** hypertension, CHD, CVD, PVD, children
 - **SE:** Dizziness, flushing, chest tightness, \uparrow BP, neck pain, ACS, serotonin syn
 - If first choice fails to adequately relieve the acute migraine pain consider increasing dose, using a different formulation, or a different triptan.
- Prophylaxis considered if:
 - Acute medication used \geq weekly, or significantly disabling.
 - First-line: Beta-blockers (e.g. **propranolol**, **metoprolol**, **bisoprolol**) or **amitriptyline**
 - Second-line (may be unlicensed): **valproate** or **topiramate**.
 - Third-line (limited evidence, SE): **gabapentin**, **clonidine**, **methysergide**, SSRIs, **verapamil**, angiotensin II receptor antagonists, **pizotifen**, and feverfew,
 - Others: Acupuncture - ?evidence.