What's best for Migraine?

By William Pryse-Phillips, MD, FRCP, FRCPC

The last seminal advance in migraine therapy was the introduction of sumatriptan in 1992. Since then, progress has included the introduction of other triptans, new methods or recommendations for their administration and a realization of the impact that migraines have on peoples' lives. The following article reflects my attempts to answer some questions put to me by patients and physicians in recent years.

Is there any evidence for the use of diet in treating migraine?

Many patients and physicians believe use of diet does help in treating migraines due to personal experience and there is firm evidence that cheeses and chocolate are important migraine triggers. For other foods, such as nuts, onions, citrus fruit and chicken livers, as well as for red wine and beer, proof from randomized controlled trials is hard to find. Some of the published studies have methodological or other errors, so their results are not reliable. For example, to restrict tyramine-containing foods for a period and then to challenge the subject would be a fair way of testing for allergy, but since it might be the concentration of the trigger in the body that determines headache, such a protocol defeats the purpose of the experiment. (Table 1)

All migraineurs should keep a headache diary, but whatever it shows, I insist on a period of two to three months during which they follow the monoamine oxidase inhibitor (MAOI) diet, with the additional exclusion of aspartame, monosodium glutamate and all nitrites. With this regime, I estimate that 60% of patients will achieve a 50% reduction in headache frequency and severity — at least as good as the currently employed prophylactic agents.

What is the difference between migraine and a migrainous headache?

The occurrence of two of the four key symptoms (unilaterality, moderate to severe pain, throbbing quality and worsening by movement) are required to follow the International Headache Society (IHS) diagnostic guidelines for migraine. Nausea or vomiting and photo-phono-phobia are also required to be present. If a headache occurs that misses out on one of these criteria, it is described as migrainous. Many migraineurs have such diluted forms as well as their usual migraines.

How do sinus headaches and migraine relate?

Facial or cranial skin tenderness, nasal congestion and discharge, lacrimation and pain felt in the forehead or face are common accompaniments of a migraine. While physicians seldom err in regarding these as evidence of chronic sinus disease, patients frequently do. As a result they tend to self-treat using decongestants, antihistamines and analgesics, opening themselves up to the potential of developing a medication-induced headache. So-called sinus headaches seem to respond to triptans, although this fact alone does not prove they should be identified as migraines.

Which is the best triptan to use?

The best triptan to use is the one that the patient likes best. This is a very individual choice, but patients should be aware that not every one of their headaches will be relieved adequately by any triptan every time; although usually about three out of four headaches are. For subjects prone to headache recurrence, naratriptan and frovatriptan (not yet available in Canada) are likely to be the best. If nausea and vomiting start early so that swallowing a tablet is difficult, consider a nasal spray (zolmitriptan and sumatriptan have this formulation) or sumatriptan, 6 mg subcutaneous. The latter choice is the gold standard therapy, with the earliest onset of pain relief and highest two-hour, pain-free rates.

There is no acceleration of absorption with the wafer forms of any triptan. Oral tablets may be better propelled into the jejunum for absorption if

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swallowed with an effervescent drink — anything from soda-water to an antacid, but not diet pop, since these products usually contain aspartame, a common precipitant of migraine.

The evidence for the efficacy of oral triptans comes from trials in which migraine pain had to be moderate or severe before the trial drug could be taken, so that one could be sure that it was indeed a migraine that was being treated. Figures for headache relief of around 60% to 70% at two hours after administration are generally reported. In practice, if patients take their triptan at the very first sign of pain, the results are significantly better.

Table 1

The Potential Triggers of Migraine and Related Headaches

Emotional Stress
Changes in behaviour
Missing a meal; low blood sugar levels
Sleeping more or less than usual
Environmental Factors
Bright or flickering light
Loud noise
Weather changes
Odors
Allergens
Foods and beverages; food additives
Chocolate
Cheese
Cured meats (hot dogs, bacon)
Caffeine-containing beverages
Alcoholic beverages, especially red wine
Other individually recognized dietary factors (aspartame, monosodium flutamate, nitrites [hot dogs])
Common Drugs
Caffeine (and caffeine withdrawal)
Nitroglycerin
Reserpine
Oral Contraceptives
ASA, NSAIDs, tranquilizers (*i.e.,* diazepam, codeine, demerol or triptans if taken more than three times a week for headache which increases the chance of developing medication-induced headache)

ASA = acetylsalicylic acid

NSAIDs =nonsteroidal anti-inflammatory drugs

What are the benefits of the newest triptans?

Almotriptan is well absorbed, with 70% bioavailability, a half-life of three to four hours, and peak plasma levels at one to three hours. The incidence of side effects is low and almotriptan offers good efficacy with minimal adverse events. The usual dose is one 12.5 mg tablet every two to four hours, as needed, up to two tablets in 24 hours. As with other migraine abortives, early intervention with almotriptan is desirable.

Frovatriptan is a well-tolerated triptan with a 26-hour half-life, which may benefit those with prolonged migraines. The maximal blood concentrations are only seen two to four hours after ingestion, so it is likely best used for those with slower-onset or long-duration migraines, such as menstrual migraines. The usual dose is 2.5 mg every two to four hours, as needed, three tablets in 24 hours at most. As with other triptans, the following situations are contraindications for use: hypertension that is not well controlled; past history of a stroke, heart disease or other circulatory problems; basilar or hemiplegic migraine.

With all triptans, a few patients will experience 20 to 30 minutes of mild dizziness, paresthesias, flushing or fatigue after ingestion and all triptans may provoke a chest sensation sometimes described as pain, but this is rarely of cardiac origin. Serious side effects with these and other triptans are extremely rare. Myocardial infarction and stroke have been reported, but the association is unproven. Nevertheless, patients with uncontrolled hypertension, coronary artery disease or spasm or peripheral vascular disease should not be offered any triptan. If chest pain does occur after the use of a triptan, appropriate cardiac

evaluation is advised. No triptan should be used during pregnancy or by nursing mothers.

Triptans may be used in conjunction with nonsteroidal anti-inflammatory drugs (NSAIDs), other analgesics or antiemetics, but there is a general warning that no triptan should be used on the same day as another member of the same class, ergotamine or methysergide.

The initial selection of treatment for acute migraines should take into account the disability suffered by the patient. More disabled patients are given triptan therapy as the first intervention while less disabled patients are initially treated with, for example, acetylsalicylic acid (ASA) plus metoclopramide.[1]

How can one minimize the effects of menstrual-associated migraine?

Mauskop et al measured ionized and total magnesium and calcium levels and calculated the ionized Ca2+/Mg2+ ratios in 61 women with menstrual migraine.[2] Deficiency of ionized magnesium was found in 45% of the women during menstrual attacks and in about 15% during nonmenstrual attacks, during menstruation without a migraine, between menstruations and between migraine attacks. The ionized ratios were elevated in menstrual migraine, supporting previous suggestions of a role for magnesium deficiency in the development of this condition. An oral magnesium salt taken for 14 days out of 28 might be an appropriate prescription as total body stores of magnesium may be reduced in female migraineurs.[3]

Alternative approaches have included the use of naratriptan or of an NSAID twice a day for six days premenstrually, starting two days before the headaches are forecast to begin. These strategies are sometimes effective.

What is new in migraine prevention?

Robbins found, in a retrospective study of 540 patients with chronic daily headache, that only 46% achieved relief with preventative medications for over nine months.[4] Lack of efficacy was the primary reason for discontinuation of medication, but side effects was the reason in 20% of cases. Continued long-term relief was obtained with sodium valproate and with selective serotonin reuptake inhibitors (SSRIs) in 35% of cases, with tricyclics in 31% and with beta blockers in only 22%.

Newer strategies have employed drugs introduced as anticonvulsants, such as sodium valproate, lamotrigine and topiramate. While very effective in the occasional individual, neither these, nor the traditional treatments such as

calcium channel, beta blockers or tricyclics, seem to achieve overall results better than those reported for lifestyle changes, including the dietary measures mentioned earlier. The angiotensin converting enzyme inhibitor (ACEI), lisinopril, has recently been shown to have an important prophylactic effect in migraine.[5]

Can you name some good Internet sites on headache both physicians and patients can use?

General information of high quality about the causes and management of migraine is available at the following sites:

http://www.jr2.ox.ac.uk/bandolier/what-new.html Follow the links to Bandolier Extra for the best evidence-based appraisal of migraine (including therapies) that I have ever come across.

http://www.headachedrugs.com/ This is the home page of Dr. Lawrence Robbins, an American headache specialist. It is well constructed, frequently updated, and very authoritative.

http://www.achenet.org/ The American Council for Headache Education (ACHE) maintains this excellent site, providing general information and further discussion of migraine in women and children.

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Similar information can be found at the following sites:

http://www.w-h-a.org/wha/index.asp (World Headache Alliance);
http://www.upstate.edu/neurology/haas/;
http://www.ninds.nih.gov/health_and_medical/disorders/headache.html;
http://www.neurologychannel.com/headache/
http://www.headachecare.com/ This is the site of the Network of Primary Care Physicians. It gives information on general topics and so-called sinus headache.

The impact that headaches have on people, of which they are often unaware, can be determined by assessing *http://www.headachetest.com/*, the Headache Impact Test, or the MIDAS scale which can be found at *http://www.midas-migraine.net/*

The site *http://www.cervicogenic.com/* provides sensible information on the genesis of headache as a result of cervical disease. CME

References

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