

ASK AHSC

ANSWERS TO HEALTH QUESTIONS

From The University of Arizona Health Sciences Center (AHSC) in Tucson

Q My daughter is our family's fourth generation to have migraine headaches. What causes migraines? What are the latest therapies?

A Migraine headaches are recurring, episodic headaches usually described as moderate to severe in intensity and typically one-sided (unilateral). In about 20 percent of patients, a migraine occurs with an aura — a sensation consisting usually of visual symptoms which precede the onset of the migraine.

Certain criteria have been set by the International Headache Society to classify headaches. A migraine, for example, is described as throbbing or pulsating in nature and lasting anywhere from four to 72 hours. Migraine usually is a "sick" headache — that is, the great majority of people experience nausea with their headaches, and some suffer other symptoms such as flushing, sweating or diarrhea.

Migraine is much more common in women, and some individuals appear to be genetically predisposed.

While any individual may suffer from a migraine at one point in his or her life, recurring migraines may be due to some environmental trigger producing headaches in a genetically predisposed individual.

Psychological factors also cannot be overlooked: studies

have shown an increased incidence of migraine in individuals with depression.

The cause of migraine is not specifically known, although descriptions suggestive of migraine can be found even in ancient literature.

In the 1600s, one physician felt that the pain of migraine was due to distended blood vessels pushing up against nerves.

A well-known publication in the 1930s postulated that migraine was caused by changes in cerebral circulation, with the aura being caused by a phase of vasoconstriction (lack of blood flow to the visual areas of the brain) and the headache pain being caused by subsequent vasodilatation (increased blood flow to the brain).

Contemporary migraine theories have relied on techniques such as PET scanning and suggest a spreading wave of decreased electrical activity from the back to the front of the brain during migraine. Nerves in the face and nerves surrounding certain structures such as blood vessels and

the membranes surrounding the brain are pain-sensitive and may be irritated by substances released from nerve cells during a migraine.

Therapies to treat migraine are aimed at either treating individual attacks, preventing their occurrence, or both.

Migraine sufferers have greatly benefited from the group of medications known as triptans. Triptans target certain serotonin receptors (areas on cells that receive serotonin, a compound that transmits nerve impulses) to cause constriction of blood vessels, thereby alleviating migraine attacks in many individuals.

Successful prevention of migraines also has been achieved with certain heart disease medications, such as beta and calcium channel blockers; older anti-depressants; and epilepsy drugs.

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