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This booklet is a brief excursion through some of the most common headache conditions seen in clinical practice. It has been written with the primary care and non-specialist physician in mind and presents, in a simple format, information that may help to make a differential diagnosis in any patient presenting with headache.

The differential diagnosis of headache, in contrast to many other medical conditions, depends almost entirely on the provision of a clear patient history and the ability of the doctor to distinguish some sort of headache pattern from a jumble of potentially confusing symptoms volunteered by the patient. However, just a few straightforward questions may illuminate the decision-making pathway considerably, and it is upon these important questions that this booklet is based.

The pocket-sized diagnostic guide at the front of the booklet contains a diagnostic algorithm that progresses towards possible diagnoses of a range of headache conditions. It is designed to help the doctor to identify headache disorders and to help the clinician to choose a treatment option.

The World Health Organization has defined headache as a disorder associated with pain that is often disabling and distressing. The International Headache Society has defined headache to be any disorder characterized by pain in the head, neck, and/or scalp, commonly associated with nausea and vomiting, sensitivity to light and sound, but is not caused by another condition.

The booklet should be a useful reference guide to help nonspecialists learn more about the intriguing subject of headache and its treatment. It should also be a useful tool for the clinician who is interested in improving the management of their patients with headache disorders, as well as providing recommendations for whom to refer for specialist assessment.
Headache is a medical condition that frequently causes alarm and fear. Many patients who suffer from regular and/or severe headache attacks are afraid that they may have a tumour or some other serious disorder. The above statistics indicate how rare brain tumours really are in clinical practice, and this information can be used to reassure any patient who is distressed about the possibility of a tumour. Moreover, it has been estimated that only 0.004% of acute headache episodes are symptoms of underlying serious disease.

The burden of headache management is shared between the primary care physician and the specialist. And it is a heavy burden, not only from the point of view of workload but also because there is no consensus on what constitutes ideal headache management. Clearly, some headache conditions require specialist assessment and treatment; the majority of headache patients, however, could be managed successfully by their family doctors.

**HEADACHE DIAGNOSIS**

Establishing a diagnosis when a patient presents with headache depends almost entirely on taking an accurate patient history. This is reinforced by the fact that there is no objective measure of headache. However, by asking specific questions to determine how long the headaches last, how often they occur, where the pain is located and what the accompanying symptoms are, a headache pattern will often emerge. If the history-taking is supplemented by relevant physical examinations, a provisional diagnosis should be possible.

It is important, however, to realise that most patients have a poor memory for past headache episodes and, for this reason, it may not be possible to make a diagnosis at the first consultation. Often, the picture is clouded by the patient describing a mixed headache syndrome. If patients are not confident of their headache history, a diary card is a useful means of collecting information prospectively and they should be asked to return with their cards for a full assessment after 6–8 weeks.

It may also help to bear in mind some accepted diagnostic criteria for headache—several of which have been proposed in the past to aid both clinical practice and headache research. The most recent guidelines for the classification and diagnosis of headache disorders were published in 1988 by the International Headache Society. Although the full document stretches to almost 100 pages, the main features of the headache conditions most likely to be seen in general practice can be condensed into a small number of salient characteristics which should help differentiate between headache conditions. The International Headache Society’s diagnostic criteria will be referred to in the relevant sections of this booklet where it is believed they clarify the diagnosis.

**TAKING A HEADACHE HISTORY**

Since physical examination rarely reveals any abnormality in headache patients, a careful, systematic history-taking is vital if diagnosis is to be accurate. It is recommended that the most convenient way to take a full headache history is to generate a routine set of questions and to record the information systematically. Suggestions for appropriate headings are made below.

**Age of onset**

Benign syndromes such as migraine, tension-type headache and cluster headache usually begin before middle age. However, while most headaches beginning after or during middle age are not dangerous, the ominous causes of headache do occur more frequently with advancing age. For instance, temporal arteritis, leaking aneurysms and brain tumours are all more prevalent in people over the age of 35 years. The moral of this is that you should be highly suspicious of any headaches occurring for the first time after the age of 35 years.

**Duration of complaint**

The length of time a patient has been experiencing the headache or headaches is an important guide as to whether the condition is likely to be a malignant or progressive neurological disorder requiring further investigation.

The sudden onset of severe headache with impaired consciousness or focal neurological signs suggests some serious illness such as subarachnoid haemorrhage or meningitis (discussed at greater length in the chapter on Headache Danger Signals). In contrast, a patient who has been troubled by headache for many years is likely to have some innocent form of vascular headache such as migraine or tension-type headache.

Lying somewhere in between these two categories are those headaches which are most difficult to interpret—those that have recently developed over several days, weeks, or months. The subacute headache usually has an innocuous explanation such as new-onset migraine or tension-type headache, but more serious causes such as temporal arteritis or increased intracranial pressure should always be considered in this situation.

**Frequency and duration of each headache**

These two factors define the temporal pattern of headache which is so important for the purposes of differential diagnosis. They will help to distinguish episodic headaches such as migraine and cluster headache from the chronic headaches of tension-type headache or drug rebound.

**Site**

Tension-type headaches are almost always diffuse and bilateral. Migraine may sometimes be bilateral, but is more often unilateral. Cluster headaches are always unilateral.

**Quality**

Pain quality and severity are the most important and subjective aspects of the headache history, and for this reason cannot be relied on to assist your diagnosis.

**Time of onset**

This may be important since some headache conditions such as cluster headache characteristically awaken the patient from sleep, whereas others such as tension-type headache seldom do.

**Associated phenomena**

The presence or absence of gastrointestinal symptoms, hypersensitivity to light (photophobia) or sound (phonophobia) and neurological symptoms (visually disturbance, dizziness, weakness) should be established. Look also for symptoms of arthralgia, fever or malaise which all signal the presence of a systemic disease such as temporal arteritis or an infection.

**Aggravating and relieving factors**

These can sometimes be extremely important diagnostic features. For example, if the headache is of intracranial origin, the pain may worsen if the patient coughs or strains, or adopts the ‘head low’ position. Typically, patients suffering from migraine lie quietly in a darkened room whereas patients with cluster headache cannot remain still and are often seen pacing around.

**PERFORMING A PHYSICAL EXAMINATION**

Non-neurologists are often daunted by the prospect of performing a full neurological examination on every headache patient. This is not necessary. Here is a checklist of points to assess, which should take no more than 5 minutes to cover and is perfectly adequate:

- Does the patient look ill?
  This is a very subjective assessment to make, but general physicians are very good at judging this. It is also important (especially in children) to measure body temperature.

- Is the patient mentally alert?
  If the patient can give a reasonably coherent and consistent account of themselves and their complaints without too much assistance from the
physician, there is probably little wrong with their mental state. Testing a patient on historical dates or philosophical problems is tempting, but unnecessary.

- Is there any evidence of meningeal irritation or increased intracranial pressure?
  Flex the neck and check the optic fundi for papilledema to confirm this.

- Are the cranial nerves normal?
  Check that the pupils are equal and reactive and that the face moves symmetrically when the patient talks and laughs. A pin-prick should be felt equally well on both sides of the head and face. The voice and speech should be normal and the tongue should protrude along the mid-line. Very little formal examination is required to ascertain all these factors.

- Are strength, reflexes and coordination normal?
  Does the patient have equal strength biceps and hand grip, and ankle and toe dorsiflexion? Can the patient feel a pin-prick equally in each hand and foot? Are the biceps and knee jerks symmetrical? Do the toes go down? Does the patient stand and walk normally?

- General examination
  Does the cranium appear to be of normal size and have normal contours? Are there any sore spots on the head or neck? Does the neck move well? Is blood pressure normal?

### Using the Headache Diagnosis Pocket-Guide

The diagnosis pocket-guide contained in this book summarises a diagnostic algorithm for the headache conditions likely to be seen in general practice.

Once an accurate history has been taken, the algorithm should be followed in a logical sequence to help reach a provisional diagnosis. To confirm your diagnosis and to supplement your understanding of the headache condition, each of the headaches mentioned in the pocket-guide is expanded in a simple format in this booklet.

The diagnostic algorithm has been developed on the assumption that the single most important consideration in headache diagnosis is that the presence of anemia is not overlooked. Headache danger signals are listed in the pocket-guide and an expanded explanation of the relevance and implication of each sign can be found in the first section of this book.

Once underlying pathology is eliminated, the sequence of questions as presented in the pocket-guide will then help to distinguish between the chronic daily headaches associated with drug rebound and the shorter duration headaches of cluster and its rare 'cousin', chronic paroxysmal hemicrania. Other headache conditions included in the algorithm are migraine and chronic and episodic tension-type headaches.

The pocket-guide is a useful starting point in a patient consultation; however, no two patients will exhibit exactly the same features in each headache condition and patients may describe a mixed headache picture which cannot be accounted for in a simple diagnostic algorithm. If no single headache pattern emerges after use of the pocket-guide, specialist assistance should be sought.

### Investigating Headache

The initial problem in headache management is whether any special investigation is warranted. In the majority of patients a careful history will establish the headache pattern and allow an accurate diagnosis to be made. When there is diagnostic difficulty, or when the history suggests a serious disorder, investigation becomes obligatory. A range of different investigational techniques is now at the disposal of the clinician and the brief outline below should help to decide which, if any, tests may be appropriate.

**Blood count and erythrocyte sedimentation rate (ESR)**

These are recommended for use in general practice when symptoms of a systemic disorder or signs of infection or meningeal reaction are associated with headache. In a patient who is over 50 years of age presenting with headache, ESR must be performed to help rule out temporal arteritis. Also, a high ESR may warn of a focus of infection, hidden malignancy, multiple myeloma, or subacute bacterial endocarditis — all of which can produce intracranial manifestations.

**Lumbar puncture**

Lumbar puncture is used in the investigation of headache to assess the composition of the CSF and confirm or rule out the presence of meningitis or subarachnoid haemorrhage and investigate infectious processes of the nervous system. It should not be used when a space-occupying lesion is suspected.

**Electroencephalography (EEG)**

Because of the high prevalence of false positives and false negatives, and the non-specific nature of EEG changes, this procedure is not generally thought to be of much value in the investigation of headache.

**Radiography, computerised tomographic (CT) brain scanning and magnetic resonance imaging (MRI)**

The increasingly widespread use of CT scanning has lessened the importance of skull radiography in the investigation of headache. In most patients, the appearance of the skull radiograph will be normal.

CT scanning is the procedure of choice for demonstrating intracranial lesions such as brain tumour, cerebral atrophy and hydrocephalus. It is also a useful measure following trauma to exclude extradural or subdural haematoma. The amount of radiation to which the patient is exposed during CT scanning is about the same as during a cardiac angiogram.

MRI is the newest investigative technique and is becoming more widely available. It uses powerful magnetic fields to produce images of the brain and is applicable in similar circumstances to CT scanning. MRI produces better definition of brain structures than CT scanning, but is not as sensitive for detecting areas of fresh intracranial bleeding.

**Radio-isotope scanning**

An intravenous injection of a radio-active isotope is given before the head is scanned. The isotope may accumulate in lesions such as tumours and haematomas. Although the definition is not as good, nor the appearance as specific as CT scanning or MRI, this procedure allows a degree of visualisation of some structural abnormalities and can provide a very rough estimate of blood flow through the cerebral hemispheres.

If history or examination suggests the possibility of a space-occupying lesion, or of increased intracranial pressure, a CT scan or MRI is the procedure of choice; a radio-isotope scan is also useful if these procedures are not available. If meningitis or subarachnoid bleeding is a possibility, lumbar puncture is indicated. All patients over the age of 50 years who describe new headache should have an ESR to help exclude the possibility of temporal arteritis.

### When to Refer

The great majority of patients with headache are suffering from a benign dysfunction such as migraine, tension-type headache or cluster headache and can be managed effectively by their primary care physician. Referral to a specialist may become necessary when:

- the history or the examination suggests the possibility of an ominous process such as increased intracranial pressure, meningeal irritation or systemic disease.
- the patient has been compliant in taking adequate doses of appropriate medication for the headache, but has failed to improve.
- The patient has chronic daily headaches and the primary care physician feels uncomfortable or unable to deal confidently with the medication abuse and psychological disturbances usually associated with this syndrome.

- The patient's general medical condition, such as the presence of asthma or heart disease, for example, will complicate the prescribing of headache medication.

- The patient's psychological status is such that psychiatric disease as a cause or exacerbation of the headaches becomes a consideration.

- The primary care physician feels that the patient requires the reassurance of a specialist's opinion in order to reinforce his or her position as diagnostician and therapist.

Depending on the circumstances, the appropriate specialist might be a neurologist, neurosurgeon, psychiatrist or psychologist. The referral process is speeded up considerably if the referring physician provides the specialist before the consultation with details of previous investigations and treatments including the identity, dose, duration and effects of all medication. The specialist, in return, owes the referring doctor a prompt, detailed report with recommendations for management and suggestions for when it may be appropriate to re-refer the patient for further specialist care.

**HEADACHE DANGER SIGNALS**

Certain features in the patient history or the examination may suggest the possibility of ominous disease as the cause of headache, and call for further investigation.

**These are the headache danger signals:**

**Sudden onset of new, severe headache**
This suggests the possibility of a subarachnoid haemorrhage (as from a leaking berry aneurysm) or of meningoencephalitis — disease which may just appear 'out of the blue'.

**Progressively worsening headache**
This suggests a progressively worsening intracranial process such as increased intracranial pressure (brain tumour, subdural haematoma), or a progressively worsening extracranial process such as temporal arteritis. Worsening headache calls for investigations which should include CT scanning, or MRI, and an ESR.

**Onset of headache after exertion, straining, coughing or sexual activity**
Vascular headaches may be worsened by all of the above, but so too may subarachnoid haemorrhage and, sometimes, increased intracranial pressure. It is vital, therefore, to play safe, and when headache is triggered by or worsened on exertion refer the patient for an imaging procedure such as CT or MRI. If there is still any residual doubt after imaging, a lumbar puncture should be performed to exclude the possibility of bleeding into the CSF.

**Presence of associated symptoms**
Changes in cognitive state (drowsiness, confusion or memory loss), the presence of focal neurological signs, or systemic features such as fever, arthralgia or myalgia all suggest the possibility of ominous disease. All these symptoms signal the need for full and thorough investigation.

**Onset of first headache after the age of 50 years**
This should be considered a symptom of ominous disease until proven otherwise, since most benign, functional disturbances such as migraine, cluster headache and tension-type headache begin before middle age.

**Any abnormality on neurological or general physical examination**
This is out of keeping with migraine or tension-type headache and referral, preferably to a neurologist, is advocated.
**MIGRAINE**

**INTRODUCTION**

Migraine is one of the commonest headache conditions known to mankind. It was first described in the Mesopotamian era, about 3,000 years BC, and since that time has fascinated many of the greatest physicians in history. Migraine, however, is not a single clinical entity — it has two major variants and many less common variants, and can probably best be described as a complex, multifactorial headache condition whose mechanism is still poorly understood and, as a result, whose treatment depends greatly on trial, error, and the patience and perseverance of both doctor and sufferer.

**PREVALENCE**

Surveys conducted to establish the prevalence of migraine have, in the past, been plagued by inconsistencies in clinical definition and biased sample selection, resulting in significant discrepancies between prevalence rates quoted. Prevalence figures, for example, published by different investigators in the 1970s and 1980s range from 1% to 19% of adult men and 3% to 28% of adult women. Even today, studies conducted under rigorous standardisation across different countries have revealed prevalence rates in adults over the age of 16 years ranging from 7.7% to 18.7%.

However, despite these discrepancies, it is now widely accepted that at least one in eight adults in the developed world suffers from migraine. The condition is two to three times more prevalent in women than in men.

Migraine is predominantly a disorder affecting young adults. Although a sufferer may experience their first migraine at any age (even in childhood), the peak incidence is between the ages of 25 and 34 years. Ninety percent of sufferers will have experienced their first attack before the age of 40 years.

Migraine without aura accounts for approximately 80% of migraine attacks (hence the now outdated term, common migraine). This compares to migraine with aura (previously called classical migraine), which accounts for a further 15–18% of all migraine attacks. Some patients may suffer both types of attack at different times.

The remaining attacks include some unusual migraine variants such as basilar migraine, but these are so uncommon that they will not be detailed in this chapter.

**CLINICAL FEATURES**

The clinical features of migraine have been divided into four distinct phases, most of which blend imperceptibly with one another during the course of an attack.

**Phase One: The Prodrome**

Up to 50% of migraine patients may suffer
from some form of prodrome. Symptoms begin insidiously and develop slowly over the 24-hour period preceding an overt migraine attack. Prodromata include feelings of heightened or dulled perception, irritability or withdrawal, cravings for particular foods (especially sweet foods), excessive yawning, or speech difficulties. Often these symptoms are not marked and, therefore, may not be volunteered spontaneously by the patient.

**Phase Two: The Aura**
Visual disturbances are the most commonly reported symptoms of migraine aura. Typically, a patient will see flashing lights (photopsia) or shimmering zig-zag lines around an area of lost vision from one or both eyes (scintillating scotomas). Sensory symptoms such as pins and needles in the hands or numbness and dysphasia can also occur — all are acute and distressing. This phase usually precedes the headache by 60 minutes or less, and may last between 5 and 60 minutes. Remember, however, that 80% of migraine attacks do not include an aura, so the absence of aura in no way signifies that the patient does not have migraine.

**Phase Three: The Headache**
Headache is the most consistent and debilitating symptom of migraine. The headache is usually described as severe, and it often has a characteristic pulsatile quality. Although typically located on one side of the head only, it is not unusual for migraine headache to be bilateral. Headache is frequently accompanied by nausea and vomiting or intolerance of light (photophobia) or noise (phonoaphobia). Since the headache is usually aggravated by movement, many migraine sufferers retire to a darkened room during this phase which usually lasts between 2 and 72 hours.

**Phase Four: The Postdrome**
Once the headache has subsided, most patients experience a period lasting up to 24 hours, during which they feel drained or washed-out, with tired, aching muscles. In contrast, other patients may progress into a period of euphoria after the headache has disappeared.

An essential feature of migraine is that it is paroxysmal. Clearly defined attacks are separated by intervals of freedom from headache. Headaches that occur continuously or every day are not migraine. They may be drug rebound headaches, mixed migraine/tension-type headaches, or symptoms of another disorder such as temporal arteritis or increased intracranial pressure.

**PATHOGENESIS**
The true pathophysiology of migraine remains a mystery despite intensive research activity over the past decade. There appears to be a strong genetic influence that may somehow result in a disturbance of normal homeostatic functions of the blood vessels and/or the brain.

The traditional and most long-standing theory is that symptoms of aura are a result of vasodilation in the cranial blood vessels, and headache is a result of subsequent painful vessel dilatation. There is now evidence, however, that the pathogenesis of the two major migraine variants, migraine with and without aura, may differ.

The advent of sophisticated techniques for measuring cerebral blood flow has allowed researchers to study blood flow changes during aura. That focal blood flow in specific brain regions reduces at the onset of aura is no longer questioned. However, whether the blood flow reduction reaches ischemic levels (resulting in the classical neurological symptoms) remains a topic of debate. It has been proposed that the reduction in blood flow seen during aura is a secondary phenomenon resulting from reduced neuronal activity which spreads in a wave across the cortex. Why or how this may occur is still unknown.

The mechanism of migraine headache is even less well understood. The fact that migraine headache commonly begins while blood flow is reduced seems to contradict a theory that migraine headache is directly caused by vessel dilatation. However, there is evidence that some intracranial arteries (particularly those that supply the skull) do become dilated and inflamed during migraine headache. If so, this is likely to trigger a complex sequence of events leading to vascular head pain.

The likelihood is that no single factor can be blamed for the migraine syndrome. A multitude of biochemical and neurological changes probably interact to trigger migraine and sustain the symptoms.

**DIFFERENTIAL DIAGNOSIS**
The differential diagnosis of migraine relies primarily on the sporadic nature of the disorder. Migraine can occur as often as three or four times each month in some sufferers, but the important differentiating factor is that patients remain totally symptom-free between attacks.

If aura features in some attacks, it should develop gradually over at least 5 minutes, last less than 60 minutes and be fully reversible. Aura symptoms are likely to involve characteristic visual disturbances, unilateral paraesthesia and/or numbness, unilateral weakness, or speech difficulties. The headache should, by definition, begin within 60 minutes of the aura regressing.

**MANAGEMENT PRINCIPLES**
Many migraine patients self-diagnose and self-medicate using common non-
CLUSTER HEADACHE

INTRODUCTION

Cluster headache (CH) is a_painful headache subtype characterized by short but intense attacks that occur in clusters. These clusters can last from 1 to 8 weeks and can be followed by symptom-free periods ranging from months to years. The attacks typically occur on one side of the head, often the temple, and can be unilateral or bilateral. The pain is often described as severe, burning, and may be accompanied by symptoms such as lacrimation, conjunctival injection, rhinorrhea, and ptosis.

CLINICAL FEATURES

Cluster headache usually presents in the second or third decade of life, with a slightly higher prevalence in men. The attacks are typically unilateral and may last from 15 to 90 minutes, with a frequency of about 4 per day. The attacks are often associated with sweating, nausea, and vomiting, and may be triggered by certain stimuli such as bright light, loud noise, or emotional stress.

PREVALENCE

The prevalence of cluster headache is estimated to be between 0.1% and 0.2% of the general population, with a higher prevalence in men. Cluster headache is more common in individuals over the age of 20 and is rare in children. The condition is also more common in certain ethnic groups, such as early Irish and Scandinavian populations.

PROGNOSIS

Although cluster headache can be debilitating, there are several effective treatment options available. These include preventive medications, acute medications for active attacks, and lifestyle modifications. The success of treatment can vary depending on the individual and the severity of the condition.

Although it is generally assumed that cluster headache is a self-limiting condition, with spontaneous remission occurring in up to 40% of cases, the belief that untreated cluster headache can persist for decades is based on anecdotal evidence and reports of case studies.

While cluster headache may be relatively common, the exact prevalence in the general population is difficult to determine. Estimates suggest that between 0.3% and 0.6% of the population may experience cluster headache at some point in their lives.

CLUSTER HEADACHE IS CONSIDERED TO BE A CHALLENGING CONDITION TO TREAT, AND ADDITIONAL RESEARCH IS NEEDED TO UNDERSTAND THE PATHOPHYSIOLOGY OF THE DISEASE AND IMPROVE TREATMENT OPTIONS.

CLUSTER HEADACHE UNDERGOES A PERIOD OF CLUSTER, FOLLOWED BY A PERIOD OF REMISSION, WHICH CAN REPEAT SEVERAL TIMES. THIS CYCLICAL NATURE OF THE DISEASE CAN MAKE IT DIFFICULT TO MANAGE, ESPECIALLY DURING CLUSTER PERIODS, WHERE THE FREQUENCY AND SEVERITY OF ATTACKS CAN BE SIGNIFICANTLY INCREASED.
CHRONIC PAROXYSMAL HEMICRANIA

Chronic paroxysmal hemicrania (CPH) is a very rare headache syndrome, but is included in this booklet as it resembles cluster headache and may, in some instances, be misdiagnosed as such by doctors unaware of the existence of CPH.

CPH resembles cluster headache in that it presents as multiple, short, severe periorbital headaches that occur on a daily basis. The headaches can be associated with autonomic features such as ipsilateral nasal stuffiness or rhinorrhea, ptosis, tearing and/or conjunctival injection.

It differs from cluster headache in that the patients are almost always female, the headache attacks are shorter (average duration 1–2 minutes) and much more frequent, with attacks occurring on average 14 times per day. The tendency for attacks to cluster is not as pronounced, and the condition responds completely to indomethacin, and to nothing else.

The pathogenesis of this rare disorder is completely obscure.

In the unlikely event that a patient presents to a primary care physician with a history indicative of CPH, referral to a specialist is recommended.

CLINICAL FEATURES OF CHRONIC PAROXYSMAL HEMICRANIA

- 100% response to indomethacin
- Headaches last on average 1.3 minutes
- Average number of attacks per day = 14
- Severe or exacerbating pain located in the area of the eye, forehead and orbit
- Pain can radiate to ear, neck and shoulder
- Ipsilateral rhinorrhea, nasal congestion, mild ptosis, eyelid swelling, conjunctival injection and lacrimation

PERIODICITY PROFILE

| Mon, Tues, Weds, Thurs, Fri |
TENSION-TYPE HEADACHE

INTRODUCTION

Most people, at some time in their lives, have probably experienced a dull headache which makes an appearance in association with fatigue, stress, prolonged reading etc. More often than not, this will be a tension-type headache, and the majority of occasional headaches will respond to a simple analgesic available from a pharmacy.

However, it may be surprising to learn that as many patients are referred for neurological assessment who suffer from tension-type headaches as are referred who suffer from migraine.

Tension-type headache usually begins in an episodic form that is closely related to stress. However, it can progress into a chronic condition where headaches occur almost daily and do not appear to be associated with any obvious psychological factors.

There has been considerable debate in recent years whether tension-type headache and migraine form a continuum, with vomiting and neurological disturbances only appearing when headaches are severe. However, most specialists now believe that the two conditions are distinct clinical entities and require different management approaches.

PREVALENCE

It is thought that about 90% of all headaches fall into the category of tension-type headache. At least 15% of patients are likely to experience their first attack before the age of 10 years. The condition may sometimes be intractable and persist throughout life, with patients suffering headaches almost every day for up to 30 years.

As with migraine, 75% of patients with chronic tension-type headache are women, although there is no genetic explanation for this. However, 40% of sufferers appear to have a family history of some form of headache.

CLINICAL FEATURES

Tension-type headache is bilateral in the majority of patients. Headache is usually dull and persistent, varying in intensity during the day. It is often described as a feeling of pressure, heaviness or tightness in a band around the head. Unfortunately, the clinical picture is often clouded by the fact that about 10% of tension headache sufferers also have migraine, and symptoms may become superimposed to give a very complex headache picture.

In mild cases, the headache develops during or after recognisable stress; it can, however, also appear in anticipation of an unpleasant event. In its most chronic form, a sufferer will notice the headache at the start of the day, and it will remain as a dull ache throughout the course of the day.

Headaches can last from 30 minutes to 7
days but should, by definition, occur less than 15 times a month in order to be considered episodic. Chronic tension-type headache can be diagnosed when the headache is present for more than 15 days per month. Some seriously affected patients experience headaches all day, every day.

Tension-type headache is not normally accompanied by any of the distinctive characteristics of migraine, although mild photophobia or phonophobia may occur in the most severe attacks. Mild nausea may sometimes accompany the headache but this is a symptom of anxiety rather than a composite symptom of the condition. Vomiting is not a feature of tension-type headache.

Depression and anxiety are common manifestations in tension-type headache.

PATHOGENESIS

That tension-type headache is a psychological disorder is an attractive hypothesis since many sufferers exhibit emotional disturbances when psychologically assessed. However, experts believe there is now sufficient evidence to prove that the headache is indeed the result of a physical process.

For many years it was believed that excessive muscle contraction was the primary cause of tension-type headache (hence the now outdated term, muscle contraction headache). Muscle contraction still remains a possible headache mechanism in some patients with episodic tension-type headache, but there is little evidence that it is important in the majority of sufferers. Unfortunately, at the present time, the essential pathophysiology of this puzzling headache condition remains a mystery.

DIFFERENTIAL DIAGNOSIS

The quality of pain associated with tension-type headache is one of the main factors that differentiates it from other episodic conditions such as migraine.

Tension-type headache is rarely severe and it has a characteristic pressing/tightening quality which is bilateral and does not worsen with physical activity. Also, generally, there is a lack of associated symptoms that should help to distinguish the condition from migraine.

The general physical and neurological examinations will, by definition, be normal.

MANAGEMENT PRINCIPLES

Many patients suffering from chronic tension-type headache suspect that they have a tumor or other serious intracranial disorder. A careful physical examination will give the patient confidence in your reassurance.

The management of the patient with tension-type headache is likely to involve a combination of psychological, physiological (aimed at bodily relaxation) and pharmacological approaches.

Most doctors, given the time and interest necessary, should be able successfully to manage tension-type headache. Success may depend on the ability to counsel the patient in order to uncover any causal anxieties or emotional pressures, and the patient may require referral for emotional help from an external expert such as a psychologist or a psychiatrist.

Relaxation exercises are generally accepted to be useful in overcoming the bodily tension that is characteristic of patients with tension-type headache. Biofeedback methods have proved useful in the control of headaches and may help reduce consumption of analgesics.

Most tension-type headaches respond to simple analgesics such as aspirin or preparations which combine caffeine with analgesics. The danger with these drugs is that headaches can recur after a few hours and the patient must be warned against repeated self-medication. This holds a very real risk of habituation and the transformation of an episodic headache into a chronic form which is actually induced by the medication itself (see Drug Rebound Headache).

Sedatives, if used alone, are unlikely to have lasting beneficial effects. Amitriptyline has proved its effectiveness in patients who are not depressed as well as in those who are. This may reflect the drug’s ability to enhance the activity of endogenous pain-suppressing systems in the brain.

Ideally, once the patient has perfected the techniques for relaxation and been reassured about the underlying cause of their condition, the use of drugs to control tension-type headache should be necessary only very occasionally.
DRUG REBOUND HEADACHE

INTRODUCTION

Patients with frequent or daily headaches pose a difficult problem for the physician responsible for their care. The temptation is always to increase the dose of the drug that has been shown to be at least partially effective in headache relief, or to add one or more drugs to those the patient is already taking.

However, it has only recently been recognised that some drugs commonly used in the treatment of headache, if taken inappropriately, may themselves actually cause headache.

The dangers of ergotamine have been known for many years and, even at therapeutic doses or below, regular use of ergotamine can result in drug dependence. In the case of ergotamine, headache or even fear of an impending headache can cause patients to increase their regular consumption. Once habituated in this way, subsequent headaches are only relieved by excessive additional doses of ergotamine.

Simple analgesics such as aspirin and paracetamol are now also recognised as being abused by headache patients and causing daily headaches if taken in a chronic manner. So, if a patient complains of daily headache and is taking any of the above products on a daily or almost daily basis, a drug-induced rebound headache should always be considered.

PREVALENCE

The true prevalence of drug rebound headache is unknown. Most key studies to date have been conducted in headache centres and this has resulted in biased sample analysis. The unknown quantity is those headache sufferers in the general population who are abusing over-the-counter products and do not seek medical attention. Since the majority of drug abusers found in the headache centres self-medicated using non-prescription drugs, this group is likely to be alarmingly large.

What is known is that analgesic abuse is anywhere between five and 12 times more common in women than in men and the majority of abusers are in their 30s or 40s. The high female prevalence of drug abuse probably reflects the fact that more women suffer from headache than men. Amongst headache patients, it seems that about 4% are likely to be drug abusers (i.e. taking analgesics or ergotamine every day). In the general population, the prevalence of analgesic abuse has been estimated at 2%. Migraine is the headache condition most likely to precipitate drug abuse, although chronic tension-type headache has also been implicated.

CLINICAL FEATURES

The most pertinent feature of analgesic rebound headache is that the headache typically persists throughout the whole day, although it fluctuates in intensity. It
CLINICAL FEATURES OF DRUG REBOUND HEADACHE

- Pain relief from ergotamine or simple analgesics only transient and rarely complete
- Patients self-medicate at least once a day
- Headaches occur every day
- Headache typically persists throughout whole day
- Symptoms of migraine continue to persist or symptoms of drug rebound
- Pain is moderate to severe, unilateral, or bilateral, non-pulsatile or pulsatile
- Pain worsens if medication is discontinued
- Pain usually present on waking

PERIODICITY PROFILE

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is present on waking and is described as mild to moderate, dull, bilateral, frontal–occipital or diffuse. Headaches are not normally associated with visual disturbances or autonomic symptoms, but migraine attacks are commonly superimposed upon the rebound headache with expression of the usual symptomatology.

Patients self-medicate throughout the day, often every 3–4 hours, since after that time headache generally worsens as analgesia begins to wear off. Pain relief, if gained at all, is transient and rarely complete.

PATHOGENESIS

Dependency on ergotamine or the simple analgesics may have both a physiological and a psychological component. Ergotamine has been shown to be active within the central nervous system, which may result in a pharmacological dependence. Simple analgesics, frequently formulated in combination with caffeine and/or opioids which have well-documented abuse potential, are thought, by some, to eventually suppress pain control mechanisms after chronic use.

DIFFERENTIAL DIAGNOSIS

Drug rebound headache should be suspected in all patients who complain of prolonged daily headaches and especially in those patients who say they have headache “all day, every day.” Upon investigation of drug habits, daily use of analgesics and ergotamine (in any dose) should confirm your suspicions.

MANAGEMENT PRINCIPLES

If drug abuse is suspected, prompt and complete withdrawal of the analgesic (provided it is a non-narcotic analgesic) is the only effective treatment. If a narcotic analgesic is involved, withdrawal must be gradual and concomitant use of neuroleptics is common.

In-patient care during withdrawal is recommended since the patient may require supportive care for some days upon cessation of therapy. Many patients experience such severe withdrawal symptoms that they may need fluid replacement, use of anti-convulsics, hypnotics and sedatives for up to 14 days.

Upon discontinuation of the drug, a predictable, severely debilitating headache will occur which, in the case of ergotamine, may take 72 hours to appear and a further 72 hours, or more, to subside. During rebound headache, all analgesics should be avoided.

Once drug withdrawal is complete, patients require a thorough headache reassessment in order to prevent habituation occurring again. After a recovery period, the patient should be asked to complete a headache diary for the following 2 months. It may then be possible to ascertain a definite headache pattern and the correct treatment (often prophylaxis) can then be prescribed.

It goes without saying that the patient should then be counselled about the perils of regular use of analgesics or ergotamine.

PROGNOSIS

The success rate of withdrawal therapy reported in the literature is between 40% and 100%, with a mean rate of 70% depending on the time of follow-up, the drugs taken and the original type of headache.

Many patients show a remarkable recovery to a normal life once analgesics have been withdrawn and no further headache treatment is necessary. However, for those patients who continue to have occasional headaches, an accurate diagnosis is vital in order to prevent rehabilitation. In the case of migraine, prophylaxis has proved to be very successful, often with drugs previously abandoned showing renewed efficacy. For other headaches such as tension-type headache, relaxation techniques such as meditation or biofeedback may be all that are required for the patient to return to a normal and fulfilling lifestyle.