The enigma of cephalgia:
Evolving headaches in a young woman

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CASE

A marketing professional aged 38 years presents to her general practitioner (GP) with headaches that first appeared in her late teenage years. She had left-sided throbbing pain, with a visual aura of scotomas occurring 30 minutes prior. The headaches typically lasted for 2 days and occurred every 3–4 months, approximately 7–10 days before menstruation. There is a family history of migraine. She is fit and healthy and lives with her husband. She uses the copper intrauterine device as contraception. Her past medical history includes lumbo-sacral back pain managed with microsurgical discectomy in 2024.

QUESTION 1

What are some potential causes of her headaches and their typical features?

ANSWER 1

Common causes of headache are outlined in Table 1. The estimated global prevalence of migraine is 14.4%, with women more commonly affected.[1] Tension-type headache is also common, with a lifetime prevalence between 30 and 78%.[2] Cluster headache is hugely burdensome for patients, with attacks occurring in series lasting weeks or months. Remission periods usually last months or years, though 10–15% of patients suffer without remission.[2] Cluster headache's immense physical and emotional toll has long been associated with increased rates of self-harm. The US Cluster Headache Survey in 2011 reported 55% of responders had contemplated suicide and 2% had attempted suicide.[3]

CASE CONTINUED

In her teens, the headaches were not relieved by simple analgesics. She was trialled on naratriptan in her late 20s because of poor response to other first-line treatments.[4] This has been continued on an 'as required' basis because of its effectiveness.

QUESTION 2

What are the indications and pharmacological options for migraine prophylaxis?

ANSWER 2

Migraine prophylaxis might be considered when patients require acute migraine treatment on more than 2–4 days per month. Prophylactic drugs should be taken for 8–12 weeks to assess efficacy. First-line drugs are amitriptyline, candesartan, nortriptyline, pizotifen, topiramate, or verapamil sustained-release.[4] Drug choice might be guided by patient comorbidities, medications, and tolerance to potential adverse effects. A 2017 literature search by He et al recommended propranolol when considering safety and patient tolerability along with efficacy.[5]

CASE CONTINUED

She subsequently presented in her mid-30s with severe right-sided retro-orbital pain that progressed over 5 days. The pain was worse at extremes of eye movements, particularly in the vertical plane. There was ptosis, but no aura or visual disturbances.

QUESTION 3

What are trigeminal autonomic cephalgias and their differentiating features?

ANSWER 3

Trigeminal autonomic cephalgias are a group of primary, side-locked headache disorders characterised by unilateral trigeminal distribution pain and prominent ipsilateral cranial autonomic features (Table 2). Cluster headache is the most common, affecting around one in 500 people with a male predominance. Typical onset is after the age of 20 years.[6] First-line acute therapies are hi-flow oxygen or triptans, with verapamil or glucocorticoids as prophylaxis.[7] A trial of indomethacin is helpful since paroxysmal hemicrania and hemicrania continua are both responsive and can be differentiated by frequency and duration of attacks.

CASE CONTINUED

Due to the persistent nature of her headaches, she was trialled on galcanezumab, a subcutaneous monoclonal antibody injection. Galcanezumab attaches and blocks calcitonin gene-related peptide (CGRP). CGRP is a target in migraine and cluster headache prophylaxis because of its role in mediating trigeminovascular pain transmission as well as neurogenic inflammation.[8] Galcanezumab should be used with caution in patients with cardiovascular or cerebrovascular disease because of its vasodilatory effects.[9] CGRP monoclonal antibodies can be initiated on the Pharmaceutical Benefits Scheme (PBS) by a neurologist, or a GP in consultation with a neurologist.

QUESTION 4

With consideration of Murtagh's diagnostic model, what is a diagnosis not to be missed in an overweight female of childbearing age who presents with headache?

ANSWER 4

Idiopathic Intracranial Hypertension (also known as Pseudotumor Cerebri) should be considered in patients presenting with headache of unusual severity. Typically, females of childbearing age who are overweight are most commonly affected. This condition involves symptomatic raised intracranial pressure with no cause. Work-up, including neuroimaging and lumbar puncture, shows normal brain parenchyma and ventricles, with normal cerebrospinal fluid composition and high opening pressure. Vision changes are common and concerning, with risk of permanent vision loss. Fundoscopic assessment for papilloedema is vital.[10]

Conclusion

The patient has found a reduction in headache frequency and severity using galcanezumab with an improvement in her quality of life.

Key points

- Some trigeminal autonomic cephalgias are responsive to indomethacin.
- Migraine prophylaxis should be considered in patients needing treatment for more than 2–4 days per month.
- Injectables such as CGRP blockers can be used for migraine prophylaxis.

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References are available online only.

Table 1. Common causes of headache and their typical features[2]

	Migraine	Tension-type headache	Cluster headache
Location	Unilateral (can be bilateral)	Bilateral	Unilateral: orbital, supraorbital, temporal or in a combination
Quality of pain	Pulsating, moderate/severe intensity	Pressing/tightening, mild/moderate intensity	Severe
Associated symptoms	• Nausea • Photophobia • Phonophobia	• Photophobia • Phonophobia	• Ipsilateral conjunctival injection • Lacrimation • Nasal congestion • Rhinorrhoea • Forehead/facial sweating • Miosis • Ptosis • Eyelid oedema • Restlessness/agitation
Duration	4–72 hours	Minutes to days	15 minutes to 3 hours, once every other day to 8 times a day

Table 2. Trigeminal autonomic cephalgias and their differentiating features[2,7]

	Short-lasting unilateral neuralgiform headache	Paroxysmal hemicrania	Cluster headache	Hemicrania continua
Duration	1 second to 10 minutes	2–30 minutes	15 minutes to 3 hours	>3 months (with exacerbations)
Frequency	≥1 daily	>5 daily	1 every other day to 8 daily	
Response to indomethacin	No	Yes, required for diagnosis	Sometimes	Yes, required for diagnosis
Triggers	Tactile stimuli (eg touching face, shaving, brushing teeth)	Stress, exercise, alcohol	Alcohol, heat	Alcohol
Restlessness	No	Yes	Yes	Yes, or aggravation of pain by movement

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