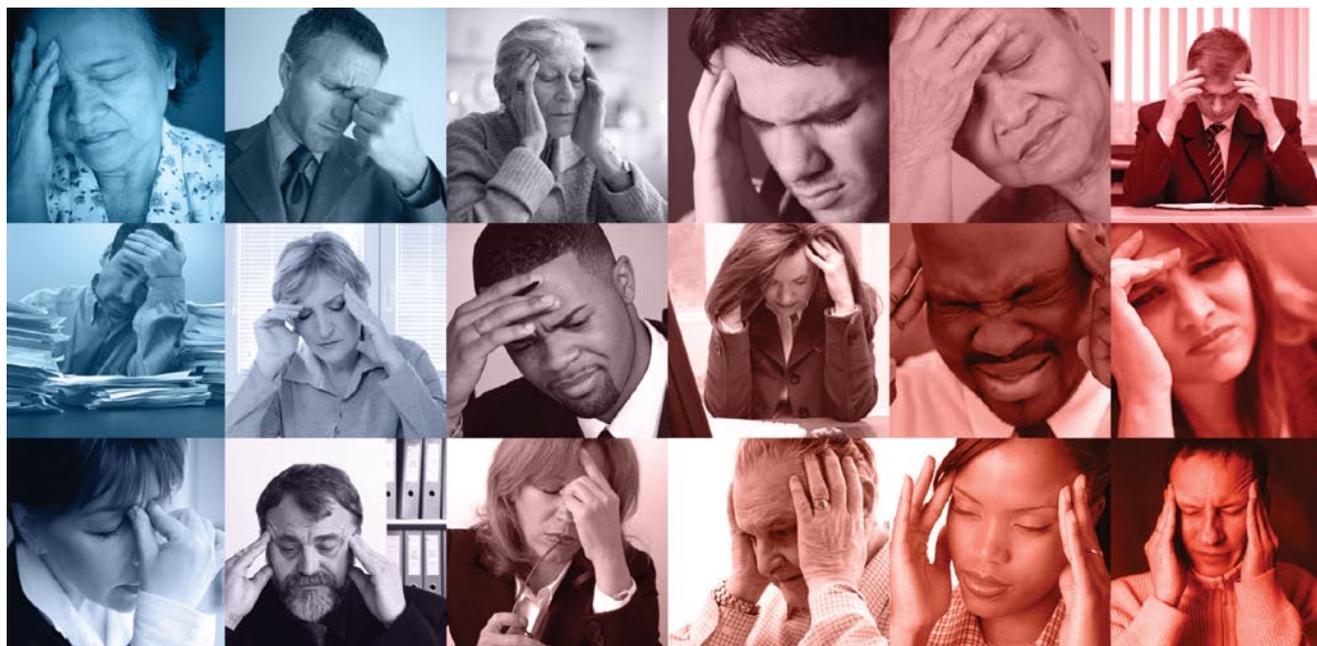




Multiple Choice

There's more than one solution to the problem of migraine management.

BY NORRA MACREADY



It can sneak up suddenly, or herald its arrival with well-known symptoms. It can be mild and last a few hours, or produce crippling pain that persists for days. According to the National Headache Foundation, it costs up to \$50 billion a year in work absenteeism, lost productivity, and medical expenses. It's a migraine.

A migraine is a throbbing headache that usually occurs on one side of the head and may be accompanied by nausea or extreme sensitivity to light or sound. Migraines can vary in severity, but in the American Migraine Study, which was sponsored by the National Headache Foundation, 80 percent of the more than 6,000 patients who responded described their pain as severe or extremely severe. Migraine afflicts an estimated 28 million to 35 million Americans, making it more common than asthma, diabetes, or congestive heart failure.

GOOD NEWS, BAD NEWS

Interestingly, the proportion of migraine sufferers seems to be holding steady in

recent years. In a survey of 120,000 households conducted under the auspices of the American Migraine Prevalence and Prevention Advisory Group (published in the journal *Neurology*[®] in 2007), roughly 12 percent of the respondents reported that they got migraines—just about the same proportion who reported migraines in an earlier version of the survey 10 years before. However, the actual number of people with migraines grew from 24 million to 28 million, because the population as a whole increased.

The survey also showed that more than 25 percent of patients who would have benefited from preventive migraine therapy were not offered it. The National Headache Foundation estimates that 52 percent of migraine sufferers remain undiagnosed by their health care providers. Primary care providers seldom learn about migraine diagnosis or prevention in medical school, so they often don't recognize it in their patients, says Stephen Silberstein, M.D., professor of

neurology at Thomas Jefferson University in Philadelphia, PA, and director of the Jefferson Headache Center.

TREATMENT IS AVAILABLE

That's a pity, because effective migraine treatments are available, and new ones are on the horizon. The drugs most commonly used in migraine management are triptans, topiramate, and a group of compounds known as beta-blockers.

Triptans, such as sumatriptan (Imitrex) and rizatriptan (Maxalt), mimic the action of the neurotransmitter serotonin in the brain. They relieve the swelling of cranial blood vessels, which is thought to cause migraine pain by increasing pressure in the skull. Patients usually take one tablet as soon as they feel a migraine coming on, and a second dose a few hours later, says Seymour Diamond, M.D., director of the Diamond Headache Clinic in Chicago, IL, and executive chairman of the National Headache Foundation. This is known as abortive therapy, because it aborts a headache that's already begun.

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For patients who experience migraines at least three times per month, Dr. Diamond prescribes a triptan as abortive therapy plus daily treatment with a beta-blocker, such as propranolol (Inderal) or atenolol (Tenormin), as preventive therapy to keep new attacks from occurring. If migraines still occur, he substitutes the anticonvulsant drug topiramate (Topamax) for the beta-blockers, while continuing to use the triptans as abortive treatment.

The beneficial effects of topiramate may linger even after you stop taking it. In a double-blind study of more than 500 migraine sufferers, lead author Hans-Christoph Diener, M.D., Ph.D., professor of neurology at the University of Duisburg-Essen in Germany, and his associates found that people who took a placebo for 26 weeks after 26 weeks on topiramate continued to derive benefit from the topiramate, although they did have slightly more migraines than people who remained on the drug.

Other drugs used as preventive migraine therapy include valproate (Depakote) and amitriptyline (Elavil). And new evidence suggests that a combination of sumatriptan and the nonsteroidal anti-inflammatory drug naproxen, taken at the onset of a migraine, shows promise as abortive treatment.

ON THE HORIZON

Triptans provide great migraine relief, but they can be associated with side effects such as chest pain or discomfort, dizziness, sleepiness, nausea, and even a headache after the migraine. Telcagepant, a drug under development by Merck, may relieve migraines just as well, with fewer adverse effects. Telcagepant blocks the action of a protein called calcitonin gene-related peptide, which is released by the nerves in the early stages of a migraine and contributes to

the process of inflammation. At the annual meeting of the American Headache Society held in Boston in June, investigators presented the findings of a study of nearly 1,400 migraine sufferers that compared telcagepant to a triptan (zolmitriptan) and a placebo. Telcagepant relieved migraine-related pain, nausea, and light and sound sensitivity significantly better than the placebo and as well as zolmitriptan within two hours. It was also comparable to zolmitriptan at producing 24-hour relief. And the side effects associated with telcagepant were much milder than those seen with zolmitriptan. Telcagepant appears to be “as effective as a triptan, and with a side effect profile similar to that of a placebo,” Dr. Silberstein says.

Unfortunately, not all migraine patients respond to drugs. Often those are people with chronic migraines, defined as attacks that occur at least 15 times a month. In a small study presented at the American Headache Society meeting, chronic migraine sufferers responded well to a technique called occipital nerve stimulation, in which doctors implant an electrode in the occipital nerve that runs through the back of the neck and scalp. The electrode stimulates the nerve with a mild electrical current, so patients report they feel a tingling sensation when it’s activated. The study investigators defined a “positive response” as at least a 50 percent reduction in the number of headache days per month, or at least a 3-point reduction in pain intensity on a standard 10-point pain scale, with 0 being no pain and 10 being the worst pain imaginable. Of 28 people who were able to control the level of stimulation they received, 11 (39 percent) reported a positive response,

compared to one of 16 patients (6 percent) who received only a pre-set level of stimulation, and no patients who got only standard drug treatment.

Another study presented at the meeting involved transcranial magnetic stimulation. This technique is thought to disrupt, with two brief magnetic pulses, the abnormal electrical activity that flows across the brain during a migraine attack. In this randomized, double-blind study, 102 patients received a working, portable stimulation device roughly the size and weight of a portable hair dryer. Another 99 patients got a sham device that appeared identical but did not actually deliver any magnetic pulses. All of the participants had migraine with aura, the characteristic wavy lines, spots, or gray-ing of vision that often mark the onset of a migraine. They were instructed to apply the device to the back of their heads and press a button on it twice to activate the magnetic current whenever they first experienced an aura. At the meeting, the investigators presented their findings in 164 people, 82 in each group. Of those, 32 (39 percent) who used the real device were pain-free two hours after migraine onset, compared to 18 (22 percent) who used the sham device.

“What’s impressive about these findings is that this therapy worked about 40 percent of the time, and it’s not a drug. You can push a button and your headache goes away,” Dr. Silberstein explained. “Some of the drugs we use only work about 40 percent of the time also. And there were no adverse effects to this therapy.” NN

Norra MacReady is a medical journalist and book author whose health articles have appeared in The Economist, Glamour, and WebMD: The Magazine.