

Headache Toolbox

Episodic Acute Migraine Treatment



Migraines affect about 12% of the population worldwide, causing light and noise sensitivity and nausea. They interfere with the ability to work and function productively unless effectively treated.

Ideal acute treatment is fast, causes no side effects, and completely gets rid of all symptoms without losing work or family time or interfering with daily activities. Realistically, this degree of benefit can be difficult to obtain, but many people can find a satisfactory treatment strategy minimizing any inconvenience and tailored to the profile of the individual migraineur.

ACUTE TREATMENT TYPES

Triptans.—In healthy individuals who have no accompanying vomiting with their migraines, a triptan tablet is often the most convenient, fast acting option. Taken within 2 hours of headache onset, most migraineurs will have headache relief. Triptan tablets work best taken at the onset of symptoms, and when limited to 2 days per week.

There are 7 different types of triptan tablets, some fast and some slower in onset. Sumatriptan, zolmitriptan, rizatriptan, almotriptan, and eletriptan are fast acting, while naratriptan and frovatriptan are slower in onset of relief.

For migraineurs who vomit, a tablet may not work. Reasonable non-tablet triptan options include injectable sumatriptan, nasal zolmitriptan, or a battery-operated skin patch that releases sumatriptan slowly. Liquid nasal sumatriptan unfortunately is difficult to administer without it going down the throat with a very bad taste.

Some people experience side effects to triptans that they must balance against the headache relief provided. Triptans reverse the blood vessel dilation that occurs with migraines, and side effects can include a discomfort of the neck or chest, believed to come from muscle or esophagus tightening. Triptans can cause some migraineurs to feel tired or as if they are not as clear headed after taking them. Many times, this will be experienced with one type of triptan but not another. In other people, changing the form such as switching from an injectable to a nasal spray or tablet will reduce side effects. The injectable sumatriptan is the most rapid form of triptan and has a high rate

of headache relief. Unfortunately, it can cause more triptan sensations than other forms. Rizatriptan and eletriptan are more apt to cause fatigue, but do address nausea well.

The sumatriptan patch called Zecuity made by Teva Pharmaceutical Industries LTD (Petach Tikva, Israel) addresses nausea with migraine symptoms but is slower in onset than the injectable triptans, nasal sprays, and most tablet forms. It is not available at the time of this writing (September 2014), but is Federal Drug Administration (FDA) approved, and release is expected in early 2015.

Triptans are safe for most people, but they should not be used in those with known vascular disease, uncontrolled high blood pressure, pregnancy, or history of stroke. They cause a temporary narrowing of blood vessels that is not significant in healthy individuals, but which can be problematic for those with narrowing of blood vessels, such as coronary artery disease.

Dihydroergotamine.—Dihydroergotamine (DHE) is an older compound used for migraine treatment before triptans became available. As an advantage, DHE can be effective further into the migraine if treatment onset is missed. Currently, it is only available through a nasal spray or through injection, but a newer inhaler device may be available in 2015.

While DHE can provide relief, it can be associated with nausea and muscle cramping. As with triptans, it cannot be used in people with vascular disease, uncontrolled high blood pressure, or history of stroke. It is pregnancy category X, meaning it may cause birth defects in exposed fetuses, and therefore cannot be used if there is a chance that a woman is pregnant.

NONSTEROIDAL ANTI-INFLAMMATORIES (NSAIDs)

This is a broad category of medications, some available by prescription and others over the counter. Whereas triptans counter the blood vessel dilation associated with migraine, nonsteroidal anti-inflammatories (NSAIDs) address the inflammation. Up to 40% of migraineurs do not fully respond to oral triptans. For these individuals, adding an NSAID to a triptan or using an NSAID alone may work better.

NSAIDs have several advantages for migraine treatment. They can be used later in a migraine attack. They address the inflammatory symptoms of migraine and therefore can enhance the effect of triptans when taken together. They do not narrow blood vessels and can be used in individuals with vascular disease. The FDA has placed a warning on the prescribing information for all NSAIDs for a small increased risk of heart attack and stroke, although the risk varies with the type of NSAID used. In those who are at high risk, the occasional use of NSAIDs, especially naproxen and aspirin, may be discussed with a cardiologist.

NSAIDs come in multiple formulations including tablet, powder that dissolves into a liquid, nasal spray, and injectable formulations. Low-dose tablets of ibuprofen and naproxen sodium are available over the counter, while higher doses and different NSAIDs such as diclofenac and ketorolac are available by prescription only.

The only prescription NSAID approved by the FDA for the treatment of migraine is Cambia (Depomed, Inc, Newark, CA, USA), a powder form of diclofenac that can be dissolved in water for better absorption. For those with severe nausea or vomiting, a nasal spray of ketorolac (brand name Sprix [Regency Therapeutics, Shirley, NY, USA]) or injectable ketorolac can be useful options. The formerly known brand name Toradol made by Roche Bioscience (Nutley, NJ, USA) is no longer available in the US, but the generic injectable version remains available.

NONSPECIFIC MIGRAINE MEDICATIONS

Sometimes an individual's medical conditions prohibit the use of triptans, DHE, and NSAIDs, or these medicines are ineffective. Medications such as metoclopramide and prochlorperazine have a very different mechanism of action by blocking a chemical called dopamine. Prochlorperazine comes as a tablet and as a rectal suppository, so it can be used in migraineurs who vomit. Both medications are helpful in treating the nausea associated with migraines. Either of them can be used with any other acute migraine treatment including triptans, DHE, and NSAIDs. Unfortunately, with long-term continuing use, they can cause a movement disorder, and must be stopped completely in the event this occurs.

Metoclopramide is rated pregnancy category B, that is, there is no evidence of fetal harm with its use. This is the only acute migraine intervention discussed that is generally considered safe in pregnancy other than acetaminophen.

Acetaminophen is used for migraine pain as a safe alternative treatment. Unfortunately, it is often ineffective,

perhaps because of its lesser anti-inflammatory action. It has no specific anti-migraine action.

AVOIDING GETTING MORE HEADACHES FROM OVERUSE OF ACUTE MEDICATIONS (REBOUND)

Triptans, NSAIDs, and probably DHE, when taken too frequently, can result in migraineurs getting more frequent headaches, or headaches that are resistant to treatment. This is called medication overuse headache or rebound headache. A good rule of thumb is to use acute medications no more than 2 days per week. Sometimes, patients believe that if they use one type of medication for 2 days per week, and another type on other days, that rebound can be avoided. Unfortunately, this is not the case. It is safest to remember sticking to 2 days per week of acute medication, and if there is a consistent need to treat more often than that, improved preventive strategies need to be added.

DEVICES

Multiple noninvasive devices are undergoing evaluation for the treatment of acute migraine. At this time, only one device has been approved by the FDA for acute treatment, and it is not yet available at the time of this writing. A transcranial magnetic stimulator called Spring TMS, manufactured by eNeura, Baltimore, MD, was approved for acute treatment of migraine with aura. Other noninvasive devices being studied include a handheld vagal nerve stimulator and a transcutaneous supraorbital neuro-stimulator, which gives a low-level electrical pulse. While these 2 devices are being tested for use in acute migraine, as of now, neither has been approved by the FDA for this use in the US.

SUMMARY

The ideal migraine medication would provide rapid "one and done" treatment of migraine for all sufferers. Unfortunately, no such intervention is available. While most people respond to triptans or DHE, some will need to combine these with an NSAID, or will choose to use an NSAID alone because of personal preference or for medical reasons. Dopamine blockers are another option, and combined with any of the other treatments or used alone, may be particularly useful in those with vascular disease.

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