

Headache in primary care: how important is diagnosis to management?

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SUMMARY

Headache is a common presentation in primary care. The classification of headache was overhauled by the International Headache Society (IHS) in 1988, and the past decade has seen rapid growth in the understanding of headache disorders. The IHS places particular importance on precise headache diagnosis. This paper discusses the relevance of such an approach to primary care. A review of the literature revealed a dearth of evidence regarding headache management in primary care settings. The evidence from other settings is considered and gaps in the literature highlighted.

Keywords: headache; literature review; migraine; diagnosis.

Introduction

HHEADACHE is a common symptom, with a spectrum in frequency and severity from mild or rare occurrences that disappear spontaneously to severe and frequent disabling headache. It is a common presentation in primary care, and the overwhelming majority of patients are not referred to secondary care.¹ In the past decade there have been major developments in the understanding of headache syndromes and in possibilities for treatment. Experts suggest that the treatment of headache needs to be tailored to the diagnosis and, if this is achieved, management will be more effective.² It has been suggested that precise diagnosis is a patient's right. The Task Force of the International Headache Society (IHS) have suggested a 'Headache Sufferers' Bill of Rights',³ the first point of which is that the headache sufferer has the right to know his/her headache diagnosis as precisely as possible. We have reviewed the literature on headache from a general practice perspective and found a striking lack of evidence on management of headache in primary care settings.⁴

This paper discusses headache management in the United Kingdom (UK) general practice context, with an emphasis on the place of diagnosis. Initially, there is discussion of the IHS classification of headache, the diagnostic process in primary care, and evidence from other settings on the influence of diagnosis on management. Following this there is discussion of aspects of presentation and management particular to primary care that we believe merit consideration. The questions and gaps in the literature that are identified are necessarily informed by the experience of the authors as general practitioners (GPs).

Literature review

The literature review was initiated as part of a project to inform the creation of quality indicators for use in general practice.⁴ The aim was to provide up-to-date evidence from the literature relevant to the presentation and management of headache in British general practice. Articles were identified using Medline and EMBASE with searches of the 1991 to 1995 and 1996 to 1999 databases and The Cochrane Library. Keywords used in the search were: 'headache' (headache, vascular headache, tension headache, cluster headache), 'migraine', 'epidemiology', 'sensitivity and specificity', and 'treatment'. Abstracts were scrutinised by the corresponding author and the papers were read by both authors. The review was hindered by the lack of evidence from general practice and community populations and evidence was extrapolated from specialist sources. The quality of evidence was graded according to established criteria.⁵ Reference lists were scrutinised for further relevant references and neurologists and GPs with an interest in

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headache reviewed the findings. Specific searches were also made using possible differential diagnoses; for example, giant cell arteritis and temporomandibular joint dysfunction.

Classification of headache

The diagnostic process can be defined as the conversion of the symptom presented by the patient to a category of illness. The IHS overhauled the classification of headache in 1988.⁶ The classification that developed has been hugely influential and has been seen as a major step forward, resulting in comparability of epidemiological and clinical research. A hierarchical classification was established, with headaches classified under 13 headings and new terminology with operational definitions introduced. The first four headings of the classification are of primary headaches, i.e. headaches not associated with organic disorders. The other nine are of secondary headaches. The classification focuses on the exact definition of the prominent variables related to the different diagnostic entities, particularly the temporal pattern, the description of pain and associated signs and symptoms, as well as related phenomena.⁷ The classification and an example of diagnostic criteria are shown (Box 1). The success of the classification in identifying homogenous groups in terms of biochemistry, genetics, cerebral blood flow studies, and responses to medication is seen as a measure of its validity.⁸

There is a spectrum of opinion among experts as to the use of the classification in clinical care. The hierarchical structure has been applauded precisely because it can be used at different levels of sophistication, and also within general practice.^{9,10} Pryse-Phillips and colleagues suggest using a semi-structured interview technique based on the IHS classification,² while Goadsby and Olesen⁹ state that the diagnostic criteria were intended for research and teaching, but are a useful starting point in clinical care. Pearce¹⁰ expresses a different view, that the classification is too cumbersome for clinical practice, and Tietjen¹¹ suggests that an exhaustive classification that is easy to apply is a contradiction in terms.

Principles of diagnosis in primary care

While careful categorisation of headache type has obvious advantages at research or specialist level, its appropriateness at primary care level is questionable.

One of the mechanisms by which primary care operates in improving health status is related to its gatekeeper role.¹² The effect of a filter at primary care level has been judged as protective for patients in reducing both unnecessary procedures and adverse effects. However, a consequence of this filtering is that doctors at different levels see different population groups and they have differing perspectives, skills, and roles.

Marinker has contrasted the diagnostic roles of the GP and the specialist.¹³ The role of the specialist is to reduce uncertainty, to explore possibility, and to marginalise error. The role of the GP is to accept uncertainty, to explore probability, and to marginalise danger. The need to marginalise danger is likely to be a priority for GPs. Although the epidemiological evidence is that secondary headache is most

1. Migraine
 - 1.1 Migraine without aura
 - (a) At least five attacks
 - (b) Attacks lasting four to 72 hours
 - (c) Two of the following:
 - unilateral
 - pulsating quality
 - moderate to severe intensity
 - aggravated by physical intensity
 - (d) One of the following:
 - nausea and/or vomiting
 - phonophobia
 - photophobia
 - (e) Typical history and normal (physical and neurological) examination, suspected lesion ruled out by appropriate investigation
2. Tension-type headache
3. Cluster headache
4. Miscellaneous headache unassociated with structural lesion
5. Headache associated with head trauma
6. Headache associated with vascular disorder
7. Headache associated with non-vascular intracranial disorder
8. Headache associated with substances and their withdrawal
9. Headache associated with fever
10. Headache associated with metabolic disorder
11. Headache associated with disorders of cranium, neck, eyes, ears, nose, sinuses, and teeth
12. Cranial neuralgia, nerve trunk pain and deafferentation pain
13. Headaches not classifiable

Box 1. IHS headache classification.

commonly owing to excess alcohol, medication misuse, fever, and disorders of the nose and sinuses,¹⁴ the need to rule out potentially serious but uncommon conditions such as haemorrhage and malignancy will influence a non-specialist's actions. Broad categories of diagnosis, such as 'serious' or 'non-serious', may be adequate, and in these circumstances choosing the appropriate course of action, such as referral, may be more important than the precise diagnosis.

The diagnostic approach described by experts is a comprehensive account of history taking and examination required to reach a specific diagnosis.⁹ However, this approach does not fit the reality of a general practice consultation. Indeed, the diagnostic approaches of most clinicians can be labelled as 'pattern recognition' or 'hypothetico-deductive'.¹⁵ Moreover, the diagnostic outcome in primary care is as likely to be a strategy of therapeutic trial, or 'watch and wait', as of a specific diagnosis.

An approach that may be more helpful to primary care professionals is seen in a descriptive study of the diagnosis of brain tumour.¹⁶ In this retrospective study, patients and spouses were interviewed. While the patients described symptoms in terms of acute onset and bodily experiences, the spouses gave histories of months to years of diffuse preceding symptoms and changes. The presence of the spouse at the primary care consultation contributed to shortening the time to diagnosis, and the authors suggest that the presence of the spouse at consultation may be a crucial indication worth reflecting on.

Evidence about diagnosis and management

Choice of treatments

Precise diagnosis is important if it influences management

and outcome. Some indirect evidence is available from research on therapeutic measures for headache. The widespread use of the IHS diagnostic criteria in patient recruitment for clinical trials allows comparison between drugs. There is good evidence for the beneficial effects of using the same drugs, i.e. aspirin and non-steroidal anti-inflammatory drugs (NSAIDs), on the most common primary headaches: tension headache and migraine.¹⁷⁻²⁴ This suggests that accuracy of diagnosis is not critical, particularly for those patients at the milder end of the spectrum.

Dosage and formulation is important. In migraine studies the dose of aspirin used has been of the order of 900 mg, and its effectiveness is enhanced by an effervescent form and combination with anti-emetics. In these dosages aspirin and NSAIDs compare well with the triptans. In a double-blind multi-centre trial, water soluble aspirin with metoclopramide has been shown to be as effective as 100 mg of oral sumatriptan in reducing headache intensity and in reducing autonomic features, such as nausea, and it also had fewer adverse effects.²⁵ Oral diclofenac K 50 mg provided more rapid relief than oral sumatriptan in a double-blind, randomised crossover trial.²⁶

In prophylactic treatment, tricyclics are effective in reducing the frequency and severity of both migraine and chronic tension-type headaches.^{27,28}

Available evidence would suggest that some modalities of treatment may require diagnosis that is more accurate. Perhaps the most important development in migraine treatment has been the emergence of the triptans. Increasing evidence on their use has shown them to be safe and effective.^{29,30} They are, however, more expensive than simpler analgesia and, as shown, simpler analgesia taken in appropriate doses and formulation can be as effective. Bove and Nilson have shown spinal manipulation to be effective in cases of cervicogenic, but not in episodic, tension-type headache,^{31,32} and consequently they suggest that precise diagnosis is important to direct treatment with physical therapies.³³

Patient outcomes

There is little direct evidence as to the consequences for patients of different diagnostic strategies. A one-year prospective study of patients presenting with headache to family physicians in Western Ontario before the introduction of the present classification³⁴ found no predictive value in precise headache diagnosis. The outcomes used were the resolution of headache and days off work in one year. Severity of headache, rather than diagnosis, was predictive of poor outcomes. A more recent study of headache diagnosis in a Health Maintenance Organisation (HMO) compared diagnoses made by primary care physicians and the diagnoses made using structured questionnaires. Primary care physicians usually recorded only one headache type, while the use of a structured questionnaire suggested patients had more than one headache type,³⁵ but no follow-up data are available to indicate the effects of making multiple diagnoses on outcome. In a study of psychosocial and behavioural characteristics in chronic headache patients, headache intensity and frequency was a more powerful predictor of psychological ratings than diagnosis.³⁶

The more general effects of labeling an individual as a patient with an illness also need to be addressed. This may have deleterious effects,³⁷ and such a course of action should not be adopted without evidence of an overall benefit.

Referral to secondary care

Headache and migraine head the list of diagnoses in patients seen by neurologists.

Although the minority of patients seen in primary care with headache are referred to secondary care,¹ the prevalence of headache is so high that headache accounts for over one-fifth of patients seen by neurologists.³⁸ Changes in activity in general practice could have an impact on secondary care services. The British Association of Neurologists' view is that most patients can be treated in general practice.³⁹ However, we do not know whether referral is associated with uncertainty on the part of the doctor, an inability to rule out serious disease, or with patient factors. An improvement of care in general practice might reduce this level of referral, but in other specialist areas knowledge of the practitioners has not been shown to be associated with a decrease in referral.^{40,41} Primary care access to neuroimaging might be more important than diagnostic precision if referral is to be reduced.

Illness behaviour

One of the deficiencies of the literature from a general practice perspective is a dearth of information on why patients consult. Large community epidemiological studies have shown that the lifetime prevalence of headache is 96%.⁴² Headache was the symptom most often dealt with by lay medication in community studies.^{43,44} Only 16% of patients with tension-type headache and 50% of all migraine patients consult their GP. In other conditions consultation behaviour is associated with perceived seriousness of the symptom, severity of symptoms, effect on quality of life, and other events in patients' lives and patients' health beliefs.⁴⁵

If seriousness is a concern, the headache patient in primary care may be satisfied to learn what type of headache he does not have, and to understand the meaning of his headache from his personal perspective. There is some evidence from secondary care that attention to a patient's viewpoint is important. Fitzpatrick and Hopkins^{46,47} followed up headache patients who attended a neurology clinic. One of their conclusions was that there is potential for conflict between the perspectives of patients who required attention to their individual and complex combinations of organic and psychosocial factors, and those of doctors with their agenda of diagnosis and treatment. The traditional skills of the GP in examining social and psychological perspectives of illness should not be downplayed in favour of more precise physical diagnoses.

An alternative approach for primary care

Rather than improve the accuracy of diagnosis in headache patients, it may be more appropriate to consider targeting patients at the more severe end of the spectrum. Epidemiological studies of chronic daily headache have found a prevalence of 5% across different community popu-

lations.^{48,49} About 18 million working days are lost in the UK each year with migraine⁵⁰ and the most disabled half of migraine sufferers account for more than 80% of all work loss.⁵¹ The evidence from community studies is that recurrent headache sufferers are often not using acute therapy optimally. A Canadian study of medication patterns found that both tension headache and migraine sufferers waited for an hour before taking medication and until the headache had become intense.⁵² Only one-fifth of frequent migraine sufferers attending an HMO in New York used prophylaxis.⁵³ A model of care that identifies headache as a chronic problem may be required for these patients. In the case of asthma, for example, a positive diagnosis and the need to regularly review treatment to control the condition, as well as the ready availability of information and suitable diaries in which to record symptoms, is explicit. Indeed, experts recommend the use of headache diaries in the assessment and treatment of headache,⁵⁴ but we are not aware of their systematic use in general practice.

Conclusion

Headache undoubtedly places a burden on individuals and society. The aim of the IHS in promoting precise diagnosis is to improve quality of care for headache patients. At present there is no evidence available to support or refute this approach to diagnosis and management in primary care. From the evidence that is available, targeting those at the more severe end of the spectrum for precise diagnosis and treatment may be worth considering. Current developments, such as GP specialists, might be an appropriate way of delivering such a targeted service within primary care. However, such developments need to be informed by robust evidence about consultation behaviour, the natural history of headache as presented in primary care, and the effect of diagnosis on referral and patient outcomes.

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