A lady with a headache

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You are a junior doctor working in General Practice. Your first patient in the clinic is a 24-year-old secretary, complaining of chronic, recurrent headaches. Take a history and examine the patient before formulating a management plan.

History

"I've been experiencing headaches over the past 4 months. At first, I would only get a headache once every month, but I had two last week and ended up taking 4 days off work."

What questions might you ask to find out more about the headaches?

> **Where is the pain? –** *"It's just here – above my left eye, on my forehead."*
>
> **How would you describe the pain? –** *"It's constant, throbbing pain."*
>
> **Does it spread anywhere else? –** *"Sometimes, but not always, it spreads to the other side of my forehead. It can feel like my whole forehead is being stabbed by lots of needles."*
>
> **How would you rate the pain out of 10, with 10 being the worst pain you've ever felt? –** *"It starts off around a 4, but within minutes it's a 10."*
>
> **You mentioned earlier that they're increasing in frequency. Have you identified any triggers? –** *"Well…I normally get them at home after a long day at work. I'd settle down to watch some TV with a glass of wine and then if I start getting pins and needles in my hands, I know I'm going to get the headache within half an hour."*
>
> **So you get some symptoms before the headache? –** *"Yeah, I get pins and needles in my hands which travels up to my neck. Sometimes I feel a little bit sick as well."*

Have you had any vomiting? – *"No, never."*

Do you get any changes in your vision, for example, flashing lights or patchy areas of visual loss? – *"No, never."*

How long does the headache last? – *"It normally lasts around a day but can last up to 3. That's why I couldn't work for most of last week – when I get the headache, all I can do is lie in bed with the curtains drawn."*

Does anything make the headache better? – *"Paracetamol used to help in the beginning but now I don't bother – it doesn't touch it! I find lying in the dark is the only way I can cope."*

Does anything make the headache worse? – *"Bright light, loud sounds – and I've learnt to stop drinking wine as soon as I get the pins and needles as it just makes it worse!"*

What other questions might you ask to complete your history?

Headache:

- **Aura:** Enquire about other non-specific symptoms that may precede the headache by up to one day (e.g. changes in speech, weakness, changes in appetite, drowsiness, yawning, alterations in mood, diarrhoea)
- **Triggers:** stress, dehydration, sleep deprivation, dietary factors such as cheese or chocolate
- Is there more than one type of headache present?

Past medical history:

- Medical conditions
- Mental health conditions (e.g. depression, anxiety)
- Menstrual history (possible predisposing factors)

Medications:

- Drugs such as oral contraceptives and vasodilators may be potential triggers.
- Excessive intake of over the counter analgesics such as paracetamol or codeine may lead to medication overuse headache.

Family history:

Do other family members have problems with chronic/recurrent headaches?

Social history:

- Occupation
- Accommodation (including who the patient lives with)
- Alcohol history
- Smoking history

Ideas, concerns and expectations:

- What does the patient think is going on?
- Is the patient concerned about anything sinister?
- What is the patient expecting from this appointment?

Check out our headache history taking guide for more information.

Patient's response…

"I don't get any other symptoms before the headache. I've got no other medical problems. I have regular periods every month but there doesn't seem to be any association with the headaches. I don't take any regular medications apart from the odd paracetamol. No one in my family suffers from headaches. I am quite stressed at work at the moment because we're short-staffed but my manager is really good about not taking work home so I try to relax in the evenings. I live quite happily by myself at the moment. I don't smoke but I like a glass of wine every night after work. I'm really hoping you can give some stronger painkillers for these headaches."

What is your likely diagnosis and how would you differentiate it from other chronic recurrent headaches from the history?

Classic findings	Migraine	Cluster headaches	Tension-type headaches
Location	Commonly unilateral and frontal (but can be bilateral, occipital or generalised)	Unilateral; in, above or around the eye and/or temporal region	Bilateral (can be unilateral)
Onset	Often preceded by an aura	Often occur at the same time of the day or night	Variable
Duration	Hours to days	Minutes to hours	Minutes to days
Severity	Moderate-severe; increase in severity over minutes to several hours (more rapid than tension-type)	Severe or very severe; increases in severity over minutes to an hour or so	Mild-to-moderate, increases in severity slowly over hours
Key characteristic	Headache and associated symptoms evolve; initial symptoms improve or resolve before later symptoms appear or reach their full intensity	Occur up to 8 x a day with headache-free days/months in between bouts	Non-throbbing tight/pressure band, fluctuates from hour to hour, day to day

Triggers	Multiple, including routine physical activity	Alcohol	Does not worsen with routine physical activity
Associated symptoms	Nausea, photophobia, phonophobia	Ipsilateral conjunctival reddening and watering, ipsilateral nostril blockage, transient Horner's syndrome	No nausea, phonophobia, photophobia

Clinical assessment

Which specific clinical assessments would you consider, and why?

Fundoscopy

- Papilloedema is a red flag and requires urgent investigation via CT/MRI (tumour probability >1%).
- Other causes of raised intracranial pressure include CNS infections such as encephalitis or meningitis, head injury, aneurysm, hypertension, stroke and intracranial bleed.

Neurological examination

Carrying out a neurological examination of the cranial nerves in addition to the upper and lower limbs can be useful to rule out signs of other intracranial pathology (e.g. limb weakness secondary to a brain tumour).

Blood pressure (BP)

Malignant hypertension (hypertensive emergency) although rare, is associated with potentially irreversible target organ damage that occurs over days or weeks. Headaches are one of the commonest symptoms. The BP is typically greater than 180/120 mmHg.

Temporal arteries

In temporal arteritis, the headache is associated with jaw claudication and a tender temporal artery. It is a rheumatological emergency; high-dose steroids are required to prevent permanent visual loss. Definitive diagnosis is via a temporal artery biopsy, however, treatment is usually initiated immediately if there is strong clinical suspicion.

What are other possible differential diagnoses?

- **Idiopathic intracranial hypertension:**
  - Raised intracranial pressure due to an unknown cause; diagnosis of exclusion.
  - Most common in obese women of childbearing age and associated with the use of certain antibiotics and oral contraceptives.
- **Medication overuse headache:**
  - Typically has both migraine and tension-type features.
  - Aspirin, codeine and NSAIDs are common causes.
- **Post-traumatic headache:**
  Diagnosed only when a new type of headache begins within 7 days of head or neck injury.
- **Subarachnoid haemorrhage:**
  - Approximately 50% of patients may have a prodrome ‘a sentinel’ headache before the classic severe, sudden-onset ‘thunderclap’ headache.
  - Plain CT and lumbar puncture may be required.
- **Low-pressure headache:**
  - Usually worse with standing and improves with lying down.
  - Caused by a spontaneous or iatrogenic dural tear (e.g. post-epidural analgesia).

Management

Managing migraines requires a holistic approach, starting with patient education and lifestyle modifications. It is important to reassure the patient that whilst migraines can’t be cured, effective treatment is available and the symptoms usually improve over time. Pharmacological options are available for both acute and prophylactic management.

How would you outline a management plan for the patient?

PREVENT

Personal

- Keep a diary to identify your own triggers.
- Record your activities, diet and mood every day.
- Tiredness, stress, anxiety and depression are all very common triggers.

Rehydrate

- Dehydration is another common trigger and can also lead to other health problems.
- Aim to drink 6-8 glasses of water per day at regular intervals.

Eat

- Eating a balanced diet is important but if you have noticed certain food triggers, try reducing or cutting them out of your diet.

- Common triggers are cheese, caffeine, red wine, chocolate and citrus fruits such as oranges.

Vitamin B2

Consider trying vitamin B2 supplements (available over the counter), which have been shown to reduce the frequency and intensity of migraines for some patients.

Environmental

- It's easy to underestimate environmental triggers such as cigarette smoke, flickering lights and loud noises but simple to make a few adjustments.
- Take regular breaks when using electronic screens.

NSAIDs

Take ibuprofen or paracetamol early on during a migraine.

Triptans

- If ibuprofen isn't working, discuss with your GP about stronger acute pain relief such as sumatriptan
- Anti-nausea medication may also be beneficial.

Why is follow-up important?

Follow-up with the patient is essential to determine the effectiveness of treatment, and to see if there are any indications for additional prophylactic (preventive) treatment. Some patients may be at risk of developing medication overuse headaches due to regular use of acute painkillers. The absence of any response to treatment (e.g. with triptans) should make you re-consider the diagnosis.

When should you consider preventive treatment?

Criteria

1. Migraine attacks that occur two or more times per month and that cause functional disability for several days (e.g. not being able to work or study).

2. The patient is using triptans or other painkillers two or more days of the week on a regular basis.

- It is important to rule out medication overuse headaches first before starting preventive treatment.
- If a medication overuse headache is suspected, do not start preventive treatment, commence tapered drug withdrawal instead.

3. Triptans or other painkillers are ineffective or contraindicated.

What prophylactic management options are available?

- **Topiramate** or **propranolol** are first-line options for preventive treatment. As topiramate is teratogenic and interferes with some hormonal contraceptives, appropriate counselling is required.
- **Acupuncture therapy**, **botulinum toxin** therapy and **amitriptyline** are all second-line treatment options.
- It is important to explain to the patient that preventive treatment aims to reduce the frequency of migraines, but acute treatment may still be required.

References

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Editor

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