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Recent Aspect of Drug Therapy of Migraine Patients

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Abstract

A migraine is a severe, painful headache that is often preceded or accompanied by sensory warning signs such as flashes of light, blind spots, tingling in the arms and legs, nausea, vomiting, and increased sensitivity to light and sound. The excruciating pain that migraines bring can last for hours or even days. Migraine headaches result from a combination of blood vessel enlargement and the release of chemicals from nerve fibers that coil around these blood vessels. This causes a release of chemicals that cause inflammation, pain, and further enlargement of the artery. Medical science has proven a clear cut chemical imbalance in the lining of the blood vessels on the surface of the brain which carry pure blood to the brain. Migraine headache typically occurs in only a half of the head. It begins with a warning of some form. This takes the form of visual disturbance like blurring vision or visions of irregular circles of light round bright lights. All this could be terribly irritating. Migraine headache begins around the region of the eyes and forehead. Analgesics are used to relieve the pain, ergot preparations are also effective. Sumatriptan is used for acute attacks of migraine. Beta blockers may also be helpful. In cluster headaches, prophylaxis with drugs such as Valproic Acid, Verapamil, or Lithium Carbonate is more effective than the use of drugs during acute attacks. Tension headaches are controlled well by the use of analgesics. The prevention of a migraine attack is by trying to identify any precipitating factor and avoiding the same. The use of counseling and psychotherapy is essential in highly stressed, nervous and emotional individuals.

Key words: Migraine, causes, symptoms, treatments, analgesics, pain.

Introduction

A migraine headache is a throbbing or pulsating headache that is often one sided (unilateral) and associated with nausea; vomiting; sensitivity to light, sound, and smells; sleep disruption; and depression. Attacks are often recurrent and tend to become less severe as the migraine sufferer

ages. Migraine is the name given to severe headaches, normally lasting from 4 to 72 hours. It is mainly felt s pulsing or throbbing in one area of the head. During migraine, there is contraction or dilation of the blood vessels. Some of the factors that can trigger a migraine attack anxiety, stress, lack of food or sleep, exposure to light and hormonal changes (in women). In women, menstruation can also result in migraine. The symptoms of migraine are pain on one side of the head, a short period of depression, irritability and loss of appetite, pounding pain, nausea and vomiting as well as numbness or weakness in an arm or leg or on one side of the face. This severe headache can, however, be cured, naturally using home remedies.. Although headaches might rarely be due to infections or diseases, most are probably the result of an inborn protective mechanism responding to an external environmental stress. Headaches can be divided into 2 broad categories: primary headaches and secondary headaches. Primary headaches are not caused by problems with a person's internal structure or organs or by bacteria, viruses, or other organisms. Migraine, cluster, tension, and rebound headaches are types of primary headache. Secondary headaches are those caused by an underlying structural or organic disease. Several observations support this idea. When exposed to very high or low temperatures, people sometimes develop a migraine like headache. (Migraine headaches are sometimes called vascular headaches. Vascular means having to do with the blood vessels.) These headaches can also suddenly arise in some people when they do not get enough sleep or food. Common triggers of migraine headaches include heat, stress, and lack of sleep or food. Not every headache sufferer is sensitive to these triggers, but virtually all persons with migraine headaches (called *migraineurs*) have some environmental trigger. About 70% of migraineurs have a first-degree relative (parent, brother, sister, or child) with a history of migraine. People with an inherited tendency for headaches may respond more easily than others to these external stress factors. Some experts have therefore thought that headache is an adaptive and developed response. Most primary headaches slowly develop over minutes to hours. The pain experienced in headache is transmitted by the slowest of all unmyelinated nerves. Unmyelinated nerves lack a myelin sheath, or covering, and send impulses slowly.

Types of migraine headache

Migraines are classified according to the symptoms they produce. The two most common types are migraine with aura and migraine without aura. Less common types include the following:

- 1) Abdominal migraine
- 2) Basilar artery migraine
- 3) Carotidynia
- 4) Headache-free migraine (auro without migraine)
- 5) Ophthalmoplegic migraine/Ocular migraine
- 6) Status migrainosus

Some women experience migraine headaches just prior to or during menstruation. These headaches, which are called menstrual migraines, may be related to hormonal changes and often do not occur or lessen during pregnancy. Other women develop migraines for the first time during pregnancy or after menopause. Migraine with aura is characterized by a neurological phenomenon (aura) that is experienced 10 to 30 minutes before the headache. Most auras are visual and are described as bright shimmering lights around objects or at the edges of the field of vision (called scintillating scotomas) or zigzag lines, castles (teichopsia), wavy images, or

hallucinations. Others experience temporary vision loss. Nonvisual auras include motor weakness, speech or language abnormalities, dizziness, vertigo, and tingling or numbness (parasthesia) of the face, tongue, or extremities. Migraine without aura is the most prevalent type and may occur on one or both sides (bilateral) of the head. Tiredness or mood changes may be experienced the day before the headache. Nausea, vomiting, and sensitivity to light (photophobia) often accompany migraine without aura.

1. Abdominal migraine

Abdominal migraine is most common in children with a family history of migraine. Symptoms include abdominal pain without a gastrointestinal cause (may last up to 72 hours), nausea, vomiting, and flushing or paleness (pallor). Children who have abdominal migraine often develop typical migraine as they age.

2. Basilar artery migraine

Basilar artery migraine involves a disturbance of the basilar artery in the brainstem. Symptoms include severe headache, vertigo, double vision, slurred speech, and poor muscle coordination. This type occurs primarily in young people.

3. Carotidynia

Carotidynia also called lower-half headache or facial migraine produces deep, dull, aching, and sometimes piercing pain in the jaw or neck. There is usually tenderness and swelling over the carotid artery in the neck. Episodes can occur several times weekly and last a few minutes to hours. This type occurs more commonly in older people. Doppler ultrasound studies of the carotid arteries are normal.

4. Headache-free migraine

Headache-free migraine is characterized by the presence of aura without headache. This occurs in patients with a history of migraine with aura.

5. Ophthalmoplegic migraine

Ophthalmoplegic migraine begins with a headache felt in the eye and is accompanied by vomiting. As the headache progresses, the eyelid droop (ptosis) and nerves responsible for eye movement become paralyzed. Ptosis may persist for days or weeks.

6. Status migraine

Status migraine is a rare type involving intense pain that usually lasts longer than 72 hours. The patient may require hospitalization

Causes of migraine

Some people who suffer from migraines can clearly identify triggers or factors that cause the headaches, but many cannot. Potential migraine triggers include:

- 1) Allergies and allergic reactions
- 2) Bright lights, loud noises, and certain odors or perfumes
- 3) Physical or emotional stress
- 4) Changes in sleep patterns or irregular sleep

- 5) Smoking or exposure to smoke
- 6) Skipping meals or fasting
- 7) Alcohol
- 8) Menstrual cycle fluctuations, birth control pills, hormone fluctuations during menopause onset
- 9) Tension headaches
- 10) Foods containing tyramine (red wine, aged cheese, smoked fish, chicken livers, figs, and some beans), monosodium glutamate (MSG), or nitrates (like bacon, hot dogs, and salami)
- 11) Other foods such as chocolate, nuts, peanut butter, avocado, banana, citrus, onions, dairy products, and fermented or pickled foods.

Symptoms of migraine

Symptoms of migraine can occur a while before the headache, immediately before the headache, during the headache, and after the headache. Although not all migraines are the same, typical symptoms include:

- 1) Moderate to severe pain, usually confined to one side of the head, but switching in successive migraines
- 2) Pulsing and throbbing head pain
- 3) Increasing pain during physical activity
- 4) Inability to perform regular activities due to pain
- 5) Nausea
- 6) Vomiting
- 7) Increased sensitivity to light and sound

Many people experience migraines with auras just before or during the head pain, but most do not. Auras are perceptual disturbances such as confusing thoughts or experiences and the perception of strange lights, sparkling or flashing lights, lines in the visual field, blind spots, pins and needles in an arm or leg, or unpleasant smells.

Migraine sufferers also may have premonitions called prodrome that can occur several hours or a day or so before the headache. These premonitions may consist of feelings of elation or intense energy, cravings for sweets, thirst, drowsiness, irritability, or depression.

Diagnosis of migraine

Physicians will look at family medical history and check the patient for the symptoms described above in order to diagnose migraine. The International Headache Society recommends the "5, 4, 3, 2, 1 criteria" to diagnose migraines without aura. This stands for:

- 1) 5 or more attacks
- 2) 4 hours to 3 days in duration
- 3) At least 2 of unilateral location, pulsating quality, moderate to severe pain, aggravation by or avoidance of routine physical activity
- 4) At least 1 additional symptom such as nausea, vomiting, sensitivity to light, sensitivity to sound.

Tests such as electroencephalography (EEG), computed tomography (CT), magnetic resonance imaging (MRI), and spinal tap may also be performed that check for:

- 1) Bleeding within the skull
- 2) Blood clot within the membrane that covers the brain
- 3) Stroke
- 4) Dilated blood vessel in the brain
- 5) Too much or too little cerebrospinal fluid
- 6) Inflammation of the membranes of the brain or spinal cord
- 7) Nasal sinus blockage
- 8) Postictal headache (after stroke or seizure)
- 9) Tumors

Phases of migraine

There are 4 phases in Migraine, generally for any kind of diseases -

1. **Prodrome** - Early symptom, where development of the condition is prominent. Symptoms such as headache, fever etc. are seen during this phase.

2. Aura - A kind of disturbance seen in migraine sufferers before the migraine headache. Main symptoms are seen here.

3. **Pain** - Headache phase where the actual migraine headache is seen. High level of headache is prominent here.

4. **Postdrome phase** - The final phase of migraine headache.

Migraine is caused by many reasons, mainly –

Exposure to smoke: Smoking or exposure to cigarette smoke is one of the major causes. According to a research, more than 50% of people who gave up smoking became migraine-free.

High stress: High stress periods, and then sudden rest can cause disturbances in the Central nervous system and can cause attacks of headache when resting. Too much sleep after high stress should be avoided to avoid these attacks.

Hormonal fluctuations: This can also be regarded as stress, which is caused by over excitement. During excitement, high level of adrenaline is secreted and due to this, stress is experienced, and this triggers attacks of headache.

Irregular sleep: Too much or too little sleep is risky to cause migraine attacks. Long weekend sleeps are pleasent while sleeping, but after the sleep ends, the attacks may start. Regular routine of sleep have to be maintained.

Food habits: There are a lot of food habits that may not suit your body and cause many symptoms ultimately leading to migraine attacks. So a regular balanced diet should be maintained.

Cure of migraine

1. Cure migraine by diet:

It is found that following certain migraine diets can reduce or eliminate the risks of migraine attacks. This includes eating of whole and natural foods and reducing the intake of processed or cooked foods.

2. Reduce certain things in diet:

Things like large amount of caffeine, red wine should be reduced. Along with this, dairy foods, nut products, chocolate, processed meat and alcohol intake should be decreased as they contain chemical addictives which may trigger migraine attacks.

3. Change in lifestyle:

Modify your lifestyle such that you get complete freedom from the tensions in your life. Pressure on brain should be minimized. It is almost impossible to change the lifestyle, but you may try to get adjusted to the better side of your life.

4. Lessen salt intake:

Higher salt intake can cause higher blood pressure, which has its repercussions on headache. So, the salt intake should be in control, which leads to lessen in risk of migraine.

5. Reduce stress:

Reduction of stress can largely decrease the development of migraine, so activities such as performing Yoga can reduce stress. There are many other mental activities which can lead to decrease in stress.

Migraine treatment and relief

Some migraine medications aim to prevent a migraine attack while others are available for pain relief. Although there is no known cure for a migraine, there are very good treatments that can help with the symptoms and provide relief. This guide covers; medical, nutritional, herbal and alternative migraine treatments.

Drugs available for the treatment and relief of migraines fall into one of two categories:

- ✤ Pain Relief Treatments / Abortive therapy: These drugs are taken once the migraine has set in. These drugs are prescribed for the relief of pain and other migraine symptoms.
- Preventive Treatments / Preventive therapy: These drugs when taken regularly, often on a daily basis, help reduce the intensity and frequency of migraine headaches.

Several factors decide which migraine treatment option will work best for you. These include the frequency and intensity with which your headaches occur and how severely affected you may be due to your symptoms. Not all drugs are safe for use if you are pregnant or breastfeeding. Consult your doctor for an optimal migraine treatment plan.

Pain Relief Treatments:

Pain relievers are most effective when administered early in the attack. Resting or sleeping in a dark room may help ease your symptoms faster.

1) Over the counter migraine treatments:

These include medicines like aspirin and paracetamol and are often used. Drugs containing aspirin should not be prescribed for children under 15 or for adults with a history of peptic ulcer disease. If you experience nausea or vomiting, you could resort to suppositories, which

involve administration of the drug through the rectum (rectal suppository), urethra (urethral suppository) or vagina (vaginal suppository).

2) Non-steroidal anti-inflammatory drugs (NSAIDs):

NSAIDs such as ibuprofen, sold over the counter at your pharmacy, may prove effective in the treatment of migraine. Individuals with a history of peptic ulcer, liver or kidney disease should avoid using NSAIDs.

3) Anti-sickness treatments:

These are available both as tablets and suppositories. On prescription, these drugs are used along with painkillers at the onset of symptoms and should be taken in the case of troublesome nausea.

4) Combination treatments:

These contain both painkillers and anti-nausea medication, and are available over the counter.

5) Triptans:

These are prescription drugs and come as tablets, injections and nasal sprays. Triptans relieve pain and other symptoms by constricting blood vessels around the brain and by correcting seratonin imbalances. These drugs rapidly relieve pain, nausea and sensitivity to light in sufferers, and are considered as drugs of choice for those with severe migraines. Sumatriptan was the first drug in this class, others are fovatriptan or zolmitriptan.

6) Ergots:

Ergotamine formed the mainstay of migraine treatment before triptans became available. Dihydroergotamine, an ergot derivative, is considered to be more effective with fewer side effects than ergotamine.

Preventive Migraine Treatments

These treatments are used to reduce the frequency of migraine headache attacks

- 1) **Cardiovascular drug treatments:** Cardiovascular drugs such as beta blockers are generally used in the management of high blood pressure and coronary artery disease. However, these have been shown to be beneficial in reducing the frequency and severity of migraines as well.
- 2) Antidepressant treatments: Certain antidepressants, commonly known as tricyclics, are useful in preventing all types of headaches, including migraines, by influencing the levels of serotonin and other chemicals in the brain.
- 3) **Anti-seizure drug treatments:** Some anti-epilepsy drugs, such as divalproex sodium and topiramate, which are used to treat epilepsy and bipolar disease, are known to prevent migraines.
- 4) **Cyproheptadine:** This drug may be used in children. It functions by altering serotonin levels in the brain.

Nutritional Treatments for Migraines

Foods and diet have long been associated with the causes and triggers of migraine headaches.

1) **Food exclsuion diet:** Food sensitivity has been shown to be a major cause of migraine headaches. The most common being chocolate, cheese, red wine, caffeine and citrus fruits. Some research has shown that wheat can also be a trigger. A food exclusion diet can help in identifying and avoiding your migriane triggers.

- 2) **Magnesium supplements:** Studies have shown that many people with migraines have lower than normal levels of magnesium. Preliminary studies have shown that magnesium supplements (usually 200mg per day) may help reduce the frequency of migraine headaches.
- 3) **B Vitamins:** Vitamin B2 and Vitamin B12 have both shown to be helpful in reducing the frequency and severity of migraine attacks.
- 4) **Fish Oils:** Studies have shown that fish oils have been helpful with recurrent migraines. People who suffer from recurring or frequent migraines may be benefit from increasing intake of oily fish or by taking flaxeed oil or a fish oil supplement.

Herbal treatments for migraines

Feverfew: The most frequently used herb for the long-term prevention of migraines is feverfew. A number of trials have demonstrated it's effectiveness. Feverfew is available in tablets or tincture.

Alternative Treatments

- 1) **Acupuncture:** Acupuncture has been used to treat migraines and headaches and several studies show that it can be very effective. Acupuncture for migraine can be based on traditional Chinese acupuncture or the Western approach. Usually at least 6 to 8 treatments are required to show ongoing relief.
- 2) Neck manipulation and massage: Migraines may be helped by treatment of neck muscles and joints. This may involve manipulation or mobilisation of the neck joints, release of tension in muscles and or the deactivation of trigger points. Some studies have shown that manipulation can be as effective as medical treatments without some of the side effects.

Aromatherapy Treatment for Migraine

Since the sense of smell is altered and often heightened during a migraine, aromatherapy is definitely best used between attacks use at the use at the earliest stage of a migraine only if the smell is tolerated. A central featured of the natural approach to migraine is to distinguish between a ; hot migraine, where the blood vessels are dilated and a cold migraine, where there is excessive constriction of the blood vessels. In first type a cold or perhaps just cool compress across the forehead will give relief and oils of Peppermint or Lavender can be used. For cold types of migraine hot compress on the forehead or back of the neck may help using Marjoram.

Herbalism Treatment for Migraine

Catching the migraine early gives the best chance of success (otherwise try to use these infusions regularly, as a preventive). Choose from the following:

- 1) **Chamomile (Chamomila recutita):** for dull throubbing headache with feeling of queasiness-add little **Ginger** (Zingiber officinalis) to relieve more severe nausea.
- 2) (Chrysantbemum partbenium): an excellent remedy taken daily to prevent the cold type of migraine where there is a sense of a tight band around the head. This is widely available in tablet form as well.
- 3) **Rosemary (Rosmarinus officinalis):** Good where stress is a trigger for migraines and where local warmth gives relief.

Homeopathy treatment for migraine

- 1) **Kalibich**: for an intense headache preceded by a loss of vision and nausea made worse in hot weather.
- 2) **Natrum muriaticum**: for a severe pounding heacache with zigzags is front of the eyes nausea and a pale face.the migraine may also be triggered by menstruation.
- 3) **Silica**: for pains spreading from the back of the neck over to theeye usually right- sided, and often vomiting.

Naturopathy treatment for migraine

Diet needs to be looked at carefully try to avoid tea coffee alcohol especially red wine red meat cheese, chocolate tomatoes and eggs. Eat plenty of fresh raw salads and drink lots of fluid as dehydration can be a factor. Try taking a Vitamin B supplement daily and see if this helps to reduce attacks in between attacks exercises to relieve tension in the neck and shoulders can be useful and also massage of these areas

Approaches of migraine triggers

A migraine trigger is any factor that causes a headache in individuals who are prone to develop headaches. Only a small proportion of migraine sufferers, however, clearly can identify triggers. Examples of triggers include stress, sleep disturbances, fasting, hormones, bright or flickering lights, odors, cigarette smoke, alcohol, aged cheeses, chocolate, monosodium glutamate, nitrites, aspartame, and caffeine. For some women, the decline in the blood level of estrogen during the onset of menstruation is a trigger for migraine headaches. The interval between exposure to a trigger and the onset of headache varies from hours to two days. Exposure to a trigger does not always lead to a headache. Conversely, avoidance of triggers cannot completely prevent headaches. Different migraine sufferers respond to different triggers, and any one trigger will not induce a headache in every person who has migraine headaches.

1. Sleep and migraine

Disturbances such as sleep deprivation, too much sleep, poor quality of sleep, and frequent awakening at night are associated with both migraine and tension headaches, whereas improved sleep habits have been shown to reduce the frequency of migraine headaches. Sleep also has been reported to shorten the duration of migraine headaches.

2. Fasting and migraine

Fasting possibly may precipitate migraine headaches by causing the release of stress-related hormones and lowering blood sugar. Therefore, migraine sufferers should avoid prolonged fasting.

3. Bright lights and migraine

Bright lights and other high intensity visual stimuli can cause headaches in healthy subjects as well as patients with migraine headaches, but migraine patients seem to have a lower than normal threshold for light-induced pain. Sunlight, television, and flashing lights all have been reported to precipitate migraine headaches.

4. Caffeine and migraine

Caffeine is contained in many food products (cola, tea, chocolates, and coffee) and OTC analgesics. Caffeine in low doses can increase alertness and energy, but caffeine in high doses can cause insomnia, irritability, anxiety, and headaches. The over-use of caffeine-containing analgesics causes rebound headaches. Furthermore, individuals who consume high levels of caffeine regularly are more prone to develop withdrawal headaches when caffeine is stopped abruptly.

5. Chocolate, wine, tyramine, MSG, nitrites, aspartame and migraine

Chocolate has been reported to cause migraine headaches, but scientific studies have not consistently demonstrated an association between chocolate consumption and headaches. Red wine has been shown to cause migraine headaches in some migraine sufferers, but it is not clear whether white wine also will cause migraine headaches. Tyramine (a chemical found in cheese, wine, beer, dry sausage, and sauerkraut) can precipitate migraine headaches, but there is no evidence that consuming a low-tyramine diet can reduce migraine frequency. Monosodium glutamate (MSG) has been reported to cause headaches, facial flushing, sweating, and palpitations when consumed in high doses on an empty stomach. This phenomenon has been called Chinese restaurant syndrome. Nitrates and nitrites (chemicals found in hotdogs, ham, frankfurters, bacon and sausages) have been reported to cause migraine headaches. Aspartame, a sugar-substitute sweetener found in diet drinks and snacks, has been reported to trigger headaches when used in high doses for prolonged periods.

6. Female hormones and migraine

Some women who suffer from migraine headaches experience more headaches around the time of their menstrual periods. Other women experience migraine headaches only during the menstrual period. The term "menstrual migraine" is used mainly to describe migraines that occur in women who have almost all of their headaches from two days before to one day after their menstrual periods. Declining levels of estrogen at the onset of menses is likely to be the cause of menstrual migraines. Decreasing levels of estrogen also may be the cause of migraine headaches that develop among users of birth control pills during the week that estrogens are not taken.

Home remedy for migraine

- 1) Migraine can be treated effectively with the help of fresh grape juice. Grind grapes to extract the juice. Consume the juice in the concentrated form, without adding water.
- 2) Increase the intake of niacin (vitamin B3), as it has been found to be helpful in alleviating migraine pain. Some of the foods rich in niacin are yeast, whole wheat, green leafy vegetables, tomatoes, nuts, sunflower seeds, liver and fish.
- 3) Cabbage leaves are helpful in relieving the pain of a migraine headache. Squash cabbage leaves and place them in a cloth. Place the cloth on your forehead for some time. Once the cabbage leaves become dry, remove the cloth and make a fresh one.
- 4) Lemon peel is helpful in solving migraine headache. Grind lemon peel to form a paste and apply it on the forehead. Let it dry and then rinse off with cool water.
- 5) A mixture of carrot juice, either with spinach, beet or cucumber juice, works effectively in curing migraine. Combine 300 ml of carrot juice with 200 ml of any other juice and drink it.

- 6) You can also mix 100 ml each of beet and cucumber juices, with 300 ml of carrot juice and drink it on a regular basis.
- 7) Massaging the forehead with primrose oil is beneficial in curing migraine. It works as an excellent anti-inflammatory agent, preventing any kind of constriction in the blood vessels.
- 8) Include garlic in your diet. Either chew a piece of garlic in the raw form or mix it with other food items.
- 9) Another effective method would be to have chamomile tea. This is effective in reducing the occurrence of migraine.
- 10) Taking lukewarm water enema is effective. It cleanses the bowels, thereby removing the toxins from the body and helping prevent migraine.
- 11) Take some sandalwood powder and add a few drops of water to it, so as to form a paste. Apply this paste on the forehead and let it dry. Once dry, rub it off by hand and wash it.
- 12) It is advisable to avoid direct sunlight; smoking and drinking alcohol, as all these can aggravate migraine.

Conclusion

Migraine is a neurological disorder, which is mostly confused with headache by people who don't have correct knowledge about it. Headache can be cured very easily by some mild dose of drug but migraine patients need special care and treatment. When a person is suffering from migraine, he is in such a condition where he cannot perform regular activities for a certain period. They become very much sensitive to light, sound and smell stimuli. Other common symptoms seen are nausea, vomiting and blurred vision. Migraine can last from a few hours to a week time. Migraine is often under-diagnosed and under-treated. There is no cure for migraine. Nevertheless, there are numerous interventions that may help restore an improved life for migraine sufferers. These measures should consider the various aspects of the particular patient's condition. Triggering factors, nerve inflammation, blood vessel changes and pain are each addressed aggressively. Individualizing treatment is essential for optimal outcome. Oral birth control agents (contraceptives) may increase the frequency of headaches in females. Women may be advised to discontinue oral contraceptives (or to use a different form) for a trial period to see if they are a factor. : The goal of abortive therapy is to prevent a migraine attack or to stop it once it starts. The prescribed medications stop a headache during its prodrome stage or once it has begun and may be taken as needed. Some can be administered as a self-injection into the thigh; others, as a wafer that melts on the tongue. These forms of medication are especially useful for people who vomit during a migraine, and they work quickly.

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