Migraine management

See also the separate related Migraine and Migraine Prophylaxis in Adults articles.

There are significant differences in the treatment of migraine in children - see the separate Migraine in Children article.

Migraine cannot be cured and it is important, through careful history and diagnosis, to reach a shared aim with the patient. This should broadly be the control of symptoms to minimise the impact of the illness on the patient's life and lifestyle.

If there is doubt about the diagnosis then the following management plans should be abandoned and alternative management considered. This may include further investigation and referral.

Aims

The detailed management will be individual to each patient, with many variables affecting the advice and treatments offered (eg, severity of migraine, patient preferences, and age and sex of the patient). General measures include advice on sleep, relaxation and stress management; yoga, meditation and physical fitness may help to reduce the susceptibility to migraine.

The important elements of good migraine management are:

- Correct diagnosis with particular attention to the history.
- Explanation of diagnosis and treatments.
- Reassurance.
- Predisposing factor identification and management.

- Precipitating or trigger factor identification, management and avoidance.
- Other interventions (drug or non-drug).
- Follow-up of patients to adapt advice and allow further management. Further treatments can be adjusted in the traditional 'stepped management' approach (see 'Drug treatment for acute migraine', below).

Address any predisposing or trigger factors

These are factors which co-exist with migraine and may be treated to improve migraine. All patients should be given the opportunity of identifying such factors so that behaviour modification can be offered either alone or along with drug treatments.

Keeping a dual 'attack and trigger diary' when attacks are frequent may identify opportunities for behaviour modification. The diary can determine whether triggers and attacks coincide. If avoidance is possible, this may help (many triggers are unavoidable):

- Stress or even relaxation after periods of stress. Stress can include bright lights, loud noise, long-distance travel and extremes of weather.
- Anxiety or depression.
- Trauma to the head or neck.
- Dietary sensitivities:
    - Estimated to affect no more than 20% of those who experience migraine (suspect if onset occurs within six hours of ingestion).
    - Dietary factors include cheese, chocolate, alcohol and citrus fruits.
    - These are only occasionally important in management and too much effort in identifying them may be counterproductive [1] .
    - There is no case for 'blanket' avoidance of foods.
- Missed meals or fluids (dehydration) [2] .

- Sleep deprivation or excessive sleep.
- Oral contraceptives and vasodilators may precipitate or exacerbate the condition.

Drug treatment for acute migraine[1] [3]

The selection of treatment should take into account patient preference, cost, safety and likely efficacy[1] . Drug therapy should be combined with rest and sleep where possible, as this improves speed of recovery.

Step one: simple analgesic with or without antiemetic
This is appropriate for mild-to-moderate migraine in a stratified approach. Often patients will already have tried and failed with some of these treatments. In these and in patients with moderate-to-severe migraine, move to Step three.

- Use early in the attack to avoid gastric stasis.
- Use soluble aspirin 900 mg (not in children) or ibuprofen 400-600 mg.
- Avoid opiate-containing medications, including codeine.
- Use prochlorperazine 3 mg buccal tablet if there is nausea and vomiting (antiemetics are not recommended for children or adolescents).
- Consider switching to a prokinetic antiemetic in adults (improves absorption - eg, domperidone or metoclopramide 10 mg). The National Institute for Health and Care Excellence (NICE) recommends a 'non-oral' preparation of metoclopramide - eg intramuscular. Both preparations are unlicensed for use in migraine, and neither is recommended for children.
- Consider other non-steroidal anti-inflammatory drugs (NSAIDs) ± antiemetics (naproxen 500 mg, diclofenac 50-100 mg, tolfenamic acid 200 mg). Don't use delayed-release NSAIDs[1] .
- Consider combination preparations - eg, Paramax®.

Editor's note

Dr Sarah Jarvis, 20th December 2021

NICE guidance on headache - update on metoclopramide or prochlorperazine

NICE has updated its guidance on headaches in over-12s[3] in relation to management of patients with migraine with or without aura.

This relates to people in whom oral preparations (or nasal preparations in young people aged 12 to 17 years) for the acute treatment of migraine are ineffective or not tolerated. To better reflect the balance between the benefits and harms associated with the use of metoclopramide and prochlorperazine, they have changed the wording in the following from 'offer' to 'consider':

Consider a non-oral preparation of metoclopramide or prochlorperazine; and

If non-oral metoclopramide or prochlorperazine is used, consider adding a non-oral NSAID or triptan if they have not been tried.

Step two: rectal analgesia and rectal antiemetic

- Use diclofenac suppositories 100 mg with domperidone suppositories 30 mg if needed for vomiting.
- Avoid if contra-indicated or unacceptable to the patient.

Step three: specific anti-migraine drugs

Triptans ($5HT_1$-receptor agonists) or ergotamine (the use of ergotamine is limited by absorption problems and side-effects such as nausea, vomiting and abdominal pain)[4] . NICE does not recommend the use of ergot preparations at all for the treatment of acute migraine.

In a stratified approach to management, patients identified as having moderate-to-severe migraine should move straight to Step three.

Triptans

Triptans (almotriptan, eletriptan, frovatriptan, naratriptan, rizatriptan, sumatriptan and zolmitriptan) may be used during the established headache phase of a migraine attack and are the preferred choice for people who have not responded to analgesics[4] .

Triptans work by selectively stimulating 5-hydroxytryptamine receptors in the brain and have largely replaced ergotamine which has poor bioavailability (best rectally), has more side-effects and may be misused. Ergotamine should not be taken with triptans [1].

Contra-indications to triptans

- People with uncontrolled hypertension.
- People with coronary heart disease or cerebrovascular disease*.
- People with risk factors for coronary heart disease or cerebrovascular disease*.
- People with coronary vasospasm (Prinzmetal's angina)*.

Triptans should be taken during the headache phase (ineffective if taken too early before the headache has started). They have differing comparative efficacy, cost and tolerability, but there is no difference in safety. Those triptans with greater efficacy usually cause more side-effects. Unfortunately 20-50% of patients have a return of headache within 48 hours [1].

For patients with prolonged migraine attacks that frequently recur despite treatment with a triptan, combination therapy with an NSAID such as naproxen can be tried [4].

However, the benefit of combination of triptan and NSAID may not be a great deal more than using a triptan alone [5].

Choice of subsequent triptans can be made by looking at the data comparing speed of onset, length of effect, tolerability, cost, etc. However, unpredictability of response supports an individualised approach, which allows people to try different triptans for themselves.

Common problems

If a first-choice triptan relieves acute migraine pain but gives unacceptable side-effects:

- Use a lower dose of triptan - for example, rizatriptan 5 mg or eletriptan 20 mg (an off-label recommendation).

- Use a triptan with fewer adverse effects - eg, naratriptan 2.5 mg [1] .

If immediate relapse is a problem with triptans (very common with 20-50% relapse over 48 hours reported) [1] :

- A second dose can be effective but beware repeated rebound attacks and medication-induced headache.
- Some triptans have a longer half-life, although this does not seem to mean a lower relapse rate. Relapse rates are similar for all triptans.
- Use diclofenac or tolfenamic acid pre-emptively if relapse is anticipated.

If more than two triptans are ineffective or migraine is very frequent:

- Review the diagnosis.
- Review concordance and determine whether the drugs are being used correctly.
- If the diagnosis is correct and the drugs are being used correctly but are not effective, try combining triptans with standard analgesia with or without antiemetics and, if migraines are very frequent, consider using prophylactic drug treatment.

Sumatriptan is available for administration by oral, subcutaneous and intranasal routes [6] . Zolmitriptan is available for oral or intranasal administration. Almotriptan, eletriptan, frovatriptan, naratriptan and rizatriptan can only be given orally but there is a dissolvable form of rizatriptan [4] .

Other important scenarios

Migraine and patent foramen ovale

A study showed that nearly half of patients with migraine with aura have a right-to-left shunt due to patent foramen ovale [7] .

NICE currently advises against the use of percutaneous closure of patent foramen ovale for recurrent migraine because of inadequate evidence of efficacy. There is also evidence of a small incidence of well-recognised but sometimes serious adverse events, including embolisation (reported in less than 1% of patients) [8] .

Menstrual migraine

This is migraine occurring regularly two days before or after the onset of menstruation and at no other time. Migraine diaries over three months can differentiate it from the more common menstrual-associated migraine (migraine around the time of menstruation but not fulfilling criteria for menstrual migraine).

Treatment options include the usual options for treating acute attacks (analgesics, antiemetics and triptans) and hormonal treatments.

For women and girls with predictable menstrual-related migraine that does not respond adequately to standard acute treatment, NICE recommends consideringr treatment with frovatriptan (2.5 mg twice a day) or zolmitriptan (2.5 mg twice or three times a day) on the days migraine is expected. This is an unlicensed use for both drugs [3] .

Oral contraceptives may be considered if patients do not respond to or cannot tolerate typical migraine preventative medications. In patients with migraine with aura, however, NICE advises that they should be avoided, as they may add to the risk of stroke [3] .

Prophylaxis is the same as for migraine associated with other triggers.

Migraine and the combined oral contraceptive (COC) pill

Both are independent risk factors for ischaemic stroke, but the risk in the absence of other risk factors is very low [4] [9] .

Combined hormonal contraceptives should be used with caution in patients with migraine without aura if there are any further risk factors for arterial disease (eg, family history, diabetes, hypertension, smoking, age over 35 years or obesity).

Combined hormonal contraceptives should not be used for patients with migraine with aura (focal symptoms), severe migraine frequently lasting over 72 hours despite treatment, or migraine treated with ergot derivatives.

Women who suffer with migraine should report any increase in headache frequency or onset of focal symptoms.

Discontinue immediately and refer urgently to a neurology expert if any focal neurological symptoms not typical of aura persist for more than one hour.

The COC pill should be stopped immediately for any patient with:

- Serious neurological effects, including unusual severe, prolonged headache, especially if occurring for the first time or getting progressively worse.
- Sudden partial or complete loss of vision or sudden disturbance of hearing.
- Any other perceptual disorders or dysphasia.
- Bad fainting attack or collapse.
- Weakness, motor disturbances, very marked numbness suddenly affecting one side or one part of the body.

Migraine in pregnancy and lactation

Migraine often improves in pregnancy but returns to the normal pattern after birth. The emphasis in managing migraine in pregnancy is on avoiding drugs. Therefore, identifying and avoiding triggers, and relaxation therapy, might be explored.

For acute attacks, paracetamol is safe throughout pregnancy and for breastfeeding. Aspirin and ibuprofen should be avoided after 30 weeks of pregnancy (avoids the risk of premature closure of the ductus arteriosus). Aspirin should be avoided in early pregnancy and breastfeeding (risk of Reye's syndrome).

For nausea, prochlorperazine is unlikely to cause harm in pregnancy or when lactating. Metoclopramide and domperidone are likely to be safe in the second and third trimesters. NICE recommends that a triptan or an NSAID may be considered after discussing the woman's need for treatment and the risks associated with the use of each medication during pregnancy[3] .

Migraine with hormone replacement therapy (HRT)

The risk of stroke according to the evidence is not increased, but HRT can exacerbate migraine. Changes in type and dose of HRT may help[10] .

Long-duration migraine

This is rare and also known as status migrainosus when migraine lasts longer than three days. Naproxen or diclofenac are recommended.

Slowly developing migraine

A slow build-up may mean uncertainty as to whether migraine will start or not. Use simple analgesics and avoid triptans.

Medication-induced headache

This may occur for those with migraine who use regular medications for relief of headaches. See the separate Medication-overuse Headache and Headache Triggers article.

Emergency treatment at home

The British Association for the Study of Headache (BASH) recommends diclofenac 75 mg intramuscularly (IM) rather than narcotics, with or without chlorpromazine 25 mg IM for its sedative and antiemetic effect [1] .

Treatment for intractable migraine

Botulinum toxin type A [11] :

- NICE recommends botulinum toxin type A as an option for the prophylaxis of headaches in adults with chronic migraine (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.
- Treatment with botulinum toxin type A should be stopped in people whose condition is not adequately responding to treatment (defined as less than a 30% reduction in headache days per month after two treatment cycles) or has changed to episodic migraine (defined as fewer than 15 headache days per month) for three consecutive months.

NICE currently advises against the routine use of occipital nerve stimulation for intractable chronic migraine because, although there appears to be some efficacy in the short term, there is very little evidence about long-term outcomes and there is a risk of complications, requiring further surgery [12] .

NICE currently advises that there is only limited evidence for the benefit of transcranial magnetic stimulation (TMS) for the treatment or prevention of migraine and therefore does not recommend the use of TMS for routine clinical practice. Evidence on its safety in the short and medium term is adequate but there is uncertainty about the safety of long-term or frequent use of TMS [13] .

NHS England has agreed to fund the provision of a device called gammaCore®. This delivers a low-level electric current to the vagus nerve by placing the device on the neck [14] .

Prophylaxis

Too few patients with migraine are offered prophylaxis. If patients are getting two or more migraines a month, they should be offered prophylaxis. See the separate Migraine Prophylaxis in Adults article.

Further reading

- Pescador Ruschel MA, De Jesus O; Migraine Headache
- Jenkins B; Migraine management. Aust Prescr. 2020 Oct;43(5):148-151. doi: 10.18773/austprescr.2020.047. Epub 2020 Oct 1.

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