PHC

432 Handouts

7 Approach to headache

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Objectives

Introduction

- Headache is pain localized to any part of the head, behind the eyes or ears, or in the upper neck.
- Headache is among the most common medical complaints.
- It has been estimated that 47% of the adult population have headache at least once within last year in general. WHO
- Patients with headache constitute up to 4.5 percent of emergency department visits.
- Episodic tension-type headache is the most frequent headache type in population-based studies while migraine is the most common diagnosis in patients presenting to primary care physicians with headache as single symptom.
- One-year prevalence of episodic tension-type headache (TTH) is approximately 65 percent but most people with tension-type headache do not present to physicians for care.

Headache history and examination

History of presenting illness	Site	Onset	Duration
	Character/ course	Radiation	Aggravating factor
	Relieving factor	Severity	Frequency
Associated symptoms	• Fever • Nausea • Vomiting • Swelling or eye redness • Syncope • Photophobia • Phonophobia • Forehead sweating • Visual problems • Tinnitus • Nasal discharge		
Constitutional symptoms	Fever	Weight loss	Loss of appetite
Past medical history	Migraine	Brain cancer	
Past medical history	Drugs. Substances (particularly caffeine). Toxins. Recent lumbar puncture. Immunosuppressive disorders or IV drug use. Hypertension. Cancer. Dementia, trauma, coagulopathy, or use of anticoagulants or ethanol.		
Screening for depression	• Depressed mood and loss of interest or pleasure. • Recent sad event		
ICE	Idea	Concern	Expectation

Consider using a headache diary to aid the diagnosis of primary headaches

If a headache diary is used, ask the person to record the following for a minimum of 8 weeks:

- ✓ frequency, duration and severity of headaches
- ✓ any associated symptoms
- ✓ all prescribed and over the counter medications taken to relieve headaches possible precipitants
- ✓ relationship of headaches to menstruation

Example of headache diary:

Weekly Headache Diary

WEEK 1	Please score the pain of your headache out of 10 and indicate if you have any other symptoms as listed.						
	Sun	**Mon**	**Tue**	**Wed**	**Thur**	**Fri**	**Sat**
Headache (0 = none 10 = worse)							
Feeling sick (Yes/No)							
Vomiting (Yes/No)							
Other symptoms (Yes/No)							
Duration of attack (hours)							
Had to lie down (Yes/No)							
Time away from normal activities (hours)							
Number of tablets of medicine taken:							
Prescribed							
Over the counter							
Menstruation (Yes/No)							

RED FLAGS:

- New onset or change in headache in patients who are aged over 50
- Thunderclap: rapid time to peak headache intensity (seconds to 5 mins)
- Focal neurological symptoms (eg limb weakness, aura <5 min or >1 hr)
- Non-focal neurological symptoms (eg cognitive disturbance)
- Change in headache frequency, characteristics or associated symptoms
- Abnormal neurological examination1

- Neck stiffness
- Fever
- New onset headache in a patient with a history of human immunodeficiency virus (HIV)
- Headache that changes with posture.
- Infection.
- New onset headache in a patient with a history of cancer.
- Headache wakening the patient up (NB migraine is the most frequent cause of morning headache)
- Headache precipitated by physical exertion or valsalva manoeuvre (eg coughing, laughing and straining)
- Patients with risk factors for cerebral venous sinus thrombosis.
- jaw claudication or visual disturbance.

Examination:

The examination of an adult with headache complaints should cover the following areas:

- ✓ Obtain blood pressure and pulse
- ✓ Listen for bruit at neck, eyes, and head for clinical signs of arteriovenous malformation
- ✓ Palpate the head, neck, and shoulder regions
- ✓ Check temporal and neck arteries
- ✓ Examine the spine and neck muscles
- ✓ Fundoscopy
- ✓ Neurological examination:
  - Cranial nerves.
  - Pupillary response.
  - Motor strength.
  - Deep tendon reflexes.
  - Sensation.
  - Babniski sign.
  - Gait.
  - Cerebellar function.

Features Suggest Further Investigation Or Referral

1. Worsening headache with fever
2. Sudden-onset headache reaching maximum intensity within 5 minutes
3. New-onset neurological deficit
4. New-onset cognitive dysfunction
5. Change in personality
6. Impaired level of consciousness
7. Recent head trauma (within the past 3 months)
8. Headache triggered by cough, sneeze, exercise or valsalva
9. Orthostatic headache (headache that changes with posture)
10. Symptoms suggestive of giant cell arteritis
11. Symptoms and signs of acute narrow angle glaucoma
12. Substantial change in the character of the headache.

Features suggest further investigation or referral in new onset headache + any of the following:

- New headache in patients older than 40 years
- Immune compromised for example: HIV or immunosuppressive drugs age under 20 years
- History of malignancy
- Brain metastasis
- Vomiting without other obvious cause

Neuroimaging

- MRI is the preferred brain imaging modality, best in detecting:

edema, vascular lesion and intracranial pathology (particularly in the posterior fossa).

- CT for emergency cases

subarachnoid hemorrhage (thunderclap headache)

CT or MRI should be done in patients with any of the following findings:

- Severe, sudden-onset headache (thunderclap headache)
- Altered mental status
- Meningism
- Papilledema
- Signs of sepsis (rash, shock)
- Acute focal neurologic deficit
- Severe hypertension (systolic blood pressure > 220 mm Hg or diastolic pressure > 120 mm Hg on consecutive readings).

Thunderclap headache suggest subarachnoid hemorrhage

Indications for lumbar puncture :

1. Negative CT with clinical suspicion of subarachnoid hemorrhage.
2. Clinical suspicion of an infectious or inflammatory etiology of headache

Types of Headache:

1-Primary headache 2-Secondary headache

1- Primary headache:

1-Tension Headache (episodic, & chronic). It is the most common primary headache disorder

2-Migraine (episodic with/ without aura, chronic with/ without aura, & menstrual-related migraine). It is the most common severe primary headache disorder

3-Cluster headache (episodic or chronic)

Headache feature	Tension		Migraine +/- aura		Cluster headache	
Pain location	Bilateral (pain can be felt in the head, face or neck)		Unilateral or bilateral		Pain is **unilateral** (orbital, supraorbital or temporal region)	
Pain quality	Pressing/tightening (non-pulsating)		Pulsating (throbbing or banging in young people aged 12–17years)		Variable (can be sharp, boring, burning, throbbing or tightening)	
Pain intensity	Mild or moderate		Moderate or severe		Severe or very severe	
Effect on activity	Not aggravated by routine activities of daily living		Aggravated by, or causes avoidance of, routine activities of daily living.		Restlessness or agitation	
Duration	30 minutes–continuous		4-72 hours in adults 1-72 hours in young people aged 12–17years		15–180 minutes	
Frequency	<15 days/ month	≥15 days/ month for > 3 months	<15 days/ month	≥15 days/ month for > 3months	(1 attack every other day) to (8 attacks/day) with remission > 1 month*	(1 attack every other day) to (8 attacks/day) with a continuous remission <1 month in a 12-month period
Diagnosis	Episodic tension headache	Chronic tension headache	Episodic migraine headache	Chronic migraine headache	Episodic cluster headache	Chronic cluster headache

* Remission: The pain-free period between cluster headache bouts. Cluster headache bout is the duration over which recurrent cluster headaches occur, usually lasting weeks or months. There is often a striking circadian rhythm; **attacks often occur at the same time each day** and **clusters occur at the same time each year.**

Headache feature	Tension	Migraine +/- aura	Cluster headache
Other symptoms	Nil	**Most sensitive & specific symptoms:** ✓ unusual sensitivity to light &/or sound ✓ nausea &/or vomiting **Aura Symptoms can occur +/- headache:** -Fully reversible -Develop over at least 5 minutes -Last 5–60 minutes -On the same side as the headache: • Red &/or watery eye • Nasal congestion &/or runny nose • Swollen eyelid **Typical aura symptoms** • Visual symptoms such as flickering lights, spots or lines (+ve symptom) • Partial loss of vision (-ve symptom) • Sensory symptoms such as numbness (-ve) and/or pins & needles (+ve) • Speech disturbance (+ve symptom suggests migraine, while -ve symptom might be due to a neurological deficit)	On the same side as the headache: • Red &/or watery eye • Nasal congestion &/or runny nose • Swollen eyelid • Forehead & facial sweating • Constricted pupil • Drooping eyelid

Given the difficulty in differentiating between migraine without aura & episodic tension-type headache, the International Classification of Headache Disorders (ICHD-II) criteria require **5 attacks** before a diagnosis of migraine without aura can be made. **2 attacks** are required for the diagnosis of migraine with aura.

Menstrual-related migraine:

Suspect in women & girls whose migraine occurs predominantly between 2 days before and 3 days after the start of menstruation in **at least 2** out of **3 consecutive menstrual cycles**.

Diagnose menstrual-related migraine using a headache diary for at least 2 menstrual cycles.

2- Secondary headache:

A. Giant cell arteritis:

patient over the age of 50 presenting with a new headache or progressively worsening headache .

Associated with jaw claudication or visual disturbance

On physical examination: Prominent, beaded, or enlarged temporal arteries and Scalp tenderness

B. Subarachnoid hemorrhage:

- Patient presents for the first time with a sudden severe headache.
- Associated with Syncope

C. Raised intracranial pressure:

- Headache worse when the patient is lying down and can be precipitated by valsalva manoeuvres (eg coughing, laughing, straining)
- Awaken patient from sleep.
- Associated with transient changes in vision with change in posture or valsalva ,seizures or neurological symptoms.
- Intracranial tumors rarely produce headache until quite large except Pituitary and posterior fossa tumors.

D. Angle closure glaucoma:

- headache associated with a red eye, eye pain, halos or unilateral visual symptoms.
- On eye examination:

Red eye

mid-dilated pupil

impaired vision

raised intraocular pressure.

Management Of Headache Types

1. Tension-type Headache Management

Acute treatment	Prophylactic treatment
✓ Aspirin , paracetamol or NSAID ✓ Opioids are not used.	10 sessions of acupuncture over 5–8 weeks for chronic tension-type headache

2. Migraine With Or Without Aura Management

Acute treatment	Prophylactic treatment
A. **Combination therapy with an oral triptan and an NSAID, Or an oral triptan and paracetamol** B. Ergots or opioids are not used C. For young people aged 12–17 years use nasal triptan D. If patient prefers monotherapy, consider an oral triptan, NSAID, aspirin or paracetamol E. Combine anti-emetic even in the absence of nausea and vomiting. F. If treatment ineffective or not tolerated: offer a non-oral preparation of metoclopramide or prochlorperazine.	A. Topiramate or propranolol or amitriptyline B. Gabapentin are not used C. If patient treated with another form of prophylaxis and migraine is well controlled, continue the current treatment as required. D. After 6 months of the start of prophylactic treatment review the need for continuing migraine prophylaxis .

3. Cluster Headache Management

Acute treatment	Prophylactic treatment
• Neuroimaging for people with a first bout of cluster headache • **Oxygen and/or a subcutaneous or nasal triptan** • Paracetamol, NSAIDS, opioids, ergots or oral triptans are not used • When using oxygen for the acute treatment of cluster headache: use 100% oxygen at a flow rate of at least 12 litres per minute with a non-rebreathing mask and a reservoir bag and Headaches in over 12s • Offer home and ambulatory oxygen.	• Verapamil. • Seek specialist if: ✓ unfamiliar with verapamil use for cluster headache ✓ for cluster headache that does not respond to verapamil. ✓ treatment for cluster headache is needed during pregnancy.

Special considerations

Headache and pregnancy:

1. Paracetamol 1,000 mg is the treatment of choice in pregnancy for all patients with migraine and tension-type headache when the pain is sufficient to require analgesia.

2. If paracetamol provides insufficient analgesia aspirin 300 mg or ibuprofen 400 mg can be used in the first and second trimester of pregnancy.

Physical therapies:

- **Acupuncture:** Should be considered for preventive management in patients with migraine.
- **Massage:** There is insufficient evidence to make a recommendation on the use of massage in the treatment of patients with headache

Life style factors:

- ✓ **Diet**: Patients with migraine should be encouraged not to miss meals.
- ✓ **Trigger avoidance:** No good quality evidence was identified on whether mobile phone signals relate to headache symptoms.
- ✓ **Sleep:** No good quality evidence was found relating to sleep and headache.
- ✓ **Stress:** in a prospective analysis of the factors related to headache in migraineurs, tension and stress were associated with increased risk of migraine . So, stress management should be considered as part of a combined therapies programme to help patients reduce the frequency and severity of migraine headaches.

Questions

1) 35 years old women presented with headache that is very severe and it is located around the right eye with redness and watery discharge of the eye on the same side. She says that it lasts about 60 minuets.
What is the most likely diagnosis?

A. Cluster headache
B. Migraine with aura
C. Tension headache
D. Migraine without aura

2) A patient is experiencing a pulsating pain that has gradually increased in intensity over the last 3 hours. The pain has started on the left forehead but is now present on both temples and whole forehead. This is highly suggestive of which of the followings?

A. Migraine
B. Headache coincidental with hemorrhage
C. Tension headache
D. Cluster headache
E.

3) Which on of the following is NOT a cause of secondary headaches?

A. Migraine
B. Bain tumors
C. Giant cell arteritis
D. Primary angle closure glaucoma

4) Which one of the following is NOT a ”red flag” sign for headaches?

A. Headache in someone with stress
B. New onset headache and associated with a seizure
C. New onset headache in > 50 yo
D. Headache associated with progressive worsening

5) Which one of the following types of headache is neuroimaging required urgently?

A. Headache which is abrupt in onset and intense “thunderclap”
B. Migraine
C. Episodic tension type
D. Cluster headache

Answers:

1st Question: A

2nd Question: A

3rd Question: A

4th Question: A

5th Question: A