

# A 12-year-old girl with migraines

Commentary by **JAYNE ANTONY** MD(USA), FRACP, PhD

We ask an expert how she would manage this case of a girl with recurrent migraines.

## Case scenario

I recently saw a 12-year-old girl who has been having common type migraines on average once every two weeks for the past two months. Does she need to have any investigations? Is it appropriate to use the same sort of medication in an adolescent that one would use in an adult having recurrent migraines?

## Commentary

Migraine is very common in childhood and constitutes a large percentage of the outpatient practice of general paediatric neurologists. It is a gratifying condition to treat because most children can be helped. A significant percentage should be successfully managed by the family doctor, but there seem to be recurring problems in diagnosis or management that make anxious parents seek a specialist opinion.

Rather than recite textbook material, I would like to share management issues that I consider important. (Note, some suggestions may not be evidence based.)

## Diagnostic features

'Classical migraine' is migraine with aura and 'common migraine' is migraine without aura. Children mostly have the latter.

Features that are helpful to diagnosis in children are:

- severe disabling pain (unilateral pain is very much in favour of migraine, but children most often have bilateral pain)
- duration of several hours up to 24 hours
- photophobia or sonophobia
- gastrointestinal symptoms

- relief of pain by sleep
- normal condition between headaches
- normal physical examination, including blood pressure, visualising fundi and neurological examination.

Many doctors and families may feel anxious about the diagnosis itself, fearing that a brain tumour, aneurysm or something that the next door neighbour mentioned could be the real cause of the headache. In general, migraines are disabling and intolerable, but the most important factor in making a confident diagnosis is the contrast between the child being unable to function during the headache because of severe pain and/or vomiting and the child being 100% normal between headaches. Most parents understand that it is not logical that a brain tumour or any other sinister pathology would be likely to follow this scenario. This explanation, along with a thorough physical examination, will reassure most families.

Family history is important because over 70% of children will have a close relative with migraine. Many factors, from chocolates to hormones to change in weather, may stir up the genetic tendency, but these precipitants are not specifically the cause of a migraine headache (probably 50% of children have no identifiable triggers). I would estimate that a simple question such as 'Is there any migraine in the family?' will yield a false negative answer in over 25% of families. In other words, don't take 'no' for an answer. Ask if any close family member has had a headache at any time in their lives and to describe the features of that headache. Ask about symptoms that family members may not report as migraines – for example,

visual auras that have never or rarely been followed by headaches, a few headaches in a lifetime that may have had typical migraine features, migraine only in childhood or teenage years, and severe headaches only at 'that time of the month'.

## When to scan and when to refer

If there is doubt about the diagnosis and referral to a specialist is necessary, then it is up to the GP whether a CT or MRI should be ordered while waiting for a specialist appointment. The more the concern about the patient, the more readily should a scan be organised.

Complicated migraine (e.g. hemiplegic and basilar artery migraines) and migraine variants (e.g. cyclical vomiting, episodic torticollis and episodic vertigo) should be referred to a paediatric specialist.

## Acute treatment

I will not focus on acute treatment of the headache itself because family doctors usually treat them as well as or better than any specialist. Suffice to say that initial treatment is with simple analgesia such as paracetamol, paracetamol-codeine or ibuprofen, but it must be given as soon as the patient is aware in any way that the headache is imminent. It may be necessary to repeat doses every three hours for two further doses. Aspirin and phenothiazines (e.g. prochlorperazine) are generally avoided in young children. The use of triptans in children is beyond the scope of this article.

## Prophylaxis

The decision to use prophylaxis and for how long is often a vexed issue and guidelines are difficult to define. However, I think there are principles that may help in making a decision. It should not be forgotten in discussion with families that the common variety of migraine has no mortality or serious morbidity. Therefore, the most important factor is the degree to which the migraine is interfering with schooling and family activities and the distress it causes the young patient. If these

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factors are weighed up against the disadvantages of taking prophylactic treatment daily with possible side effects then an informed decision can be made with input by the family.

If it is decided that prophylaxis is worthwhile, it is important to explain that four to six weeks of treatment may be required before any benefit can be expected, and having a migraine a week or so after starting prophylaxis does not mean that treatment has failed.

Fortunately, once the decision is made to use it, children often respond to prophylaxis and the treatments are 'benign' in terms of serious or irreversible side effects.

I usually rely on one of three treatments. There are many others, but these are my preferences:

- **Riboflavin (vitamin B<sub>2</sub>).** This has been trialled in, as far as I am aware, a single double-blind trial in adult migraine patients, with favourable results.<sup>1</sup> No studies have been published in children, and my experience is anecdotal. I have been using it since 1998 and have been favourably impressed. I give 200 mg once daily. There are no real side effects, but some of my young patients cannot swallow the rather large tablets and tell me it tastes 'yuk'.
- **Pizotifen.** Trials of pizotifen (Sandomigran) in children have had variable results.<sup>2,3</sup> There is no specific dose recommendation, but I find one tablet (0.5 mg) twice daily is often needed, especially in school-aged children. Fatigue (so I'm told) is common in adults but, I observe, not so common in children. However, overeating definitely occurs in a significant percentage of children and then pizotifen cannot be continued.
- **Propranolol.** Probably the best and most convincing studies have been performed using propranolol (Deralin, Inderal) as prophylaxis in childhood migraine.<sup>2,3</sup> Doses up to 2 mg/kg/day are recommended. It is contraindicated in asthmatics and I avoid it if there is a

history of congenital heart disease or arrhythmias.

As with the decision to start using prophylaxis, the decision to stop using it rests in some ways with the family and patient. I tell them that (in my opinion) if preventive treatment works then ideally having six to 12 months of minimal or no headaches probably makes it more likely that when prophylaxis is stopped, or preferably tapered off, the problem may not recur, or at least not immediately.

### Diet

The jury is still out on diet and migraine. If ingestion of certain food leads predictably to a migraine then the course of action is simple. Does a strict elimination diet have a value? This diet when done properly is tedious in terms of time and willpower. I definitely do not consider it unless other methods have failed, which eliminates all but a small percentage of patients. I have observed successes using the diet in patients who have a combination of atopic and migraine 'genes'.

### Suggestions for this case

In the case of this 12-year-old patient, I would have the following questions:

- Since the migraines have occurred for the past two months, are there any relevant factors (i.e. school or family stresses or any changes in her life that would be responsible for the recent onset)? Has she had headaches prior to two months ago? Is this an exacerbation of a previous problem?
- What is the nature of the headaches (i.e. location, severity, nature of the pain, timing, gastrointestinal complaints, photophobia, sonophobia, relief by sleep)?
- Is there any family history?
- What is the level of functioning between headaches, and how much have they interfered with her life?

On examination, I would pay attention to her blood pressure, visual acuity and fundi, outstretched arms and finger-nose testing, tandem gait and ability to balance

on one foot, and walking on heels.

If the above analysis is satisfactory and the patient has truly had such a short history of recurrent migraines, I would advise on acute treatment of the headache, recommend a headache diary, and reassess in three months. No assessment is ever 100% accurate in 100% of patients, and mistakes can be made by even the most careful and astute clinician. Parents should always be encouraged to telephone or return to the doctor if unexpected symptoms appear, such as projectile vomiting, change in personality, excessive drowsiness, double vision and poor recovery between headaches.

### Conclusion

Common migraine in children can be managed by the family doctor in most instances. It is a paroxysmal disorder causing significant debilitating symptoms in a child who at other times is perfectly normal. Recognising this clinical scenario, examining the patient and reassuring the parents is an important first step in patient management. Family history of migraine is important and must be avidly pursued.

The decision to use prophylaxis for migraine is a judgement based on the degree of disruption the headaches cause to the child's life versus the difficulty of taking daily treatment and potential side effects of treatment.

If any doubt exists that the child has common migraine then a paediatric specialist should be consulted. **MT**

### References

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