

Definition

Migraine is a type of headache marked by severe head pain lasting several hours or more.

Description

Migraine is an intense, often debilitating type of headache. Migraines affect as many as 24 million people in the United States, and are responsible for billions of dollars in lost work, poor job performance, and direct medical costs. Approximately 18% of women and 6% of men experience at least one migraine attack per year. More than three million women and one million men have one or more severe headaches every month. Migraines often begin in adolescence, and are rare after age 60.

Two types of migraine are recognized. Eighty percent of migraine sufferers experience "migraine without aura," formerly called common migraine. In "migraine with aura," formerly called classic migraine, pain is preceded or accompanied by visual or other sensory disturbances, including hallucinations, partial obstruction of the visual field, numbness or tingling, or a feeling of heaviness. Symptoms are often most prominent on one side of the body, and may begin as early as 72 hours before the onset of pain.

Causes

The physiological basis of migraine has proved difficult to uncover. Genetics appear to play a part for many, but not all, people with migraine. There are a multitude of potential triggers for a migraine attack, and recognizing one's own set of triggers is the key to prevention.

PHYSIOLOGY. The most widely accepted hypothesis of migraine suggests that a migraine attack is precipitated when pain-sensing nerve cells in the brain (called nociceptors) release chemicals called neuropeptides. At least one of the neurotransmitters, substance P, increases the pain sensitivity of other nearby nociceptors.

Other neuropeptides act on the smooth muscle surrounding cranial blood vessels. This smooth muscle regulates blood flow in the brain by relaxing or contracting, thus constricting the enclosed blood vessels and stimulating adjacent pain receptors. At the onset of a migraine headache, neuropeptides are thought to cause muscle relaxation, allowing vessel dilation and increased blood flow. Other neuropeptides increase the leakiness of cranial vessels, allowing fluid leak, and promote inflammation and tissue swelling. The pain of migraine is thought to result from this combination of increased pain sensitivity, tissue and vessel swelling, and inflammation. The aura seen during a migraine may be related to constriction in the blood vessels that dilate in the headache phase.

GENETICS. Susceptibility to migraine may be inherited. A child of a migraine sufferer has as much as a 50% chance of developing migraine. If both parents are affected, the chance rises to 70%. However, the gene or genes responsible have not been identified, and many cases of migraine have no obvious familial basis. It is likely that whatever genes are involved set the stage for migraine, and that full development requires environmental influences as well.

TRIGGERS. A wide variety of foods, drugs, environmental cues, and personal events are known to trigger migraines. It is not known how most triggers set off the events of migraine, nor why individual migraine sufferers are affected by particular triggers but not others.

Common food triggers include:

- cheese
- alcohol
- caffeine products, and caffeine withdrawal
- chocolate
- intensely sweet foods
- dairy products
- fermented or pickled foods

citrus fruits
nuts
processed foods, especially those containing nitrites, sulfites, or monosodium glutamate (msg)

Environmental and event-related triggers include:

Stress or time pressure
Menstrual periods, menopause
Sleep changes or disturbances, oversleeping
Prolonged overexertion or uncomfortable posture
Hunger or fasting
Odors, smoke, or perfume
Strong glare or flashing lights

Drugs which may trigger migraine include:

Oral contraceptives
Estrogen replacement therapy
Nitrates
Theophylline
Reserpine
Nifedipine
Indomethacin
Cimetidine
Decongestant overuse
Analgesic overuse
Benzodiazepine withdrawal

Symptoms

Migraine without aura may be preceded by elevations in mood or energy level for up to 24 hours before the attack. Other pre-migraine symptoms may include fatigue, depression, and excessive yawning.

Aura most often begins with shimmering, jagged arcs of white or colored light progressing over the visual field in the course of 10-20 minutes. This may be preceded or replaced by dark areas or other visual disturbances. Numbness and tingling is common, especially of the face and hands. These sensations may spread, and may be accompanied by a sensation of weakness or heaviness in the affected limb.

The pain of migraine is often present only on one side of the head, although it may involve both, or switch sides during attacks. The pain is usually throbbing, and may range from mild to incapacitating. It is often accompanied by nausea or vomiting, painful sensitivity to light and sound, and intolerance of food or odors. Blurred vision is common.

Migraine pain tends to intensify over the first 30 minutes to several hours, and may last from several hours to a day or longer. Afterward, the affected person is usually weary, and sensitive to sudden head movements