

DRUGS FOR MIGRAINE

Migraine is a term applied to recurrent severe headaches affecting only one side of the head and caused by changes in the blood vessels around the brain and scalp. They may be accompanied by nausea and vomiting and preceded by warning signs, usually an impression of flashing lights or numbness and tingling in the arms. Occasionally, speech may be impaired, or the attack may be disabling. The underlying cause of migraine is uncertain, but an attack may be triggered by a blow to the head, physical exertion, certain foods and drugs, or emotional factors such as excitement, tension, or shock. A family history of migraine also increases the chance of an individual suffering from it.

Why they are used

Drugs are used either to relieve symptoms or to prevent attacks. Different drugs are used in each approach, but none cures the underlying disorder. However, a susceptibility to migraine headaches can clear up spontaneously, and if you are taking drugs regularly, your doctor may recommend that you stop them after a few months to see if this has happened.

In most people, migraine headaches can be relieved by a mild analgesic (painkiller), such as paracetamol or a non-steroidal anti-inflammatory drug (NSAID), or a stronger one like codeine (see Analgesics, p.36). If nausea and vomiting accompany the migraine, tablets may not be absorbed sufficiently from the gut. Absorption can be increased if drugs are taken as soluble tablets in water or with an anti-emetic.

Some drugs used to relieve attacks can be given by injection, inhaler, nasal spray, or suppository. Preparations that contain caffeine should be avoided since headaches may be caused by excessive use or on stopping treatment. 5HT₁ agonist drugs (such as sumatriptan) are used if analgesics are not effective. Ergotamine is used less often now.

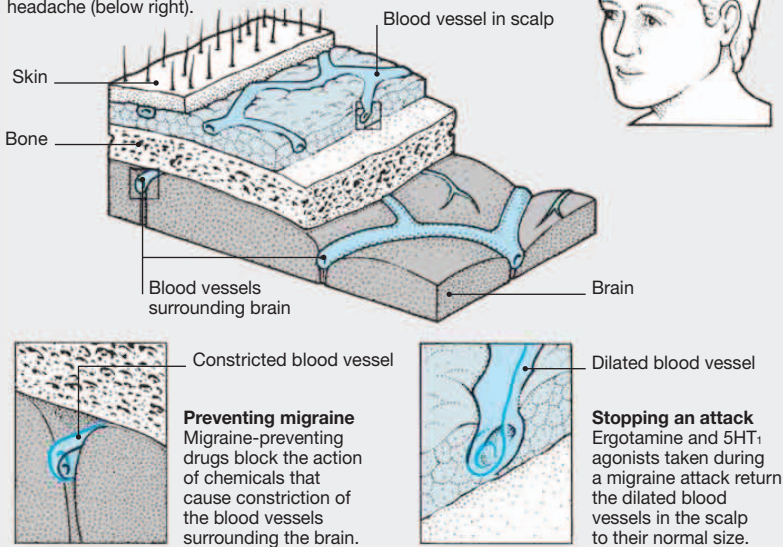
The factors that trigger an individual's attacks should be identified and avoided. Anti-anxiety drugs are not usually prescribed if stress is a precipitating factor because of the potential for dependence. If the attacks occur more often than once a month and significantly disrupt daily life, drugs to prevent migraine may be taken every day. Drugs used to prevent migraine are beta blockers (see p.55), such as metoprolol or propranolol, and pizotifen (an antihistamine and serotonin blocker). Other drugs that have been used include amitriptyline (an antidepressant, see p.40), verapamil, and cyproheptadine.

How they work

The symptoms of a migraine attack begin when blood vessels surrounding the brain constrict (become narrower), producing the typical migraine warning signs. The constriction is thought to be caused by

ACTION OF DRUGS USED FOR MIGRAINE

The underlying cause of migraine is uncertain but symptoms occur when chemicals in the bloodstream affect blood vessels around the brain and in the scalp. In the first stage of a migraine attack, the blood vessels surrounding the brain constrict, causing warning signs (below left). In the second stage, the blood vessels in the scalp dilate, causing a severe headache (below right).



certain chemicals found in food or produced by the body. The neurotransmitter serotonin causes large blood vessels in the brain to constrict. Pizotifen and propranolol block the effect of chemicals on blood vessels and thereby prevent attacks (see Action of drugs used for migraine, above).

The next stage of a migraine attack occurs when blood vessels in the scalp and around the eyes dilate (widen). As a result, chemicals called prostaglandins are released, producing pain. Aspirin and paracetamol relieve this pain by blocking prostaglandins. Codeine acts directly on the brain, altering pain perception (see Action of analgesics, p.36). Ergotamine and 5HT₁ agonists relieve pain by narrowing dilated blood vessels in the scalp.

How they affect you

Each drug has its own adverse effects. 5HT₁ agonists may cause chest tightness and drowsiness. Ergotamine may cause drowsiness, tingling sensations in the skin, cramps, and weakness in the legs, and vomiting may be made worse. Pizotifen may cause drowsiness and weight gain. For effects of propranolol, see p.55, and for analgesics, see p.36.

Risks and special precautions

5HT₁ agonists should not usually be used by those with high blood pressure, angina, or coronary heart disease. Ergotamine can

damage blood vessels by prolonged overconstriction so it should be used with caution by those with poor circulation. Excessive use can lead to dependence and many adverse effects, including headache. You should not take more than your doctor advises in any one week.

How they are administered

These drugs are usually taken by mouth as tablets or capsules. Sumatriptan can also be taken as an injection or a nasal spray. Ergotamine can be taken as suppositories, or as tablets that dissolve under the tongue.

COMMON DRUGS

Drugs to prevent migraine

Amitriptyline *
Cyproheptadine
Pizotifen *
Propranolol *
Sodium valproate *
Verapamil *

5HT₁ agonists

Almotriptan
Eletriptan
Frovatriptan
Naratriptan

Rizatriptan
Sumatriptan *
Zolmitriptan

Other drugs to relieve migraine

Codeine *
Ergotamine *
NSAIDs (see p.74)
Paracetamol *
Tolfenamic acid

* See Part 3