A Comprehensive Look at Migraine Medications and Their Side Effects

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Getting to Know Migraine Medications

When looking at migraine pain relief options, migraine medications fall into one of two categories — preventatives and abortives.

Types of Migraine Medications

There are two types of migraine medications:

- **Preventative migraine medications** are taken daily to help prevent migraine attacks from occurring.
- **Abortive migraine medications** are taken when a migraine presents itself to stop or abort the migraine. The earlier these are taken the better they work at stopping the migraine.

Which Medications Are Used as Preventatives?

Prevention is key when someone with a migraine experiences frequent and disabling attacks. For instance, someone with a chronic migraine who has 15 or more migraines a month would benefit from taking a preventative medication.

There are no drugs on the market that specifically target and prevent migraines, however, certain blood pressure medications, anti-seizure drugs, antidepressants, and some herbals have been shown to help in migraine prevention.

The first class of drugs that specifically target and prevent migraines was approved by the FDA this past May. They are called calcitonin gene-related peptide or CGRP inhibitors. Certain blood pressure medications, anti-seizure drugs, antidepressants, and some herbals are also still used in migraine prevention.

CGRP Inhibitors

CGRP is a neuropeptide that is thought to play a key role in the pathophysiology of a migraine. The main function of CGRP is as a neurotransmitter in the central and peripheral nervous systems and also acts as a vasodilator. Studies have suggested that the levels of CGRP increase during a migraine attack.

The role of CGRP inhibitors is to block the CGRP receptor which would inhibit the inflammatory response in the central and peripheral nervous systems. These class of drugs are the first to be developed specifically for the prevention of a migraine.

Erenumab-aooe (Aimovig)

Erenumab is the first CGRP drug approved by the FDA for the prevention of an episodic and chronic migraine. It

is a fully human monoclonal antibody that binds to the CGRP receptor.

Erenumab is given by self-administered injection on a monthly basis. Dosage is 70 mg (1 injection) or 140 mg (2 injections). Those with a chronic migraine are most common to need the 140 mg dose.

Aimovig is currently available for use.

Fremanezumab

Fremanezumab is currently being reviewed by the FDA for the prevention of an episodic and chronic migraine with an anticipated approval date set for September 16, 2018. This is a humanized monoclonal antibody (derived from rats) that targets the CGRP ligand. Dosage will be given in a quarterly or monthly self-administered injection.

Galcanezumab (Emgality)

Galcanezumab is an investigational CGRP for the prevention of an episodic and chronic migraine and cluster headaches that is under review by the FDA. Like fremanezumab, it is a humanized monoclonal antibody that binds to and inhibits the activity of the calcitonin gene-related peptide.

Galcanezumab will be a self-administered injection available in two doses (120 mg and 240 mg). A decision on its approval is set for the third quarter of 2018.

Off-Label Medications

There are numerous medications that have been used off-label as a preventative for a migraine. The following list of drugs have been recommended by the American Headache Society and the American Academy of Neurology (AAN) based on their proven effectiveness in controlled clinical trials:

- Divalproex sodium/sodium valproate
- Topiramate (Topamax)
- Metoprolol (Lopressor, Toprol XL)
- Propranolol (Inderal)
- Timolol (Blocadren, Betimol)

Next page: Learn more about abortive migraine medications, the potential side effects of migraine medications, and more.

Which Medications Are Used as Abortives?

Common medications used as an abortive for migraine include over-the-counter (OTC) medications such as NSAIDS, analgesics, and caffeine, including:

- Aspirin.
- Naprosyn (Naproxen, Anaprox, Anaprox DS).
- Acetaminophen (Tylenol).
- Ibuprofen (Motrin).

Ergot alkaloids are strong medications that constrict blood vessels, something that OTC drugs do not do. The most commonly prescribed ergots are Cafergot (ergotamine tartrate) and D.H.E. 45 injection or Migranal nasal spray (dihydroergotamine mesylate).

Triptans target serotonin receptors, cause constriction of blood vessels and interrupt the chain of chemical events that lead to a migraine. These include:

- Almotriptan (Axert)
- Eletriptan (Relpax)
- Frovatriptan (Frova)
- Naratriptan (Amerge)
- Rizatriptan (Maxalt, Maxalt—MLT)
- Sumatriptan (Imitrex, Zecuity)
- Zolmitriptan (Zomig, Zomig-ZMT)

Other types of medications used to abort a migraine include Midrin, which is a combination of isometheptene mucate (a vasoconstrictor), dichloralphenazone (a sedative), and the analgesic acetaminophen.

Antihistamines are also commonly used to ease migraine symptoms. Histamine, a substance that dilates blood vessels and causes inflammation in the body (a similar response caused by a migraine), is counteracted with the use of an antihistamine.

Antihistamines are grouped into sedating and non-sedating types. Diphenhydramine (Benadryl) is a sedating antihistamine while loratadine (Claritin) is non-sedating.

Side Effects of Migraine Medications

As with any drug, both preventative and abortive migraine medications come with a list of side effects and precautions. It is important to go over these with your physician to make sure there are no adverse interactions with other prescription medications you are taking and the side effects are worth taking the drug.

Below is a list of the most common side effects of the drugs listed above:

- **CGRP inhibitors:** pain, redness or swelling at the injection site, and constipation.
- **Triptans:** tingling, flushing, sleepiness, and throat and chest tightening. Combining triptans with selective serotonin reuptake inhibitors (SSRIs) and selective norepinephrine reuptake inhibitors (SNRIs) could cause an overload of serotonin in the body. This is known as serotonin syndrome and is life-threatening. Symptoms include a rapid increase of blood pressure, fast heart rate, and increased body temperature.
- **Ergot alkaloids:** nausea. They should not be used with drugs that inhibit a certain liver enzyme. Combining these drugs could result in a life-threatening decrease in blood flow to the extremities and/or brain.
- **Beta-blockers:** fatigue, depression, nausea, insomnia, dizziness, and low blood pressure.
- **Calcium channel blockers:** weight gain, constipation, dizziness, and low blood pressure.
- **Tricyclic antidepressants:** weight gain, dry mouth, sedation, decreased libido.
- **Anti-seizure medications:** side effects depend on the type of drug you are taking, but often include dizziness, drowsiness, weight changes, and fatigue. Antiseizure medication topiramate, can cause decreased sweating and increased body temperature, it is important to wear light clothes and drink plenty of water, especially during warmer months. If body temperature rises, contact your physician immediately.

Are These Safe to Take During Pregnancy or Breastfeeding?

Migraines may become less frequent during pregnancy, but in the case that they do not, non-drug therapies should be tried first. These are considered first-line options during pregnancy and include relaxation, massage, sleep, ice packs, and lifestyle changes.

If those fail and drug treatment is required, acetaminophen is the first treatment of choice. NSAIDs are considered to be the safest second-line options during the second trimester.

Opioids are third-line options. Use of these types of medications could lead to abuse, addiction, and dependence in mother and child.

When the mother fails to respond to any of these treatment options, triptans, typically sumatriptan, is used.

Ergotamines should not be used during pregnancy; they may induce hypertonic uterine contractions and vasospasms/vasoconstrictions, which could cause harm to the unborn baby.

Women who have chronic migraines and are pregnant may benefit from taking preventative medications. Beta-blockers, the calcium channel blocker verapamil, and low dose SSRIs, SNRIs, and TCAs are generally considered safe options.

Generally, the same medications used during pregnancy are safe to use after delivery and while breastfeeding.