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Practical management of headache

CLINICAL REVIEW

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Diagnosing different types of headache correctly can be challenging, but is the most important prerequisite for optimal treatment. Controlled use of acute medications and prophylaxis is recommended.

Headache disorders are among the most common causes of disability, according to the findings of the Global Burden of Disease project (1). These disorders have a substantial impact on the affected persons and their relatives, as well as on society in general. Simple diagnostic tools and therapeutic

measures can make a big difference. The aim of this article is to provide practical advice on the diagnosis, treatment and follow-up of headache patients. We will also discuss some new therapeutic options.

The article is based on literature searches in PubMed, the authors' own clinical experience and NeuroNEL (2).

Migraine

Prevalence and diagnosis

Migraines are the most common reason for patients to seek medical attention because of primary headache. The prevalence of migraine in Norway is 8 % in children, 6 % in men and 18 % in women (3). A simple tool such as 'ID migraine' (three brief questions about photophobia, functional level and nausea during headache attacks) can help identify migraines (4) Box 1). Positive responses to two of the three questions indicate a high probability of migraine. To obtain a more comprehensive picture of the extent of headache-related symptoms, eight additional questions can provide an effective and rapid overview for both migraine and other types of headache (Box 1). Migraine without aura is diagnosed if there have been at least five headache attacks, each lasting 4–72 hours, with at least two of four typical characteristics: unilateral pain, moderate to severe intensity, pulsating quality, and exacerbation by movement. At least one of two additional criteria must also be fulfilled: nausea or phonophobia and photophobia. Migraines need not be unilateral, about 40 % of patients have bilateral headaches. Neck pain is common and often occurs as part of a migraine attack ((5, 6).

Box 1 Key questions in the diagnosis of migraine and other types of headache

THREE BRIEF QUESTIONS ON MIGRAINE

P – *photophobia* Are you sensitive to light when you have a headache?

I – *indisposed* Has the headache resulted in your being absent from work or functioning poorly for at least one day in the past three months?

N – *nausea* Do you become nauseated when you have a headache?

EIGHT KEY QUESTIONS FOR A HEADACHE PATIENT

Do you have one or more types of headache? Describe each of them separately.

How long does the headache last? (Seconds, minutes, hours, days.) How often do you have a headache?

How intense is the pain?

What do you do during an attack?

Whereabouts does your head hurt?

Do you have accompanying symptoms?

Do you take any medicines?

In migraine with aura, the headache is preceded by one or more transient aura symptoms. The aura most often takes the form of visual disturbances, but sensory disturbances and speech and language disturbances also occur. Some patients additionally experience paralysis or symptoms from the brainstem such as vertigo and diplopia. In contrast to symptoms of stroke, aura symptoms develop gradually over at least 5 minutes and occur in succession, typically lasting 5–60 minutes before headache onset. The aura symptoms most often comprise flashing or flickering lights or tingling in the skin (6).

Treatment

Acute medications (analgesics, triptans) and possibly antiemetics should be taken as early as possible in a migraine attack as this provides greatest efficacy (5). Many more migraine patients should probably try prophylactic treatment; in the event of frequent attacks, early initiation of prophylaxis may prevent the development of daily headaches (chronification) (2). There is no single threshold for starting prophylaxis, but it should be considered if the patient has two to three migraine attacks per month, if acute treatment has limited effectiveness or pronounced adverse effects, or if aura symptoms are incapacitating (2). Before referring the patient to a neurologist, an appropriate dose of beta-blockers and/or angiotensin II receptor blockers should first be tested in general practice for an adequate length of time. Other options are tricyclic antidepressants such as amitriptyline, and antiepileptic drugs such as topiramate and valproate (5). We recommend that each drug be tried out for at least three months. Treatment should be tailored to the individual in accordance with the drug's adverse effect/efficacy profile and any other health problems for which the drug may also be beneficial (5). Effective patient education is very important. Prophylactic treatment can reduce the frequency of attacks and intensity of pain, and enhance the effectiveness of acute treatments, but it very rarely leaves the patient completely headache-free. It may take up to three months for an effect to occur, and it is important that patients are informed of this at the start of treatment. Slow dose escalation is necessary to reduce the risk of adverse effects. Use of a headache diary is recommended to evaluate treatment effectiveness.

Specific advice on non-pharmacological interventions may also enable patients to achieve better control of their migraine attacks. Exercise, diet, normalisation of body weight, and a regular sleep pattern, with neither too little nor too much sleep, may ameliorate headaches. Stress management with different types of relaxation training and cognitive behavioural therapy may also be helpful.

Prophylactic medications should be discontinued prior to planned pregnancy (2). Women who are on prophylactic medication for migraines when a pregnancy is confirmed are advised to discontinue the drug. Many find that their migraines improve during pregnancy (2). If frequent attacks occur despite non-pharmacological prophylaxis, propranolol is the first-line choice for prophylactic medical treatment (7). Amitriptyline and verapamil may also be considered if indicated.

Chronic migraine

Chronic migraine occurs in 0.5–1.0 % of the population and is defined as headache that occurs on 15 or more days per month for more than 3 months, and that meets the criteria for migraine on at least 8 days per month (6). This means that even if a patient has tension-type headache on more days than they have migraine, a diagnosis of chronic migraine should be used if there are at least eight migraine days per month. Prophylactic drug treatment is essentially the same as for episodic migraine (5). Topiramate 100 mg daily has the most well-established efficacy (2). There is also good evidence of efficacy for botulinum toxin A injections repeated every 12 weeks (5). However, a substantial proportion of patients do not respond to these treatments, which should be discontinued if no effect is seen. Occipital nerve block administered once a week for four weeks, followed by another dose one month later, has possible efficacy in chronic migraine (8). There are also several new types of treatment for migraine, including antibodies against the neuropeptide 'calcitonin gene-related peptide' (CGRP), which is implicated in migraine pathophysiology (9). Chronic migraine can occur with and without medication-overuse headache. Use of multiple analgesic drugs may result in a patient's total medication use increasing, which may then lead to a paradoxical exacerbation of his or her headaches. We recommend that general practitioners try out prophylactic drugs for at least three months before referring the patient to a specialist.

Tension-type headache

Approximately 30 % of the adult population has several monthly attacks of tension-type headache (2). Furthermore, 2–3 % of the population has chronic tension-type headache with 15 or more headache days per month (2). Women are more often affected than men. Tension-type headache is characterised by a pressing/tightening quality, bilateral pain of mild to moderate intensity, with no exacerbation by physical activity. Nausea and vomiting are inconsistent with the diagnosis, but either photophobia or phonophobia may be present (6).

Non-pharmacological prophylaxis is key, and the recommendations are largely the same as for migraine. It is important to identify precipitating factors and to evaluate the association between mental stressors and physical symptoms (2). Acute treatment with analgesics is sufficient for episodic tension-type headache, but prophylactic treatment should be used in the event of frequent or chronic tension-type headache. Analgesics often have little effect in patients with chronic tension-type headache, and increase the risk of medication-overuse headache. Amitriptyline is the first-line prophylactic treatment, while mirtazapine and venlafaxine are second-line treatments and may be tried in patients with comorbid anxiety and depression (10). Treatment effectiveness may be evaluated after two to three months. Patient education is important once again; the patient should be informed in particular that the medication is being used against headache and not as an antidepressant. We recommend initiating this type of treatment in general practice, and then attempting discontinuation after six months to assess whether medication is still required. We discourage the use of 'tension-type headache' as a diagnosis for patients

with headaches that are otherwise unexplained, who have tension in the shoulders or who have psychosocial problems without fulfilling the criteria for tension-type headache. These patients should undergo further evaluation and be referred to the specialist health service.

Medication-overuse headache

All headache patients are at risk of medication-overuse headache if they use analgesics too often. Medication-overuse headache occurs, on average, 15 or more days per month and develops as a consequence of overuse of medication for more than 3 months (6). The prevalence of medication-overuse headache is 1–2 % in adults and approximately 0.5 % in adolescents (2, 3). The use of opioids, triptans or combination analgesics (including those combined with caffeine) at least 10 days per month for 3 months, or the use of single analgesics at least 15 days per month for 3 months, increases the risk of developing chronic daily headache (11).

When assessing medication use, it is important to remember that many headache patients use non-prescription medicines along with medicines prescribed by a doctor. Complete discontinuation of acute medications may be more effective than use of those medications a couple of times per week (12). Medication tapering can often be performed in general practice if accompanied by effective patient education and follow-up (11). We recommend that any particularly complicated cases with previously unsuccessful attempts at tapering or significant comorbidity are managed in the specialist health service. Hospitalisation may be indicated, for example in cases of severe withdrawal symptoms, multiple previously unsuccessful treatment attempts or marked overuse of opioids or benzodiazepines. We recommend the use of a headache diary to enable both patient and therapist to record improvement, and to facilitate diagnosis of the underlying headache type. The best means of preventing medication-overuse headache is to provide proper information when prescribing analgesics. A change in the route of administration, or selection of another type of acute medication, can also enable many patients to better control their headache attacks. Prophylactic treatment that is ineffective, or that is initiated too late, can also potentially lead to patients developing medication-overuse headache.

Other types of headache

Patients with a hyperacute, first-time intense headache must undergo acute hospitalisation to rule out subarachnoid haemorrhage. Patients with very intense headache attacks of short duration, as well as patients with treatment-resistant or atypical cranial neuralgias, cluster headaches and other trigeminal autonomic headaches, should be evaluated by a neurologist. Patients with chronic headache of unclear origin should also be referred to a neurologist for

assessment. Hemicrania continua and chronic paroxysmal hemicrania are examples of rare headaches that respond to an indomethacin test, and that can be successfully treated if they are diagnosed.

New therapeutic options are under development for cluster headaches (13). Patients with frequent or chronic cluster headaches who have not been assessed by a neurologist for some time may benefit from reevaluation. Acute treatment primarily consists of sumatriptan injections and oxygen therapy (2). A cluster period can be terminated with prednisolone, and blockade of the greater occipital nerve may be used as transitional therapy (2). Prophylaxis should be used if a patient has frequent cluster periods (2). Verapamil has the best established efficacy; other options are lithium and topiramate (2). For chronic and frequent episodic cluster headaches, sphenopalatine ganglion stimulation may be appropriate (13). The results of the first randomised controlled trial showed sustained improvement with this treatment in 60 % of patients (13). About 20 Norwegian patients have been treated in Denmark (Rigmor Jensen, Danish Headache Center, personal communication). In Norway, treatment involving injection of botulinum toxin directly into the ganglion sphenopalatinum is also under development. This may be a therapeutic option for chronic migraine, chronic cluster headaches and probably other types of chronic headache too (14).

Future paths

A simple approach to the diagnosis and treatment of migraine, medication-overuse headache and tension-type headache is highly effective. The diagnosis of headache is based mainly on the patient's anamnesis. Early onset of prophylactic treatment may prevent chronification. Good advice and information for patients is available on NeuroNEL (2). Frequent and treatment-resistant headaches as well as severe headaches of short duration should be evaluated by a neurologist. International studies show that many refractory headaches can be treated effectively in interdisciplinary outpatient clinics specialising in headache (15). We believe that such clinics should also be established in Norway.

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