

Headache

BY

DR MOHAMED ABDELRAHMAN

Headache

- Headache is not a disease state or condition but rather a symptom, of which there are many causes.
- Headache can be the major presenting complaint, for example in migraine, cluster and tension-type headache, or one of many symptoms, for example in an upper respiratory tract infection.

Headache classification

- The third edition (2010) of the International Headache Society (IHS) classification is now almost universally accepted .
- The system first distinguishes between primary and secondary headache disorders.
- This is useful to the community pharmacist, as any secondary headache disorder is symptomatic of an underlying cause and would normally require referral.

Prevalence and epidemiology

- The exact prevalence of headache is not precisely known.
- However, virtually everyone will have suffered from a headache at sometime; it is probably the most common pain syndrome experienced by man.
- It has been estimated that up to 80 to 90% of the population will experience one or more headaches per year.

- Tension-type headache has been reported to affect between 40 and 90% of people in Western countries.
- Migraine affects approximately 15 to 20% of women and is approximately three times more common than in men.
- Prevalence peaks between 30 to 40 years of age.
- Conversely, cluster headache, which is also most prevalent in the 30–40-year-old age group, is five to six times more common in men.

The International Headache Society classification of headache Primary

Primary headaches

1. Migraine
2. Tension-type headache
3. Cluster headache and other trigeminal
4. Other primary headaches

Secondary headaches

5. Headache attributed to head and/or neck trauma,

6. Headache attributed to cranial or cervical vascular disorder, including: Headache attributed to subarachnoid Haemorrhage, Headache attributed to giant cell arteritis

7. Headache attributed to non-vascular intracranial disorder, including:

Headache intracranial hypertension , Headache attributed to intracranial neoplasm

8. Headache attributed to a substance or its withdrawal, including:

Carbon monoxide-induced headache, Alcohol-induced headache, Medication-overuse headache (Ergotamine-overuse headache, Triptan-overuse headache , Analgesic-overuse headache

9. Headache attributed to infection, including
Headache attributed to intracranial infection

10. Headache attributed to disorder of
homoeostasis

11. Headache or facial pain, attributed to
disorder of cranium, neck, eyes, ears, nose,
sinuses, teeth, mouth or other facial or
cranial structures including: Cervicogenic headache
,Headache attributed to acute glaucoma

12. Headache attributed to psychiatric disorder
E.G DEPRESSION

13. Trigeminal neuralgia

Aetiology

- Considering headache affects almost everyone, the mechanisms that bring about headache are still poorly understood.
- Tension-type headache is commonly referred to as muscle contraction headache as electromyography has shown pericranial muscle contraction, which was often exacerbated by stress.
- However, similar muscle contraction is noted in migraine sufferers and this theory has now fallen out of favour..

- Traditionally, migraine was thought to be a result of abnormal dilation of cerebral blood vessels but this vascular theory cannot explain all migraine symptoms.
- The use of 5-HT₁ agonists to reduce and stop migraine attacks suggests some neurochemical pathophysiology. Migraine is therefore probably a combination of vascular and neurochemical changes .

the neurovascular hypothesis.

- Migraine also appears to have a genetic component with about 70% of patients having a first-degree relative with a history of migraine.

Specific questions to ask the patient:

Headache

- 1. Onset of headache
- In early childhood or as young adult, primary headache is most likely.
- After 50 years of age the likelihood of a secondary cause is much greater Headache that follows head trauma might indicate post-concussive headache or intracranial pathology

2. Frequency and timing

- Headache associated with the menstrual cycle or certain times, e.g. weekend or holidays, suggests migraine
- Headaches that occur in clusters at the same time of day/night suggest cluster headache.
- Headaches that occur on most days with the same pattern suggests tension-type headache

3. Location of pain

- Cluster headache is nearly always unilateral in frontal, ocular or temporal areas
- Migraine headache is unilateral in 70% of patients but can change from side to side from attack to attack
- Tension-type headache is often bilateral, either in frontal or occipital areas, and described as a tight band
- Very localised pain suggests an organic cause

Types of headaches

Headaches

Sinus:
pain is
behind
browbone
and/or
cheekbones



Cluster:
pain is
in and
around
one eye



Tension:
pain is
like a band
squeezing
the head



Migraine:
pain, nausea
and visual
changes are
typical of
classic form



4. Severity of Pain

- Pain is a subjective personal experience and there are therefore no objective measures.
- Using a numeric pain intensity scale should allow you to assess the level of pain the person is experiencing:
 - 0 represents no pain and 10 the worst pain possible
 - Dull and band-like suggests tension-type headache
 - Severe to intense ache or throbbing suggests haemorrhage or aneurysm
 - Piercing, boring, searing eye pain suggests cluster headache.
 - Moderate to severe throbbing pain that often starts as dull ache suggests migraine.

5. Triggers

- Pain that worsens on exertion, coughing and bending suggests a tumour
- Food (in 10% of sufferers), menstruation and relaxation after stress are indicative of migraine
- Lying down makes cluster headache worse

6. Attack duration

- Typically migraine attacks last between a few hours and 3 days
- Tension-type headaches last between a few hours and several days, e.g. a week or more
- Cluster headache will only normally last 2 to 3 hours

7. Associated symptoms

- Headache and fever at same time imply an infectious cause.
- Nausea suggests migraine or more sinister pathology, e.g. subarachnoid haemorrhage and space occupying lesions.
- Scalp tenderness is associated with temporal arteritis.

Causes of headache and their relative incidence in Community pharmacy

- Most likely :Tension-type headache
- Likely :Migraine, sinusitis, eye strain
- Unlikely Cluster headache, medication-overuse headache, temporal arteritis, trigeminal neuralgia, depression
- Very unlikely Glaucoma, meningitis, subarachnoid haemorrhage, raised intracranial pressure

Tension-type headache

- In a community pharmacy the overwhelming majority of patients (80–90%) will present with tension-type headache.
- A further 10% will have migraine.
- Very few will have other primary headache disorders and fewer still will have a secondary headache disorder.

- Tension-type headaches can be classed as either episodic or chronic.
- Episodic tension-type headache can be further subdivided into infrequent and frequent forms.
- Most patients will present to the pharmacist with the infrequent episodic form.
- Headaches last from 30 minutes to up to 7 days in duration and often the patient will have a history of recent headaches.
- Pain is bifrontal orbioccipital, generalised and non-throbbing .
- The patient might describe the pain as tightness or a weight pressing down on their head.

- The pain is gradual in onset and tends to worsen progressively through the day.
- Pain is normally mild to moderate and not aggravated by movement, although it is often worse under pressure or stress.
- Nausea and vomiting are not associated with tension-type headache and rarely causes photo or phonophobia.
- Overall, the headache has a limited impact on the individual.
- Patients who have frequent episodic tension-type headaches suffer more frequent headaches that last longer and over time these can develop into chronic tension-type headache.
- Headaches occur for more than 15 days per month, and might be daily which last for at least 3 months.
- These types of headaches can severely affect the patient's quality of life and s

Migraine

- The peak onset for a person to have their first attack is in adolescence or as a young adult.
- Migraines are rare over the age of 50 and anyone in this age group presenting for the first time with migraine-like symptoms should be referred to eliminate secondary causes of headache.
- If this is not their first attack they will normally have a history of recurrent and episodic attacks of headache.
- Attacks last anything between a few hours and up to 3 days. The average length of an attack is 24 hours.
- The IHS classification recognises several subtypes of migraine but the two major subtypes are migraine with aura (classical migraine) and migraine without aura (common migraine).

- A migraine attack can be divided into three phases:
- Phase one: premonitory phase (prodrome phase), which can occur hours or possibly days before the headache. The patient might complain of a change in mood or notice a change in behaviour. Feelings of well being, yawning, poor concentration and food cravings have been reported.
- Phase two: headache with or without aura,
- Phase three: as the headache subsides the patient can feel lethargic, tired and drained before recovery, which might take several hours and is termed the resolution phase.

Triggers and strategies to reduce migraine attacks

- Stress
- Maintain regular sleep pattern
- Take regular exercise
- Modify work environment
- Relaxation techniques, e.g. yoga

- Diet(Maintain a food diary, Eat regularly and do not skip meals)
 - Any food can be a potential trigger but
 - food implicated
- includes:
- Cheese
 - Citrus fruit
 - Chocolate

Types of migraine

- Headache with aura (classic migraine)
- This accounts for less than 25% of migraine cases.
- The aura, which are fully reversible, develop over 5 to 20 min and can last for up to 1 h.
- It can either be visual or neurological. Visual auras can take many guises, such as scotomas (blind spots), fortification spectra (zig-zag lines) or flashing and flickering lights.
- Neurological auras (pins and needles) typically start in the hand, migrating up the arm before jumping to the face and lips.

- Within 60 min of the aura ending the headache usually occurs. Pain is unilateral, throbbing and moderate to severe. Sometimes the pain becomes more generalised and diffuse, increase with movement and there are nausea.
- Photophobia and phonophobia often mean patients will seek out a dark quiet room to relieve their symptoms. The patient might also suffer from fatigue, find concentrating difficult and be irritable.

- Headache without aura (common migraine)
- The remaining 75% of sufferers do not experience an aura but do suffer from all other symptoms as described above.

Other likely causes of headache

- Eye strain
- People that perform prolonged close work, for example VDU operators, can suffer from frontal aching headache.
- In the first instance, patients should be referred to a optician for a routine eye check.
- Sinusitis
- The pain tends to be relatively localised, usually orbital, unilateral and dull.
- A course of decongestants could be tried.

Unlikely causes -Cluster headache

- Cluster headache is predominantly a condition that affects men over the age of 30. Typically the headache occurs at the same time each day with abrupt onset and lasts between 10 minutes and 3 hours, with 50% of patients experiencing night-time symptoms.
- Patients are woken 2 to 3 h after falling asleep with very intense unilateral orbital boring pain. Additionally, conjunctival redness, lacrimation.
- The condition is characterised by periods of acute attacks, typically lasting a number of weeks to a few months with sufferers experiencing between one to three attacks per day.

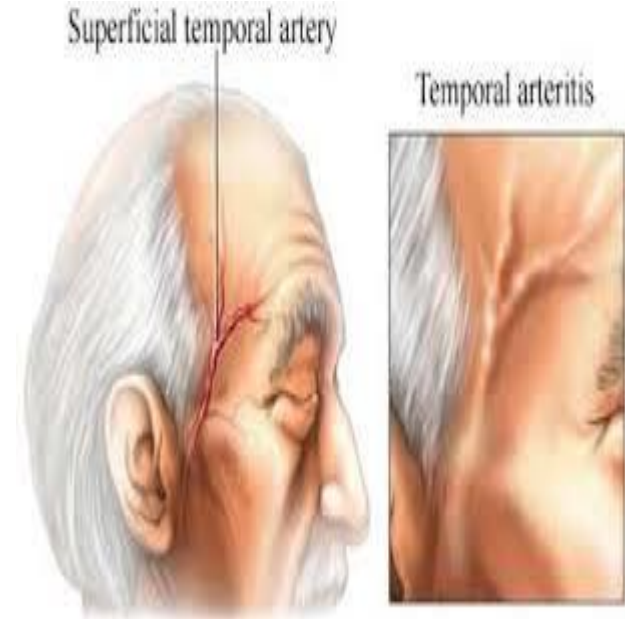
- This is then followed by periods of remission, which can last months or years.
- During acute phases, alcohol can trigger an attack.
- Nausea is usually absent and a family history uncommon.
- sumatriptan, the drug of choice,

Medication-overuse headache

- Patients with long-standing symptoms of headache who regularly medicate can develop medication-overuse headache.
- Pain receptors (nociceptors) instead of being 'switched off' when analgesics are taken are in fact 'switched on'.

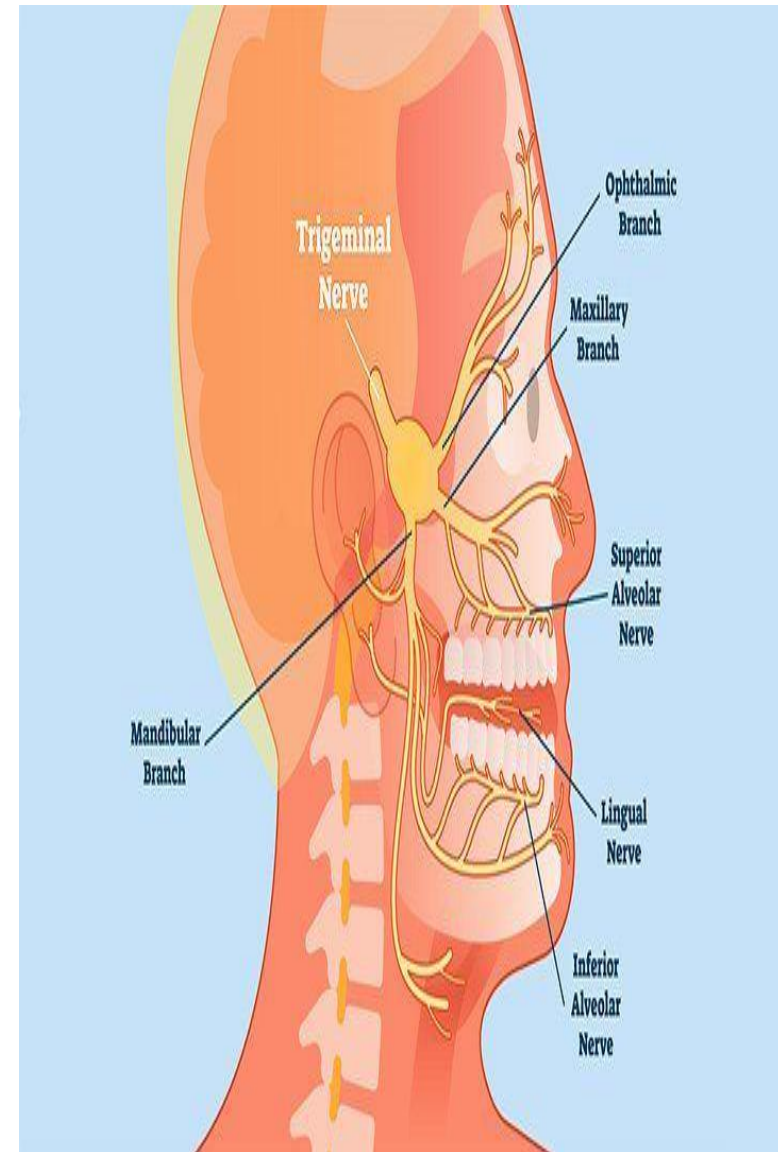
Temporal arteritis

- When this happens, they are tender to touch and might be visibly thickened.
- Unilateral pain is experienced and the person generally feels unwell with fever, myalgia and general malaise.
- Scalp tenderness is also possible, especially when combing the hair.
- It is most commonly seen in the elderly, especially women.
- Prompt treatment with oral corticosteroids is required as the retinal artery can become compromised, leading to blindness.
- Urgent referral is needed.



Trigeminal neuralgia

- Pain follows the course of either the second (maxillary; supplying the cheeks) or third (mandibular; supplying the chin, lower lip and lower cheek)
- division of the nerve leading to pain experienced in the cheek, jaws, lips or gums.
- Pain is short lived, usually lasting only a couple of minutes but is severe and lancinating and is almost always unilateral.
- It is three times more common in women than men.



Depression

- A symptom of depression can be tension-type headaches.
- The pharmacist should check for a loss of interest or pleasure in activities, fatigue, inability to concentrate, loss of appetite, weight loss, sleep disturbances and constipation.
- Recent changes to the patient's social circumstances, for example loss of job, might also support your differential diagnosis.

Very unlikely causes Glaucoma

- Patients experience a frontal/orbital headache with pain in the eye.
- The eye appears red and is painful.
- Vision is blurred and the cornea can look cloudy.
- In addition, the patient might notice haloes around the vision.

Meningitis

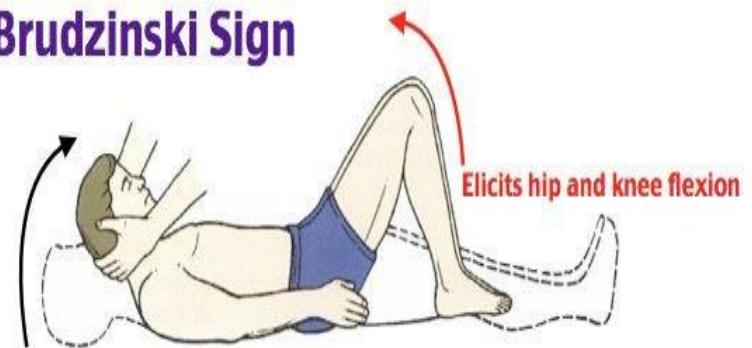
- Severe generalised headache associated with fever, an obviously ill patient, neck stiffness, a positive Kernig's sign (pain behind both knees when extended) and latterly a purpuric rash are classically associated with meningitis.
- However, meningitis is notoriously difficult to diagnose early and any child that has difficulty in placing their chin on their chest, has a headache and running a temperature above 38.9°C (102°F), should be referred urgently.

Kernig Sign



- 1 Knee is flexed to 90 degrees
- 2 Hip is flexed to 90 degrees
- 3 Extension of the knee is painful or limited in extension

Brudzinski Sign



- 1 Passive flexion of neck

Other unlikely causes

Subarachnoid haemorrhage

Conditions causing raised intracranial pressure

Space-occupying lesions (brain tumour
haematoma and abscess)

Treatment

- **Simple analgesia (paracetamol, aspirin and ibuprofen)**
- **paracetamol codeine combination (500/8) plus buclizine 6.25 mg**
- ***Prochlorperazine***
- ***Sumatriptan***
- **isometheptene mucate**

Analgesics

- single oral dose of paracetamol 1000 mg was effective in relieving moderate to severe migraine symptoms.
- For episodic tension-type, a systematic review by Verhagen et al (2006) investigated the comparative efficacy of simple analgesics. The authors concluded that all simple analgesics had similar efficacy (measured as >50% pain relief).
- Paracetamol 1000mg>ibuprofen 400mg>aspirin

- Combinations of simple analgesics with codeine are available however, there is doubt whether the amount of codeine in these preparations is sufficient to provide any additional pain relief.
- Codeine must convert to morphine to exert its analgesic effect by CYP 2D6.
- simple analgesia should be tried as first-line options for the relief of pain in migraine and tension-type headache

Combination therapy

- paracetamol codeine combination (500/8) plus buclizine 6.25 mg.
- isometheptene mucate 65 mg (sympathomimetics amine and paracetamol 325 mg)

Prochlorperazine

- Prochlorperazine has been found to be a potent antiemetic in a number of conditions, including migraine. It works by blocking dopamine receptors found in the chemoreceptor trigger zone.
- It is administered via the buccal mucosa and therefore patients will need to be counselled on correct administration.

Sumatriptan

- Sumatriptan was the first 'triptan' to be marketed in the UK and subsequently deregulated to OTC status.
- Triptans are 5HT₁ agonists and stimulate 5HT_{1B} and 5HT_{1D} receptors.
- Triptans cause constriction of the cranial blood vessels, stop the release of inflammatory neurotransmitters at the trigeminal nerve synapses and reduce pain signal transmission.
- Most trials with sumatriptan (and other triptans) use end point data of 2-hour pain-free response, headache relief, and functional disability.
- In all end points sumatriptan 100 mg was significantly superior to placebo. At the lower 50 mg OTC dose evidence of efficacy is less strong than 100 mg but is still effective