MIPCA
MIGRAINE IN PRIMARY CARE ADVISORS
NUMBER 12 — SEPTEMBER 2005

Managing children and adolescents with migraine

Managing migraine in children and adolescents poses several challenges to the GP. Migraine is a common disorder in children (prevalence about 10%) that may present, at least initially, with symptoms atypical from those of the adult form. The diagnostic procedure needs to recognise this if it is to be successful. Treatment options are more limited than those available for adults. Some acute medications can be prescribed, but prophylactic medications are more problematic. Long-term follow up is required and healthcare professionals need to liaise with the patient, their parents or carers and peers, and with teaching and other healthcare professionals. This MIPCA newsletter (www.mipca.org.uk) provides guidelines for the management of migraine in childhood and adolescence designed for everyday use by the GP.[1]

Principles of care

The principles for managing migraine developed by MIPCA for use in adults[2] can be implemented with children, with some modifications. The basic principles are:

1. Recognition of headache as a problem.
2. Screening the patient, providing information and eliciting commitment to the care management process.
3. Differential diagnosis of headache.
4. Tailoring of treatment to the patient's individual needs.
5. Proactive follow up.
6. Using a team of healthcare professionals to provide management in primary care.

Recognition of headache as a problem

It is well known that relatively few migraine sufferers consult a GP for care. Recognition of headache as a problem in children therefore often falls on other people:

- The parent or carer
- Relatives and peers
- Teaching professionals (teacher, school nurse or support staff)
- Other healthcare professionals (e.g. pharmacist, community nurse, optician, dentist or family planning / youth health advisor).

It is important that these people advise the child and their family to consult with the GP when headache becomes a problem. Things to look out for are reduced performance or absence from school and behavioural changes. Of course many things can cause these changes to occur, but headache is frequently involved.

Screening

Once in the primary care system the patient and family can be provided with information relevant to the condition and their commitment to long-term management elicited. Then the GP can diagnose the patient and prescribe appropriate treatments.

Differential diagnosis

GPs require a rapid means of diagnosing children with migraine and other headaches, which needs to be adaptable to cover the sometimes atypical symptoms that occur. A validated, rapid, 6-item screener for diagnosing headache is available in the UK (Figure 1).[2,3]

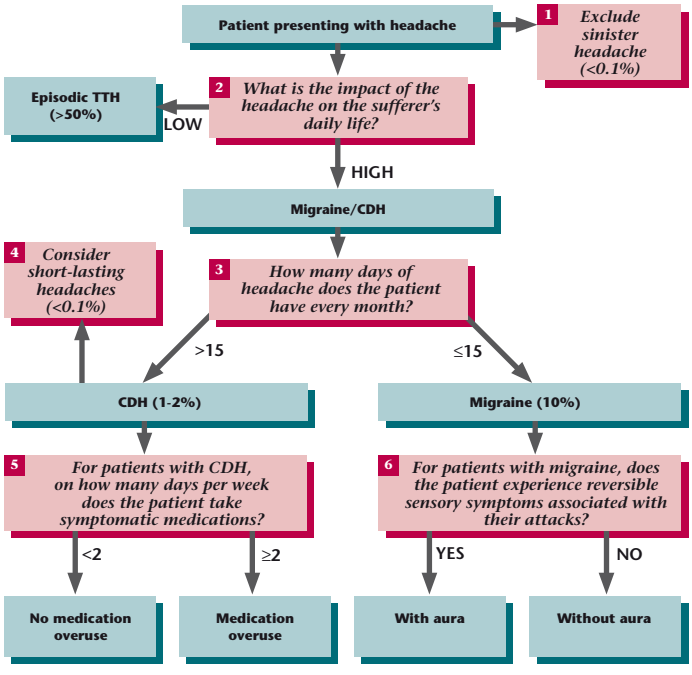

Figure 1. A screening algorithm for the diagnosis of headache in primary care.[2,3] The percentages in parentheses refer to the approximate prevalence of the headache in children. TTH = tension-type headache; CDH = chronic daily headache.

Differential Diagnosis (continued)

Notes:
Sinister or worrisome headaches arise as a consequence of serious and life-threatening illnesses and parents may be particularly worried about the possibility of meningitis or a tumour in their child. In general, sinister headaches in children, which are very rare, are associated with new onset or very severe ('worst ever') headaches, associated with other symptoms (e.g. rash, neurological deficit, vomiting and pain or tenderness, accident or head injury, infection or hypertension) that do not resolve when the headache disappears, and in children aged < 5 years.[4] Investigational procedures are very rarely indicated, generally for patients with an abnormal neurological exam.

Impact can be assessed by general questioning or using a specific impact questionnaire (e.g. the PedMIDAS questionnaire that is designed for use by schoolchildren).[5]

Symptoms associated with migraine in pre-adolescent and post-adolescent children can differ from each other and those usually seen in adults. Table 1 shows the types of symptoms to look out for in these patient groups.

Symptom	Migraine in pre-adolescent children	Migraine in post-adolescent children	Migraine in adults
Duration	1–4 hours	1–4 hours	4–72 hours
Location of the headache	May be absent	Frontal	Unilateral
Associated symptoms	Paroxysmal vertigo Cyclical vomiting Paroxysmal abdominal pain Recurrent episodes of limb pain Nausea, photophobia and phonophobia may be absent	Nausea, vomiting, photophobia and phonophobia and sleep are common	Nausea, photophobia and phonophobia common; vomiting uncommon
Prodromes and trigger factors		Common	Common
Aura	Infrequent	Infrequent	Infrequent
Family history of migraine	Common	Common	Common

Table 1. Features to look out for in the diagnosis of migraine in pre-and post-adolescent children, compared with adults.[1]

The GP should be aware that migraine in young people is often associated with other illnesses, particularly psychiatric disorders. Co-morbid depression, anxiety, somatisation and emotional withdrawal can all contribute to the burden of illness.

Choosing an appropriate treatment

An algorithm for the management of migraine in children is shown in Figure 2. Patients should be divided into those with mild-to-moderate attacks and those with moderate-to severe attacks, based on the impact, frequency, duration, pain severity, and non-headache symptoms associated with the attacks. Treatments should then be selected that are appropriate to the patient's needs.

Non-pharmacological therapies can be recommended for all patients. Lifestyle changes to minimise trigger factors and adoption of regular eating and sleeping habits are all likely to be beneficial. In addition, biofeedback, relaxation and cognitive behavioural therapies have all demonstrated efficacy, and may be used if available locally.

All patients should be prescribed a package of ***acute medications***, to treat the initial attack and for rescue when the initial therapy fails. Paracetamol and ibuprofen are suitable as initial therapy for all age groups, due to their low-risk profiles. Alternative first-line therapies may include:

- From 10 years – buclizine plus paracetamol plus codeine (Migraleve®) at half the adult dose.
- From 12 years – paracetamol plus metoclopramide (Paramax®) at half the adult dose.
- From 14 years – diclofenac (Voltarol Rapid®) at half the adult dose.
- From 16 years – aspirin at the adult dose.

Sumatriptan nasal spray 10mg is recommended for use as second-line therapy and as rescue medication. This dose of sumatriptan is now licensed in the UK for young people aged 12–18 years. Other triptans are sometimes used off-label for post-pubertal adolescents who are hence being treated as adults. In addition to pharmacies, stocks of these drugs could potentially be held by school nurses for emergency use.

There is little objective clinical evidence for the efficacy of ***prophylactic medications***, although pizotifen is frequently used in the UK. Unless the GP is experienced in headache management, it may be best to refer patients with frequent migraine attacks (≥ 4 attacks per month), as well as those who fail on the above acute medications.

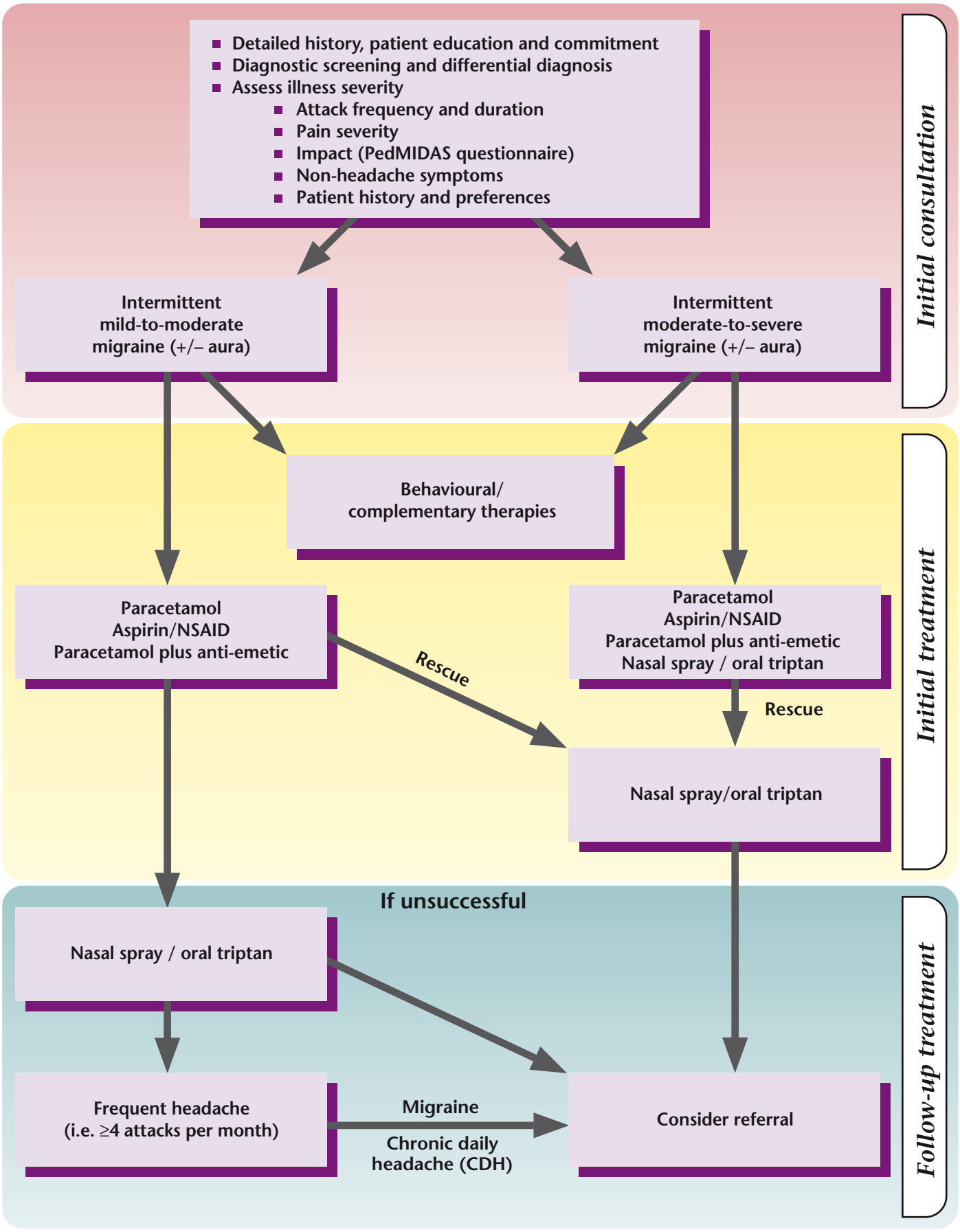

Figure 2. An algorithm for the management of migraine in children.[1]

Follow up

Proactive follow-up is recommended for migraine patients, with a series of appointments being made for the patient and chasing up if any are missed.[2] This is especially important for children with migraine, as their symptoms may change as they grow up, from a childhood form to the typical adult form of migraine, development of chronic headache or even to disappearance of the condition. Headache diaries should be used to record patients' attacks, and the PedMIDAS questionnaire is available for assessing impact.[5] Patients refractory to the available treatments may need to be referred to a specialist physician. A headache specialist or neurologist with an interest in headache may be preferable to a paediatrician.

Management of other headaches in children

Tension-type headaches (TTH) and chronic headaches (mostly chronic migraine with some chronic TTH) are both common in children, although cluster headache is uncommon. Medication overuse headache is also uncommon, although headaches related to the intake of caffeine (particularly in cola drinks), analgesics, alcohol and recreational drugs may be more frequent than is generally recognised. Headaches secondary to acute sinusitis and eyestrain are also seen.

Chronic headaches in children are not well understood, but may be associated with other chronic illnesses, stressful life events, psychiatric disorders and substance abuse. These children need careful evaluation and referral is probably the best option for management. Unfortunately, there is currently a lack of effective treatments for this condition.

The headache management team

Experience has taught us that the management of headache in primary care is best organised as a team.[2] The GP, practice nurse and ancillary workers provide the core team, in association with a practice pharmacist, if available. Community pharmacists and nurses, opticians, dentists and complementary practitioners form important associate members of the team, and can identify headache sufferers and feed patients into the core team.[2] For children, family, friends, school staff and workers in youth advisory / family planning clinics can be added to the list of associates. In turn, the GP can refer the patient to a headache specialist or neurologist if necessary.

Provision of headache education

Providing accessible, user-friendly information to children and their families can be challenging. Children can be hard to target as they obtain much of their information by word-of-mouth. While adults can be contacted via leaflets at GP surgeries, newspaper and magazine articles, health websites and medical television programmes, children usually can not. We need to be much more innovative to grasp their attention.

Possibilities include:

- Using celebrities who children can relate to.
- Providing advice via mobile telephones.
- Using child-friendly websites and publications. The Migraine Action Association (www.migraine4kids.org.uk) and the Migraine Trust (www.migrainetrust.org) have produced useful website-based materials for use by children.
- Using schools to disseminate information.

References

1. Dowson AJ, Lipscombe S, Carter F et al. Managing children and adolescents with migraine and other headaches. Headache Care 2005; in press.
2. Dowson AJ, Lipscombe S, Sender J et al. New guidelines for the management of migraine in primary care. Curr Med Res Opin 2002;18:414–39.
3. Dowson AJ, Turner A, Kilminster S et al. Development and validation of the headache Diagnostic Screening Questionnaire (DSQ): a new questionnaire for the differential diagnosis of headache for use in primary care. Headache Care 2005;2:111–18.
4. Dowson AJ, Sender J, Lipscombe S et al. Establishing principles for migraine management in primary care. Int J Clin Pract 2003;57:493–507.
5. Hershey AD, Powers SW, Vockell AL et al. PedMIDAS: development of a questionnaire to assess disability of migraines in children. Neurology 2001;57:2034–9.

Acknowledgements

This newsletter was sponsored in part by an unrestricted educational grant from AstraZeneca. Dr Pete Blakeborough was the medical communications consultant. Sue and Paul Burt designed the newsletter.

If you are interested in joining MIPCA please visit **www.mipca.org.uk** or contact Ms Rebecca Salt, Merrow Park Surgery, Kingfisher Drive, Merrow, Guildford GU4 7EP: Tel 01483 450755: Fax 01483 456740.