

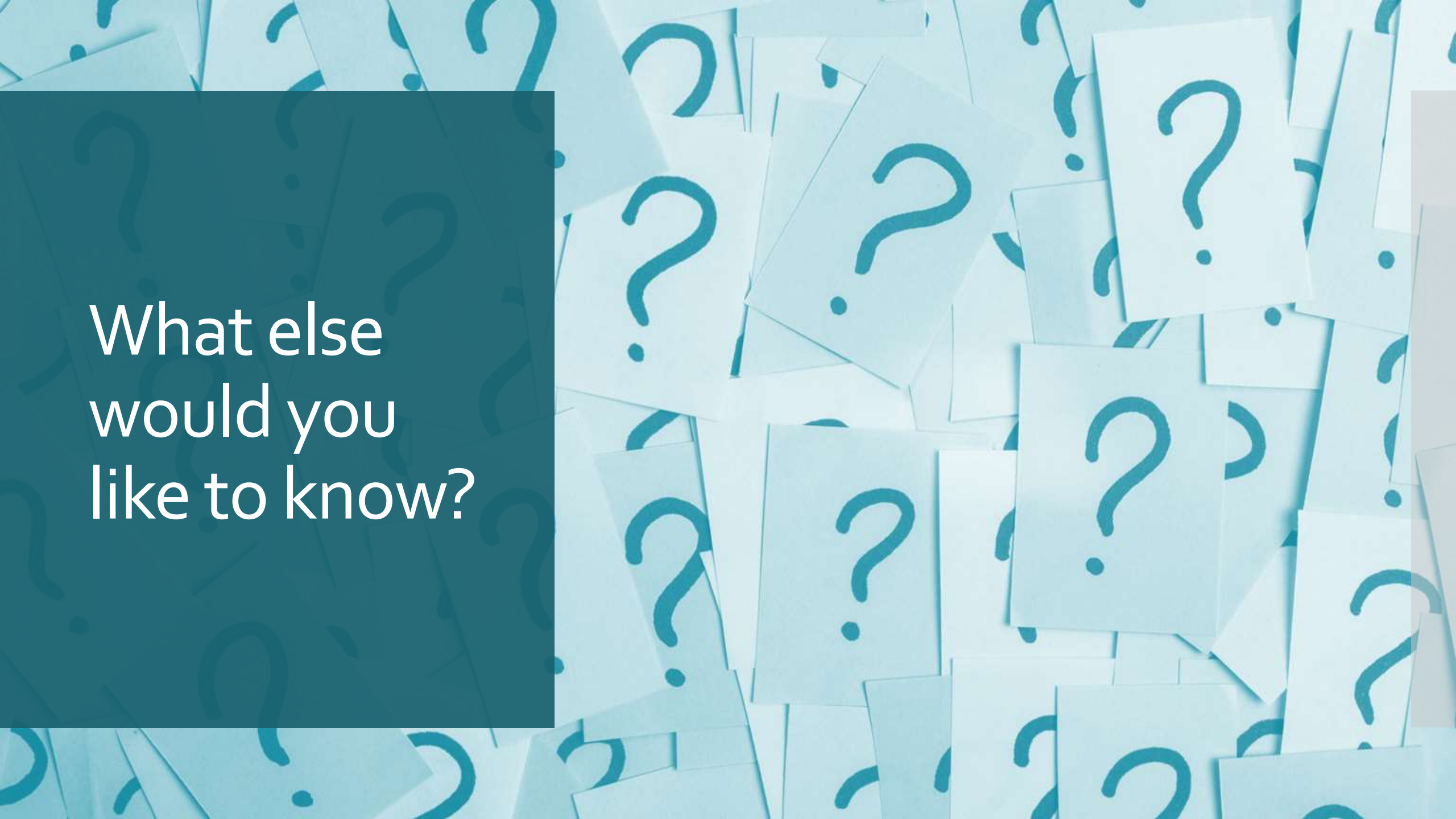
# Migraine in adults: A case-based overview

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## Case study

- Sammy is a 21-year-old female who presents to you with a history of headaches for the last 2 years. She has come to you today as they have become unmanageable, despite her best efforts to control them with OTC Migraleve, (which makes her a little sleepy, but doesn't take away the pain)
- She describes these headaches as pounding, usually across the right side of her head, 10/10 severity, in fact she often has to take the day off work and lay in bed with the curtains shut and a bucket next to her in case she vomits

What else  
would you  
like to know?



## Case study continued

- On further questioning, you discover:
- She has no tearing or swelling of the eyelid or rhinorrhoea
- She often suffers with visual changes in the hour before the headache comes on, usually seeing zigzags
- Sammy takes no regular medication except the pill (COCP), PRN Migraleve and denies any recreational drugs
- She doesn't smoke, but has a few too many drinks often on a weekend when she also enjoys late nights and subsequently too much caffeine the next day
- Sammy used to exercise regularly, but hasn't got back to the gym since covid began
- On examination, BP, fundoscopy, cranial nerves and peripheral nerve exam all normal


- Migraine is a severe and disabling brain condition (1), listed as the sixth most disabling disorder globally by the WHO, and the most disabling of all neurological disorders (2).
- Migraine is a common neurological disorder which affects 15–20% of the population; it has a high socioeconomic impact through treatment and loss of productivity (3).
- Migraine has a strong genetic component, but there has not been any pattern of inheritance identified (3).
- Can be episodic or chronic
- Around 25% sufferers have migraine with aura; transient focal neurological symptoms, eg scotoma, paraesthesia
- Myth that it has to be severe to be a migraine (but usually is)

## What is migraine?


# Who suffers with migraine?

- 1 in 7 people, often beginning in childhood or early adulthood.
- It's impact varies throughout individual's lives, but generally improves with increasing age
- Women are three times more likely than men to suffer with migraine, although equal across sexes in children before puberty (4).
- Factors that are linked to increased risk of chronic migraine include
  - Excessive caffeine
  - Sleep disorders and snoring
  - Obesity
  - Co-morbid conditions such as anxiety and depression

Prodromal symptoms may occur 1-2 days before other symptoms, including fatigue, mood changes, yawning.



Aura (for 25% sufferers)



Headache



Postdromal symptoms can then go on for another 48 hours

4 stages of a migraine attack

## Diagnosis: Take note

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Bear in mind we under-diagnose migraine! A US based prospective study found 1 in 4 people fulfilling the criteria for migraine were diagnosed as non-migranous headache (5).

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Some women suffer menstrual-related migraine occurring 2 days before and 3 days after the start of menstruation for at least 2 out of 3 consecutive cycles.

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Assessment should be as per any headache disorder, including thorough history, ruling out red flags and examination including BP, cranial and peripheral nerve exam and fundoscopy



>5 attacks lasting 4-72 hours (or 2-72 in adolescents)

At least 2 of following:

- Unilateral (commonly bilateral in children)
- Pulsating
- Moderate / severe pain
- Aggravated by and avoidance of routine ADLs

Headache not explained by another cause with at least one of:

- Nausea / vomiting
- Photo or phonophobia (6)

Diagnosis:  
Migraine  
without aura

# Diagnosis: Migraine with aura

At least 2 attacks with at least one of:

- Visual symptoms
- Sensory symptoms
- Speech or language symptoms

At least 3 of:

- One aura symptoms spreads gradually over at least 5 minutes
- Two or more aura symptoms occur in succession
- Each symptom lasts 5-60 minutes
- At least one symptom is positive
- At least one symptom is unilateral
- Headache follows aura within 60 minutes (6)

# Triggers

Migraine can be precipitated by a number of factors, often there can be a multitude of triggers that irritate the brain and cause a migraine when a certain threshold is reached



## Common triggers include:

- Alterations to sleep routine
- Long periods without eating and drinking
- Stress
- Sunlight / odours / sounds
- Exercise

# Complications

People with migraine have twice the risk of ischaemic stroke compared to those without (7)

Also, an increased risk of haemorrhagic stroke, but the absolute numbers are small

Risk of stroke is increased in women using combined hormonal contraception (don't forget that migraine with aura is UKMEC 4!)

## Management: Lifestyle

- What should we advise Sammy?
- Keep a migraine diary to try and identify triggers
- Stick to regular routines with eating, sleeping and cut back on alcohol binges
- Try and slowly build up activity and exercise levels again

# Management acute migraine

- Stop the COCP! Find an alternative contraception
- Instead of Migralve, try 400-600mg ibuprofen or 900mg of soluble aspirin as soon as the migraine attack begins , or try suppository diclofenac if vomiting
- Opioids are not as effective in headache and can worsen nausea & vomiting, as well as worsen medication overuse headache
- Add in an anti-emetic such as domperidone 10mg
- Discuss option of a triptan, e.g. sumatriptan 50-100mg
- To avoid medication overuse headache, advise Sammy to limit triptans to no more than 10 days per month and 15 days of other simple analgesia (6)

## Case study continued

- Sammy return 6 weeks later and says although the lifestyle changes and acute medication have helped her migraines, she is still had a couple of migraines
- She is really interested in alternative therapies and has read a bit about these online, but worries if it's all nonsense. Sammy wants to know if you would recommend any of these options?

# Alternative therapies

In line with NICE guidelines, we recommend trialing some behaviour interventions or CBT, some acupuncture (up to 10 sessions over 5-8 weeks) & 400mg riboflavin OD

We add that some people find magnesium supplements help improve their migraine, Sammy could try 600mg mg citrate

Coenzyme Q10 is another vitamin like substance that has been shown to reduce severity and frequency of migraine attacks (8), but it is quite expensive.

Avoid plant-based treatments such as feverfew & butterbur, which can cause liver damage



## Case study continued

- At a review 3 months later, poor Sammy continues to suffer with migraines more than once a week and the acute medication is only helping a small amount, but she is still having to take lots of time off work
- Is there anything else she can take?

## Preventative treatments

These cannot cure migraine, but can be helpful in reducing frequency or severity of the migraine attacks

We discuss options and side effects with Sammy of amitriptyline and topiramate, but opt for trying propranolol 40mg BD

It is emphasized that Sammy needs to trial this for 12 weeks before deciding if it has been helpful and if not, we can try one of the alternatives

# Specialist treatments

- Botox - licensed for chronic migraine, when MOH & failed x3 preventative Rx.
- Greater occipital nerve block – local anaesthetic & steroid into nerves supplying the scalp (feeding trigeminal nucleus)
- Anti-CGRP drugs - Calcitonin gene-related peptide antibodies monoclonal antibodies (mAbs)
  - CGRP is neuropeptide transmits pain signals & triggers migraine
  - Almost entirely stop attacks 25% people, 50% moderate improvement
  - Minor SE, but ? Long term CV SE
  - Ajovy (Fremanezumab) has been approved by NICE (same as botox criteria)
  - 6 approved in US by FDA, so more on the horizon

# Key messages

- Ask the patient to keep a migraine diary to enable them to identify triggers which can then be avoided
- Lifestyle changes & mgt of co-morbidities
- Ditch the opiates and try ibuprofen or soluble aspirin instead
- Key is to start this medication ASAP
- Check for red flags and make sure not on COCP if suffer migraine with aura
- Check for possible medication overuse headache
- Some alternative therapies like Riboflavin or acupuncture may be helpful
- Preventative medication can be useful if lifestyle changes and acute medication fails, but it is not a cure
- Lots of specialist treatments available with new breakthroughs

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