Migraine: an evidence-based approach for GPs

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Migraine is a common disabling primary headache disorder. Migraine management approaches include treatment of the acute attack and, depending on severity and frequency, providing agents to prevent further episodes. This brief review outlines the salient points of migraine management for general practitioners.

Keywords: migraine, headache, prodrome, aura, prophylaxis

Introduction

Headache disorders are classified by the ICHD-III1 as primary headache disorders, which include migraine, tension-type headache, cluster headache and other trigeminal autonomic cephalalgias, as well as other primary headache disorders, and secondary headache disorders which include a new headache occurring with another lesion capable of causing it (e.g., headache attributed to intracranial tumour). Migraine is a syndrome characterised by periodic headaches with complete resolution between attacks. The frequency of attacks is variable, occurring as low as several per lifetime to as high as several per week. Headache frequency may predict progression from episodic to chronic migraine.2

An attack may be composed of the following sequential stages: prodrome, aura, headache and resolution. A prodrome is a vague change in mood or appetite, while an aura is a clear neurological symptom such as a visual (flickering lights, spots or lines, and/or partial loss of vision), motor (speech) or sensory (numbness and/or pins and needles) disturbance. The moderate to severe pulsating pain may be uni- or bilateral, lasting up to 72 hours. In children, migraine is a diagnosis of exclusion.2

Migraine is the second most prevalent neurological disorder (after tension-type headache), with a female-to-male ratio of 3:1 and an estimated one-year prevalence of approximately 15% in the general population.3 The prevalence peaks between the ages of 35 and 39 years, and about 75% of affected persons report the onset of migraine before the age of 35 years.4 Since the disorder tends to remit with older age, onset of migraine after the age of 50 years should arouse suspicion of a secondary headache disorder.4

Acute treatment

The evidence-based National Institute for Health and Care Excellence (NICE) guidelines5 suggest that for the acute treatment of migraine, combination therapy of an oral triptan (sumatriptan, zolmitriptan, rizatriptan, naratriptan or eletriptan) with either an NSAID (e.g. naproxen or ibuprofen), or with paracetamol, should be offered, taking the person's preference, comorbidities and risk of adverse events into account. These are best taken early in the attack when absorption may be least inhibited by gastric stasis. For people in whom oral preparations for the acute treatment of migraine are ineffective or not tolerated, a non-oral preparation of metoclopramide or prochlorperazine should be considered. An anti-emetic such as metoclopramide or domperidone not only relieves the nausea that accompanies many migraine attacks but also enhances the efficacy of simultaneously administered oral analgesics.6 Adding a non-oral NSAID or triptan if these have not been tried, should also be considered. Codeine or dihydrocodeine, which are used extensively in OTC combination analgesics6 should not be used as they provide small additional benefit in a range of painful conditions, but evidence of this does not extend to headache and it is at the expense of increased side-effects. In addition, these opioids are frequently implicated in medication overuse headache.

Prophylactic management of migraine with or without aura

Identifying and avoiding trigger factors can reduce the frequency of migraine attacks by up to 50%. It is often of value to ask the patient to keep a migraine diary recording frequency, duration and severity of attacks and to use this to monitor how effective headache interventions are. Only migraine recurring four or more times per month should be treated prophylactically.1 It is important to review the need for continuing migraine prophylaxis six months after the start of preventative treatment.

Topiramate or propranolol

Topiramate (target dose 100 mg twice a day) or propranolol (target dose 60 mg once or twice a day) are the NICE-recommended first-line agents for the prophylaxis of migraine and these agents should be offered after a full discussion of the benefits and risks of each.7 Topiramate should be started at a low dose (25 mg a day), and the dose should be increased over a period of two to three weeks to minimise side effects which may include cognitive slowing with perceived memory deficits and word-finding difficulties. The risk of reduced effectiveness of hormonal contraceptives with topiramate, and the risk of foetal malformations with its use must be explained to your
female patients. The importance of effective contraception (e.g. medroxyprogesterone acetate depot injection, an intrauterine method or combined hormonal contraception with a barrier method) for women and girls of childbearing potential who are taking topiramate should be emphasised. People with depression and migraine could be at an increased risk of worsening depression/anxiety with topiramate – in these cases, I find it beneficial to either start a concomitant antidepressant agent (usually an SSRI will suffice), or to use an alternative like valproate (300–1 000 mg BD)/pregabalin (25–75 mg BD), with the same safety/side-effect information applying as above. Valproate may be limited by its somnolence, weight gain, hair loss, and possible hepatotoxicity and thrombocytopenia.

**Amitriptyline**

Amitriptyline is also an option for the prophylactic treatment of migraine according to the person’s preference, comorbidities and risk of adverse events. I do find this less effective than the above, but it is a good starting point, and often addresses the tension-type component that accompanies migraines. Amitriptyline 10–150 mg daily, at or one to two hours before bedtime, is first-line when migraine co-exists with troublesome tension-type headache, another chronic pain condition, disturbed sleep or depression. With the exception of the depressed patient, it is wise to explain the choice of this drug to patients who do not consider themselves depressed or they may reject it. Commonly reported adverse events include dry mouth, sedation, dizziness and nausea. These are most apparent in the first couple of weeks and usually settle with continued use.

Gabapentin should **not** be offered for the prophylactic treatment of migraine.

**Migraine prophylaxis with botulinum toxin**

If topiramate, valproate, trepiline, pregabalin and propranolol are unsuitable or ineffective, consider referral to a specialist for Botox (155 units subcutaneously), but this is often limited by cost.

Botulinum toxin type A is recommended as an option for the prophylaxis of headaches in adults with chronic migraine (defined as headaches on at least 15 days per month of which at least eight days are with migraine) that has not responded to at least three prior pharmacological prophylaxis therapies and whose condition is appropriately managed for medication overuse.

**CGRP monoclonal antibodies**

Monoclonal antibodies to the calcitonin gene-related peptide (CGRP) pathway or its receptor may reduce disability even on non-headache days, and may be useful treatment options in the future.

**Conclusion**

Migraine management can often be tricky, particularly as it often co-exists with other pathologies, and it is useful to approach the patient not only from a medication aspect, but to also discuss the non-medical supporting therapies, such as triggers, physiotherapy, keeping a headache diary, management of stress and anxiety and the like. With the advent of the CGRP monoclonal antibodies, due to be available in SA in the near future, it is likely that migraine management will see a shift from the current therapies to these more targeted therapies.

**References**