Headache is a common complaint, with a lifetime prevalence in excess of 90% of the population. In clinical practice a correct diagnosis and the identification of secondary causes is uppermost in both primary and hospital care. Secondary causes are rare (Table 1), and represent only a small percentage of cases. The evaluation and recognition of ‘red flags’ (Table 2), will identify those patients who require further investigation and neuroimaging. Improved access in recent years to hospital radiological services for both CT scan brain and MRI brain has enabled the GP to thoroughly investigate headache patients and avoid referrals to outpatient clinics for the sole purpose of neuroimaging. Radiological access needs to be further rolled-out nationwide and is in keeping with the primary care strategy.

Migraine
Migraine is defined as a benign neurological disorder with recurrent attacks of severe headache with autonomic and neurological symptoms. It affects 10-12% of the population and is three times more common in women. The average attack rate is one to two attacks per month and 10% get weekly attacks. Duration varies from 4-72 hours and usually last up to 24 hours. Migraine can be broadly divided into two groups: migraine with aura (20-25%) and migraine without aura (75-80%).

The earliest symptom is now recognised as the prodromal phase and has a collection of symptoms, which are present in 60-70% of patients. These consist of tiredness, fatigue, yawning, mood change, cravings for certain foods and fluid retention.

Migraine with aura
The aura consists of transient focal reversible neurological symptoms of variable duration lasting from 5-60 minutes. The commonest aura is visual which occurs in one or both eyes and is characterised by an expanding scotoma, fortification spectra, flashing lights and zigzag lines. This may be followed by a migratory sensory parasthesia, usually beginning in one arm and ‘marching’ up to the face, lips and tongue. Other aura symptoms sometimes present include dysphasia and if the patient has motor symptoms it is defined as hemiplegic migraine. The aura symptoms typically precede the headache but can coincide or persist into the headache phase.

Migraine without aura
The headache is the most disabling feature of a migraine attack. It is unilateral in 70% and can extend from the frontal to the occipital regions and frequently switches sides during the attack. It can be gradual or abrupt in onset and typically worsens as the attack progresses. In approximately 30% it is present and begins on awakening in the morning. The commonest description is that of a throbbing / pounding / pulsating headache which is exacerbated by movement. Most patients describe it as being moderate to severe in intensity. Nausea accompanies the headache in 80% and leads to vomiting in about half, which in itself can provide relief and help terminate an attack. Most patients also complain of photophobia and phonophobia.

Other migraine symptoms are osmophobia (intolerance to strong odours) and cutaneous allodynia at the site of the headache (perception of pain from a non-noxious stimulus such as light touch).

Trigger factors
Trigger factors are identifiable in up to 40% of patients and many attacks occur spontaneously without any specific trigger. Known triggers are listed in Table 3, and frequently it can be a

Table 1: Secondary causes of migraine
- Intracranial aneurysm
- Malformation
- Brain tumour
- Meningitis
- Giant cell arteritis
- Post-traumatic headache

Table 2: Red Flags
- First or worst headache – ‘thunderclap headache’
- Neck stiffness
- Projectile vomiting
- New onset headache over age 55
- Progressively worsening headache
- ‘Side-locked’ unilateral headache
- Alteration in level of consciousness
- Abnormality on neurological examination
- Tenderness in temporal artery in older patients
- Visual disturbance and loss in older patients
A combination of triggers which precipitates an attack in susceptible individuals.

**Treatment**

All headache patients need reassurance and advice pertaining to their headache diagnosis, as many patients fear a secondary cause. Migraine is a recurrent headache disorder and therefore patients are asked to keep a headache diary to monitor the frequency, duration of headache and associated symptoms, time to headache relief, identification of trigger factors and the efficacy of acute and preventative therapies.

**Acute therapies**

Migraine patients are well known to self-medicate and most patients move between over-the-counter preparations and the specific acute migraine therapies, the triptans. Over-the-counter preparations are effective acute therapies for approximately one third of migraineurs. Soluble aspirin in high dose combined with an anti-emetic is the most evidence-based and recommended first-line therapy. The triptans (5HT1B/1D) receptor agonists have been available since the late 1990s and there are now six licensed for use (sumatriptan, zolmitriptan, frovatriptan, eletriptan, almotriptan and naratriptan). They provide headache relief in 60-70% of patients within two hours and it is important to take them as early as possible after the onset of the headache. Patients need to treat at least three attacks to evaluate the efficacy of any triptan and patients may also find one triptan superior to another in accordance with personal preference. The triptans are contraindicated in patients over the age of 65, established ischaemic heart disease and uncontrolled hypertension.

**Preventative therapies**

Preventative therapies are indicated when patients experience at least two attacks per month and are unresponsive or poorly responsive to acute therapies. All of the current preventative drugs (Table 4) for migraine were identified serendipitously while being used for other conditions.

**Chronic migraine**

Ten per cent of episodic migraine patients progress from intermittent, episodic attacks to chronic migraine, which is defined as a headache which occurs on 15 or more days per month, has been present for at least three months and lasts for >4 hours. In addition, eight of the headache days retain many of the characteristics of the episodic pattern. Risk factors for chronic migraine are listed in Table 5.

The management of these patients is particularly challenging and where medication-overuse co-exists, patients need to be detoxified either by tapering the use of analgesics to no more then twice a week or abruptly stopping them. In addition, patients are prescribed preventative therapies, and non-drug approaches such as relaxation therapies, stress management, physiotherapy, and exercise are important adjunct measures.

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