

Ayurvedic approaches to treatment of migraine headache

By: Maryam Arabpour Dahooei

A literature Review

Abstract:

Migraine headache is one of the most severe types of headaches. A large percentage of patients fail pharmaceutical treatments for acute migraine attacks or preventing measures. Migraine sufferers can benefit from alternative therapies (biofeedback, acupuncture, supplements, massage therapy, relaxation therapy) if they do not respond to conventional therapy, develop unwanted side effects or are reluctant to take allopathic medications. Unlike the Western allopathic approach of one-size-fits-all, Ayurveda treats the root cause of imbalances by addressing each patient's unique constitution and illness. Headaches in Ayurveda are classified based on doshic involvement (body-mind-spirit). Migraine is mostly a vata-pitta dosha or tridoshic condition but it can also be triggered by any one of the individual doshas. Ayurveda believes in treating the disease at its root cause from within. Therefore, treatments focus on balancing the vitiated dosha (s) in the digestive and nervous systems. This can be achieved by avoiding triggers and prescribing doshic-specific diet, stress management (meditation, relaxation techniques, breathing exercises, yoga and mantra), herbal formulas, lifestyle modification, panchakarma and other holistic modalities to create a balanced physiology. This state of complete balanced in healing the body and mind, can allow the illness to resolve and symptoms disappear.

Introduction

According to the American Migraine Foundation, migraines cost the United States more than \$20 billion each year. The World Health Organization (WHO) consider migraine one of the 20 most disabling health conditions in the world. Migraine sufferers have a higher chance of having depression, anxiety, sleep disorders, other pain conditions and fatigue.¹

Migraine is a genetic neurological disease which affects 36 million Americans. Migraines are powerful headaches that often are characterized by severe throbbing head pain on one side of the head that can last from 4 to 72 hours. At least 2 to 3 of the following symptoms may co-occur: nausea, vomiting, loss of appetite, blurred vision, sensitivity to light, noise and smells, lightheadedness, diarrhea and scalp tenderness. Currently, migraines are primarily managed by avoiding triggers, taking preventive medications or aborting acute attacks with the use of prescribed medications. Non-drug alternative therapies are also prescribed.²

Western drug treatment options have multiple side effects and are largely unsuccessful in managing migraine headaches. Therefore, it is absolutely necessary to explore alternative therapies such as Ayurveda to manage migraines. The Ayurvedic approach offers options in addition to the allopathic model.

Western classification of migraine headaches

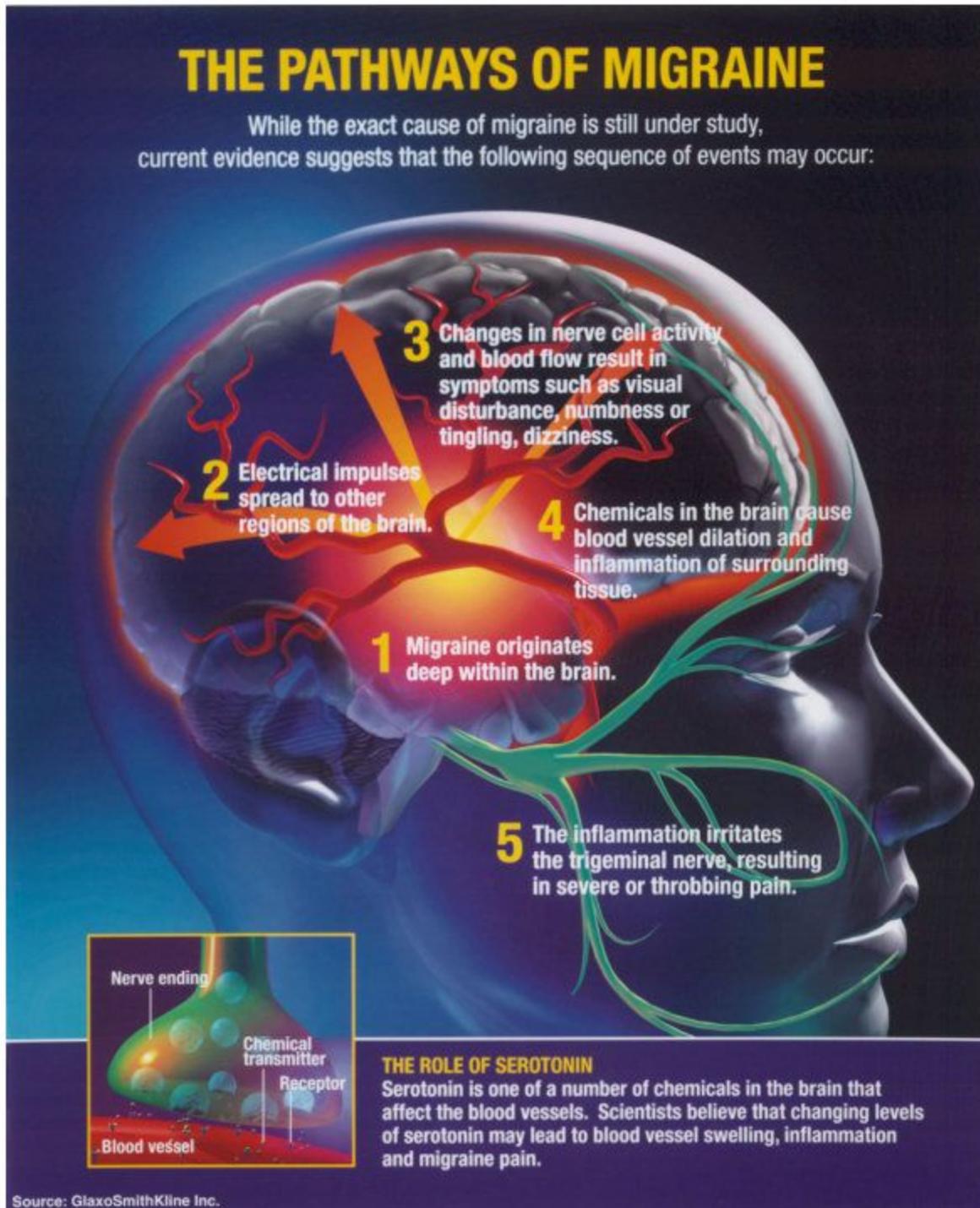
Migraine headaches can be classified into several types but the most common types are migraine with aura (classic migraine) and migraine without aura (common migraine).

- 1) Migraine with aura: Aura is a combination of sensations that occur before and sometimes during the pain of migraine. Aura means “wind” and just as the wind often is a sign of an approaching storm, an aura serves as a warning of an approaching migraine. Auras may include blurry vision blind spots, bright flashing lights, temporary vision loss, wavy or jagged lines, numbing or tingling of the skin and/or muscle weakness.
- 2) Migraine without aura: This type of migraine does not have any warning signs but some people may still feel some symptoms that indicate a migraine is coming. The pain of the migraine attack is still severe and nausea or vomiting might happen. This type of migraine is more common.
- 3) Other rare forms of migraine disease:
 - a) Basilar type migraine: This migraine is with aura and rises from the base of the brain (brain stem). The aura includes dizziness, visual symptoms such as double vision, ringing in the ears (tinnitus), nausea or vomiting, difficulty speaking, decreased level of consciousness and unsteady body movements.
 - b) Confusional migraine: This is a migraine with aura that affects the brain’s centers of consciousness in the cerebrum. Persons with confusional migraine may also have memory loss, confusion, speech impairment and disorientation.
 - c) Retinal migraine: This type of migraine has an aura that includes blind spots and visual problems that originate from the retina. The visual aura of retinal migraines usually last several minutes and can occur in one only eye.
 - d) Hemiplegic migraine: Hemiplegia means paralysis in one half of the body and it occurs in childhood. It has a gradual onset of stroke-like symptoms with paralysis or weakness of one side of the body. It includes symptoms like speech problems, confusion, dizziness and ringing in the ear.
 - e) Status migrainosus: This migraine can be either with or without aura and is very painful. It can last more than 72 hours and even up to one week. Most of the time patients experience severe pain and nausea and require hospitalization.
 - f) Ophthalmoplegic migraine: This kind of migraine-like headache is now considered an inflammatory cranial neuropathy.
 - g) Late-life migraine: This type of migraine has the visual problems of an aura but the patient has no head pain. It develops in older adults who may have had a history of migraine or who may never have had migraine before. The person will have blind spots that slowly appear in the field of vision in addition to having some tingling or numbness and other motor or sensory problems.³
 - h) Menstrual migraine: This type is due to drop in estrogen level before menses which causes a loss of serotonergic tone. They are more painful, less responsive

to treatment and last longer compared to other headaches that occur during the cycle.⁴

The cause of migraine headache

Illustration-1: <http://www.iajpr.com/archive/volume-5/september-2015/15october13.html>⁵



The exact cause of migraine is not well-known but genetic and environmental causes play an important role. Recent studies suggest that the following pathways and changes in the brain may take place during a migraine attack (see illustration-1):
“ First: migraines originate deep within the brain. Second: Electrical impulses spread to other regions of the brain. Third: Changes in nerve cell activity and blood flow may cause symptoms such as visual disturbance, numbness or tingling sensations and dizziness. Fourth: Chemicals in the brain cause blood vessel dilation and inflammation of the surrounding tissue. Fifth: The inflammation spreads across nerves supplied by the trigeminal nerve causing pain.”⁶

According to Mayo Clinic on Headache, researchers are uncertain about all factors involved in migraine. Illustration-2 shows how a migraine headache develops:

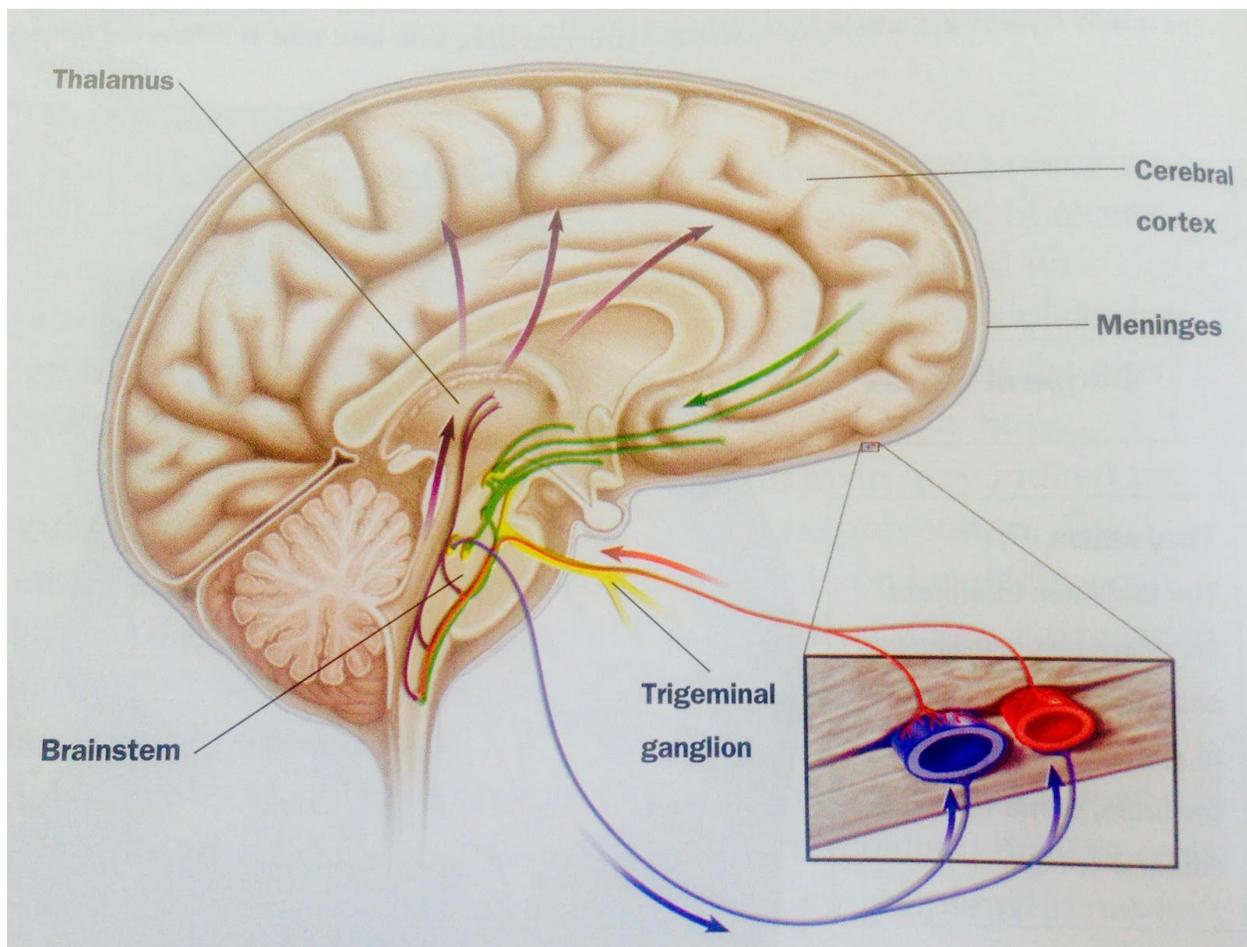


Illustration-2: Migraine development mechanism (Taken from Mayo Clinic on Headache)⁶

“A migraine is thought to occur when the brain’s neural pathways for pain are activated abnormally--meaning pain messages are registered in the brain despite the

fact that there is no external source for the pain. They hypothesize that migraine may develop in this pattern:

Pain messages travel along neural pathways (red arrow) leading from the meninges, the outer covering of the brain, to the trigeminal ganglion. From there, the messages follow the main pathway of the trigeminal nerve into the brainstem and circulate among different nuclei there. From the brainstem, many of the messages are sent to the thalamus (purple arrow), which, in turn, relays information to locations in the cerebral cortex. At this point in the process, headache pain registers in the sufferer's consciousness. The various cortical locations communicate back to the brainstem (green arrow). The brainstem nuclei attempt to modulate or diminish the incoming pain messages in a reflex action. Neural signals travel back along various pathways to blood vessels in the meninges (blue arrow), causing the vessels to dilate. As the pain messages diminish, head pain disappears."⁶

In general, changes in the cerebral circulation are the key elements in migraine causation. Migraine sufferers have blood vessels that respond more strongly to stimuli and triggers.⁷

Migraine triggers

Avoiding migraine triggers is one of the best ways to prevent headaches. A migraine trigger is something that can initiate or set off a migraine attack. Each individual may react differently to triggers. Some common triggers include:

a. Lifestyle triggers:

- i. **Sleep:** Adults need to get 7-8 hours of sleep each night and children and teens at least 9 hours. Migraine patients who get 6 hours of sleep or less have more frequent headaches. In addition, one should have a regular sleep schedule. If there are numerous changes in sleep hours and bedtime routine, sleeping in on the weekend or even taking an afternoon nap can trigger a headache in migraine sufferers.
- ii. **Stress:** Stress is one of the most common migraine triggers. Biological changes and hormonal fluctuations during stress can make migraine patients more sensitive to other triggers.
- iii. **Meals:** Skipping meals (low blood sugar) or not having a regular meal schedule can be a problem for migraineurs. Stress hormones are released during fasting may also be an important factor in causing migraine.

b. Food triggers: Some foods and drinks (alcohol, caffeine, vitamin waters, energy drinks) can trigger a migraine attack. Tyramine-containing foods

(hard cheeses, fermented or pickled foods, smoked meats, chocolate, soy sauce, onions, nuts), phenylethylamine (chocolate), histamine (eggplant, spinach, certain fish species), drinks that ferment (vinegar, wine, beer, sauerkraut). Many food additives, preservatives and color can also trigger migraines. There is monosodium glutamate (MSG) in Chinese food, seasonings, sauces, parmesan cheese and meat tenderizers, sodium nitrite (sausage, hot dogs, deli meat, canned and packaged meat, smoked and dehydrated food products); FD&C yellow #5 (tartrazine) in soft drinks, cosmetics, many medicines and ice cream.

- c. Weather Triggers: Any changes in temperature, barometric pressure and humidity can trigger migraine.
- d. Seasonal triggers: April showers, May flowers and hot and bright summer sun can all trigger headaches. Fall and winter can also trigger headaches (back-to-school and the holiday season)
- e. Travel triggers: Traveling can create irregular sleep and meal schedule and the stress of keeping track of budget and itinerary.
- f. Sensory triggers: Sight (sensitivity to bright or flickering lights, certain colors, pattern glare, fluorescent lights), sound (loud noises), smell (certain chemicals in fumes, perfumes, smoke, pollution, automobile exhaust and odors) can cause migraine.
- g. Hormonal triggers: Some women have migraine due to hormonal changes (mainly estrogen) during their monthly menstrual cycle.⁸

Western approaches to migraine prevention and treatment

A. Migraine prevention:

- a. Avoiding triggers (see above)
- b. Prophylactic medications: Antiepileptic drugs (Topiramate, Divalproex Sodium, Gabapentin), Antidepressants (Amitriptyline, Nortriptyline), Beta-Blockers (Atenolol, propranolol), Calcium Channel Blockers (Verapamil, Nifedipine), Nonsteroidal Antiinflammatory drugs (Aspirin, Naproxen), Angiotensin Receptor Blockers (Candesartan), Angiotensin II Receptor Antagonists (Olmesartan), Botulinum Toxin A (Botox) injection, Double Duty Drugs (NSAIDs, Methysergide)
- c. Biofeedback: Using relaxation and visualization techniques, deep breathing and mindfulness meditation to monitor and regulate the body's biological signals. (slow down the heart rate, lower blood pressure and ease muscle tension).⁹

B. Migraine treatment:

- a. Acute treatment options: Non-opioid pain relievers (Non-steroidal anti-inflammatory drugs such as Aspirin, Acetaminophen, Excedrin), Opioid pain relievers (Butorphanol, Oxycodone, Morphine, Meperidine), Ergot derivatives (Ergotamine, Dihydroergotamine), Triptans (Sumatriptan, Zolmitriptan, Naratriptan,...), bed rest, compresses, cold packs, biofeedback.¹⁰
- b. Alternative and complementary medicine: Vitamin B2 (Riboflavin), niacin (vitamin B3), magnesium, coenzyme Q10, fish oil, melatonin, herbal supplements (Feverfew, Butterbur) and acupuncture.¹¹
- c. Manual therapy: Physical therapy (helps to stretch body muscles, adjust postures, improve muscle strength and regulate joint movements), massage (helps to invigorate sensory pathways and improve blood and lymph flow) and chiropractic adjustment (employs massage, spinal manipulation and adjustment of the joints and soft tissue).
- d. Electrical approaches: TENS (Transcutaneous Electrical Nerve Stimulation unit device) sends mild electrical stimulation across the skin which reduces the frequency of migraine attacks. Implanted Occipital Nerve Stimulator (IONS) sends an electric current from a pacemaker to electrodes that deadens the activity of the trigeminal nerve and reduces migraine pain. Transcranial Magnetic Stimulation (TMS) produces a focused, single magnetic pulse which creates a mild electric current in the back of the skull. Vagus Nerve Stimulation and Deep Brain Stimulation are also employed.
- e. Acupuncture: Fine needles are inserted into specific parts of the body according to traditional Chinese medicine meridians. When small vessels around the needle dilate, more blood reaches the tissue and relieves inflammation and pain.
- f. Energy therapies: Homeopathy is a system of treatment that employs diluted substances to trigger the patient's own healing powers by engaging body's energy fields. Reiki is a Japanese technique for reducing stress and enhancing relaxation by laying on hands to move energy. Qigong coordinates slow movement with breathing to enhance energy flow.¹²

Ayurvedic classification of headaches (Shirah Shula)

Headaches in Ayurveda are called Shirah Shula, Shiro Roga or Shiro tapa (shula, roga and tapa mean pain and shirah or shiro mean head). In classical texts headaches are classified into different categories based on the dosha involved.

1. Vata type (vatika) headaches are usually in the cervical/occipital regions of the head and have a throbbing/pulsating quality to them with severe pain and ache. These headaches are mostly caused by stress, fear/worry, constipation and vata provoking habits such as lack of regular daily routine of sleep and eating habits and physical overactivity.

2. Pitta type (Pattika) type headaches are located in the retro-orbital/temple regions of head and the pain is sharp and intense. This type of headache is associated with nausea, vomiting and sensitivity to light. The eyes are red and may feel like they're burning and nosebleed is possible.

3. Kapha type (Kaphaja) headaches are usually located in the frontal areas of the head. They are commonly associated with sinus congestion, heaviness and runny nose. These headaches can get worse with seasonal changes especially during the spring season.

4. Sannipatika type headaches are caused by the concurrent aggravation of three doshas (vata, pitta, kapha). Symptoms of aggravation of all three doshas are present.

5. Kimija Shira Roga are headaches caused by parasitic infection which can manifest as itching, fever, pricking and smarting sensation and pain in the head.^{13,14}

“The blood and muscles in the head become moisture laden, leading to aggravation of the doshas and to the growth of worms that begin to drink the blood, producing very severe pain. This causes disorders of the mind, fever, cough, and loss of strength; the palate and scalp are dry and swollen, the pain is as if being cut (or) burnt, (it is) throbbing, emits (a) bad smell and it may be accompanied by itching, swelling, stupor (and) the nasal discharge is copper colored, thin and clear. There is ringing in the ears.”¹⁵

Ashtang Samgraha

In Vaghabata's Ashtanga Hridayam, classification of headaches are as follow:

“1. Sirastapa (headache) of vata origin: when vata is aggravated the symptoms appears as severe pricking pain in the two temples, feeling of severe pain as though the ghata (the area above the temples) gets open, the center of the brows and forehead fall out; ears are plucked out, the head reels and feels loose in all its joints, there is severe pulsations in the network of veins (blood vessels) rigidity of the lower jaw and the shoulders, intolerance to light, running in the nose, relief of pain (headache) without any reason occasionally and reduction in its severity by massaging, anointing with oil and fomentation.

Ardhavabheda (migraine): If the headache appears in half of the head it is called Ardhavabhedaka. It occurs either by fortnight (bimonthly) or monthly and subsides of its own accord; when greatly aggravated it destroys either the eye (sight) or ears (hearing).

2. Sirasstapa of pitta origin there is a feeling of hot fumes coming out from the head, fever, profuse sweating, burning sensation in the eyes, fainting, pain becomes less at night and by cold things.

3. Sirastapa of kapha origin is of taste, heaviness of the head, rigidity and cold, veins not pulsating, lassitude, pain is mild during the day and severe at nights; stupor, swelling of the eye sockets, itching inside the ears and vomiting are present.

4. Sannipattika, in that is born from rakta, the pain is similar to that of pitta origin but more severe and in that caused by all the doshas, features of all of them will be present simultaneously. By indulgence in incompatible foods, the blood and muscles become more overhydrated and become vitiated by all the doshas and lead to growth of worms in the head. These, drinking blood from the head cause severe pain, disorders of the mind, fever, cough, loss of strength, dryness, swelling pricking and cutting types of pain, burning sensation, throbbing and bad smell in the scalp, itching, dryness in the palate and head, lassitude, copper-red and thin nasal discharge and noise in the ears. Doshas with the predominance of vata produce shaking of the head known by the term Sirahkampa.

5. Sankhaka: vata and other doshas with the predominance of pitta associated with sonita (blood) produce swelling in the sankha (temples) accompanied with severe burning sensation, pain, redness, delirium, fever, thirst, giddiness, bitter taste in the mouth, yellowish face and producing quick effect, kills the patient within three days.

6. Suryavarta: vata (maruta) followed by pitta produces severe throbbing pain in the temples, eyebrows and forehead, commencing with the rise of the sun, increases in severity in the midday with hungers; of uncertain comfort to hot or cold and subsides later (after the sun sets).¹⁶

Ayurvedic causes of headache (Nidana)

Vata-type headache is caused by vata-provoking practices (too much cold, dry foods, exposure to cold dry air/wind, suppression of natural urges, irregular sleeping and eating routine, worry/fear/stress, etc.)

Pitta-type headache is caused by pitta-inducing habits (too much hot/spicy/fried foods, exposure to sunlight/heat, profuse sweating, intensity/anger, etc.)

Kapha-type headache is brought by kapha-provoking practices (cold/heavy/oily foods, lethargy, lack of exercise, too much sleep, etc.)

Sannipattika-type headache is due to vitiation of all three doshas due to the ingestion of toxins.

Anantavata-type headache is the result of a combination of vata and pitta provoking practices as mentioned above.

Suryavarta-type headache is brought on by vata-pitta vitiating factors (pitta vitiation causes are more prominent) such as exposure to sun (heat), hot spicy food and leading an overly stressful and/or intense life. This type of headache can also be initiated by unpredictable and sudden changes in life.

Krimija-type headache is due to infection caused by parasites. This is mainly due to consumption of unhealthy foods infected by these parasites in addition to inappropriate food combining.

Shankhaka-type headache caused by having a low ojas and pitta aggravating habits. This is a type of infectious headache caused by bacterial infection such as meningitis.

Ardhavabhedaka-type (migraine) headache is mostly due to vata-pitta vitiation.¹⁷ Ardhavabhedaka Shiroroga is the Ayurvedic name for the migraine headache. It is considered mostly a vata-pitta imbalance. The vata part of it is due to stress and lack of regular routine. The vata imbalance can lead to pitta imbalance if vata is not pacified. The pitta side of this condition is observed by dilation of blood vessels, sensitivity to the sun and heat and inflammation of the nerves (vata). Ayurveda considers physical, spiritual and mind/soul related causes responsible for this condition.¹⁸

Ayurvedic treatment options (Chikitsa) for headache

A. Vataja sirasula chikitsa (vata-type headache treatment): According to Vaghabhata's Astanga Hrdayam, for treatment of vata-type headache, ghee should be applied to the head and should also be ingested with warm water. Warm milk boiled with dashmula and other drugs that reduce vata dosha can be poured on the head. Herbs of varanadi gana are boiled in milk and water (50:50) until only milk remains. The butter of this mixture is taken out by churning and herbs of sweet taste are cooked in this butter (ghee). This ghee can be used as nasya. This ghee can also be taken by adding it to milk and some sugar. The herbs (karpasamajja, tvak, musta and buds sumana) can be steeped in hot water and instilled in the nose.¹⁹

It is important to re-establish the downward movements of apana vayu to its normal state. This can be done by using laxatives and purgatives. In addition, anuvasana basti can be used on a regular basis to nourish the patient and treat chronic headaches. An herbal paste made of a mixture of cinnamon, garlic and ginger can be applied to the forehead, temples and neck. Shirodhara (gently pouring medicated oil or milk) and shirobasti (holding medicated oil on top of the head in a leather cap for a period of time in a way that the oil does not leak) may be employed. Nasya is the best way of alleviating any condition affecting above the neck. Chronic headaches are a sign of low ojas. Therefore, a rasayana program should be followed for six months to one year.²⁰

B. Pitta sirasula chikitsa (pitta-type headache treatment): In pitta-induced headaches, oleation and then venesection can be done. The patient can apply cold compress to the face and wash the head (not with hot water). Purifying enema therapy can be beneficial. Medicated milk or ghee with jivaniya gana herbs are helpful either internally or nasally.²¹ In case of constipation, purgative herbs such as cascara sagrada, aloe vera, avipattikar churna or rhubarb root should be given. Nasya therapy with a medicated ghee prepared with chrysanthemum and brahmi can be applied. To help with anger, intensity and emotional symptoms, cool nervine sedatives such as gotu kola and skullcap can be given. For redness of the eyes, a preparation of chrysanthemum and rose can help clear the heat from the eyes.

Medicated oil made with sandalwood and brahmi can be used in Ayurvedic massage, shirodhara or shirobasti.²²

C. Kaphaja sirasula chikitsa (Kapha-type headache treatment): According to Vagbhata's Ashtanga Hridayam, oleation therapy can be done by drinking old ghee and then inducing vomiting. Nasal application of herbs with dry, hot and penetrating qualities and avoiding food (fasting) are beneficial. Fomentation (sweating) and external application of herbal pastes are also recommended.²³

Clearing the sinuses of any congestion and stuffiness is important in treating kapha-induced headaches. This can be done through nasya therapy or consuming the herbs internally. A paste of herbs such as clove, garlic and cinnamon may be applied to the head to help with blood circulation and relief from congestion. Application of niruha basti (a decoction of herbs administered rectally) made with ginger and honey in water is recommended.

D. Sannipattika sirasula chikitsa (Sannipattika-type headache): A combination treatment of all above three doshas should be done. If the patient is strong enough, purification therapies such as panchakarma are recommended. Other purification therapies such as palliation therapy (or mono-dieting with kitcheri) can be used.²⁴

E. Anantavata-type (tension) headache chikitsa: Massaging the neck, spinal manipulation and yoga are all of benefit for this type of headache. The patient should be advised to manage stress.

F. Suryavarta chikitsa: This condition can be treated the same way as pitta-type headache. Blood letting can be done by using leeches or venesection techniques (drawing blood from a vein). The purpose of this practice is to remove the affected dosha and blood.²⁵

G. Krimija sirasula chikitsa: According to Ashtanga Hridayam, when the headache is caused by Krimi (worm, bacteria, parasites), the blood of an animal should be placed in the nose. By doing so, the worms get intoxicated. They can then be removed by using strong nasal medications or inhalation of smoke.²⁶

Sebastian Pole summarized the treatment of headaches as clearing the pain, preventing any spasms, clearing any dullness in the head and getting rid of inflammation. He categorizes headaches into wet type (kapha), nervous type (vata) and heat type (pitta). The herbs used for the wet type are vacha, trikatu, cinnamon, eucalyptus oil, camphor oil and guggulu. For the nervous type, tagarah, jatamamsi and nutmeg are recommended. For the heat type, herbs such as aloe vera, chrysanthemum, brahmi and bhringaraja are recommended.²⁷

One clinical study evaluated the role of Nasya karma and shirodhara in the treatment of migraine. In this study patients were administered dashmool shruta ksheera shirodhara and kumkunadi ghrita nasya. Subjects did not experience adverse effects during the study. It was concluded that kumkunadi ghrita nasya was more effective than dashmool shruta ksheer

shirodhara in alleviating migraine headache. Nasya therapy proved very effective in reducing the intensity of pain, phonophobia and interval and duration of headache. The authors suggest this may be true because the drug administered through the nose can reach the Shringataka marma more easily.²⁸ In another study, laghu sutashekhara rasa and brihat dashamoola taila nasya were found to improve all symptoms of migraine such as headache, nausea, vomiting and other symptoms. When used together, they have an augmented effect.²⁹

Other Ayurvedic treatment modalities for migraine headache

There are a number of ways that Ayurveda can bring balance to life and treat the root cause of headaches and migraine in particular. In addition to specific treatment options for each type of headache, we can use other modalities to treat migraine headaches.

1. Diet modifications:

- a. Dosh specific nutrition: Depending on the dosha(s) involved in headache and also the patient's constitution, the patient must be instructed to eat a diet that pacifies the aggravated dosha.

Table-1: Dosh pacifying nutrition for vata, pitta, kapha³⁰

Food list	Vata Pacifying diet	Pitta pacifying diet	Kapha pacifying diet
Fruits	Have more: sweet fruits, avocado, melons, dates, apricot, figs, grapes, peaches. Have less: dried fruits, raw fruits, persimmon, watermelon, cranberry	Have more: sweet fruits, dark grapes, melons, pears, figs. Have less: sour fruits, berries, cherries, citrus, papaya, pineapples, apricots	Have more: apples, berries, cranberries, pomegranate, raisin, apricot, fig (dry), peaches, prunes, persimmon. Have less: sweet & sour fruits, grapes, melon pineapples, avocado, grapefruit, lemon, plum, lemon
Vegetables	More: cooked vegetables, beets (root vegetables), cucumber, leafy greens, butternut squash, okra, sweet potatoes. Less: raw vegetables, sprouts, cruciferous vegetables (like broccoli, cauliflower, cabbage), mushroom,	Have more: sweet or bitter vegetables, okra, asparagus, lettuce, cucumber, peppers. Have less: pungent vegetables, hot peppers, raw onions and garlic, tomatoes	Have more: pungent and bitter vegetables, brussel sprouts, carrot, celery, garlic, lettuce, okra, cabbage cauliflower. Have less: sweet and juicy vegetables, sweet potatoes, cucumber, tomatoes

	parsley		
Grains	More: barley, rice (white), wheat, oats (cooked), amaranth, quinoa. Have less: bread with yeast, buckwheat, millet, corn, muesli, rye, dry crackers	Have more: barley, rice (basmati), oats (cooked), wheat. Have less: buckwheat, millet, corn, rye	Have more: barley wheat, oats, rice(brown). Have less: buckwheat, millet, rice (white), corn
Animal foods	More: beef, eggs, salmon, white fish, chicken, duck, turkey Less: lamb, rabbit, pork, venison	More: chicken or turkey (white meat), rabbit, venison, eggs (white), white fish. Less: beef, lamb, seafood, eggs (yolk)	More: chicken or turkey, prawn, rabbit, venison Less: beef, pork, lamb, seafood
Legumes	No legumes except mung beans, tofu, urad dhal, red lentils	All legumes except coconut	All legumes except kidney beans, soy beans, black lentils and mung beans
Nuts	All nuts in moderation	No nuts except coconut	No nuts at all
Seeds	All seeds in moderation	No seeds except sunflower and pumpkins	No seeds except sunflower and pumpkin
Sweeteners	All sweeteners except white sugar and aspartame	All sweeteners except molasses, honey, aspartame	No sweeteners except raw honey
condiments	All spices are good except the hot ones like chili, dried ginger, horseradish	No spices except coriander, cardamom, fennel, turmeric, long pepper, fresh ginger	All spices are good except salt
Dairy foods	All dairy products in moderations	More: butter, ghee, cottage cheese, milk Less: buttermilk, sour cream, cheese, yogurt	No dairy products except ghee and goat milk
Oils	All oils are good particularly sesame, olive, ghee	More: coconut, sunflower, olive, soy. Less: almond, safflower, corn, sesame	No oils except almond, corn, sunflower in small amounts

b. Avoiding or minimizing migraine trigger foods: Migraine trigger foods can be different in every individual and finding these trigger foods can help to minimize migraine headaches. This confirms the Ayurvedic perspective of dosha specific diet for each individual.

Some common trigger foods include dairy products (skim/whole cow’s milk, goat’s milk, cheese, yogurt, etc.), chocolate, eggs, meat, citrus fruits, wheat, nuts, tomatoes, onions, corn, apples, banana, alcoholic beverages (especially red wine), caffeinated drinks, beta--phenylethylamine (e.g. chocolate), monosodium glutamate (MSG), aspartame sweeteners, nitrites (cured meats), tyramine containing foods.³¹

By paying special attention to diet and identifying food triggers, a migraineur can understand the concept of healthy diet and regular meal schedules. Using a headache diary on a regular basis with the emphasis on eating/activity patterns can help with assessing headache occurrence. Usually eating a particular food can trigger a migraine within 12-24 hours. Limiting a trigger food for 4 weeks and monitoring the frequency and severity of headaches by using a headache diary can be very beneficial.

Tyramine containing foods are one of the most common triggers for migraineurs. Therefore, it makes sense to follow a low tyramine food diet. Tyramine is not added to food and food products. Instead tyramine is produced in foods from the breakdown of the amino acid tyrosine. Tyramine is not added to food and food products. Tyramine levels in food can gradually increase as they are aged, kept for long periods of time, fermented or if not fresh.³²

Table-2: Low Tyramine Headache Diet:³³

Food group	Allowed	Use with caution	Avoid
Meat, fish, poultry, eggs	Freshly purchased and prepared meats, fish and poultry, eggs, tuna fish	Bacon, sausage, hot dogs, corned beef, bologna, ham, luncheon meats, Meats with added tenderizer, caviar	Aged, dried, fermented, salted, smoked or pickled products, pepperoni, salami and liverwurst, non-fresh meat or liver, pickled herring
Dairy	Milk (whole or 2%, skim), cheese (American, cottage, farmer, ricotta, cream cheese)	Yogurt, buttermilk, sour cream, parmesan or Romano	Aged cheese: blue, brie, cheddar, Swiss, Roquefort, stilton, mozzarella, provolone
Desserts and sweets	Any dessert made with allowed foods and ingredients (sugar, jelly, jam honey, hard candies, cakes)	Chocolate based products: ice cream, pudding, cookies, cakes, chocolate candies	Mincemeat pie
Fats, oils, miscellaneous	All cooking oils and fats, white vinegar, commercial salad dressing with allowed	Wine, apple or other fermented vinegars	

	ingredients, all species not listed in restricted ingredients		
Soups	Sources made from allowed ingredient broths	Canned soups, meat extracts	

2. Lifestyle modification:

Migraine (Ardhavabhedaka) and other type headaches can be prevented by following a healthy lifestyle. Maintaining a regular sleep schedule, eating routine and working habits and avoiding migraine triggers can reduce the frequency and severity of migraine headaches. Some of these healthy lifestyle include:

A. Proper morning routine: Daily elimination to empty bowels, inspecting tongue for any coating, brushing/flossing teeth, massaging gums, cleaning nasal passages (neti pot), self-abhyanga (daily oil application on skin and massaging), massaging ears with oils, practicing meditation, washing eyes at least once per week.

B. Proper sleep routine: Proper sleep pattern means that one must go to bed and rise according to the rhythms of nature. Vata nature people must wake up with the sun and pitta wake up half an hour before the sun and kapha one hour before the sun. It is suggested that one go to bed by 10pm for all constitutions.³⁴

C. Follow healthy eating guidelines: There are 8 factors that affect the quality of food (nature, processing, combination, quantity, habitat, time, rules of intake, responsibility). The general guidelines for healthy eating include eating food in the proper place, preparing food with loving hands in a loving way, saying Grace before meals, eating without distraction, eating with a proper frame of mind, chewing until it is an even consistency, making sure food is warm oily/moist. Food should not have opposite potencies. Drink only a small amount of fluids with meals and avoid cold drinks. Eat food with confidence and eat until 75% full. Always take some time to rest after meals and allow 3 hours between meals for foods to get digested.³⁵

D. Stress (Sahasa) management: One must both avoid factors that induce stress and vitiate doshas and also learn coping mechanisms for life stressors. Stress inducing factors can include: 1) Physical stress such as strenuous exercise, fasting, exhaustion, improper body postures, injury/trauma. 2) Psychological stress such as anger, anxiety/nervousness, excitement, confusion, grief, fear. 3) Environmental stress like high altitudes and prolonged exposure to the sun or heat. Stress avoidance is the best approach. However, some rasayana herbs which improve longevity along with physical/mental strength and immunity can be helpful. Several rasayana herbs show antioxidant, immunomodulator, hepatoprotective, antidepressant and anxiolytic effects. A few example of such herbs are shatavari (*Asparagus racemosus*), brahmi (*Bacopa monnieri*), punarnava (*Boerhavia diffusa*), centella (*Centella asiatica*), shankha pushpi (*Convolvulus pluricaulis*), amla (*Emblica officinalis*), long pepper (*Piper longum*), kutki (*Picrorrhiza kurroa*), turmeric (*Curcuma longa*) and ashwagandha (*Withania somnifera*).³⁶

E. Regular exercise: Several epidemiological studies have proven the effectiveness of regular daily exercise in reducing the intensity of migraine pain. This gives patients an opportunity to take an active role in their own treatment. Recent studies show that cardiovascular exercise can play a significant role in the modulation of pain through the activation of endogenous cannabinoid and opioid receptors.³⁷ However, exercise intensity, frequency, duration and type as well as warm up time are important factors that need to be monitored to prevent injuries and preclude the susceptibility of exertional headache. Isometric neck exercise is very beneficial to the type of migraine which is associated with neck pain.³⁸

3. Yoga for headaches:

Since stress is an important factor in creating both migraine and tension headaches, yoga can without doubt help in preventing these types of headaches. Yoga can also help with tension in the muscles of the neck, back and head which contribute to headaches. Yoga helps to release tight muscles and improve blood circulation in that region. Yoga helps relax the mind as well. Rodney Yee recommends a sequence of practices and instructions as follows: Legs-up-the-wall pose (Viparita karani) for five minutes or longer, supported cobbler's pose, half plow pose (Ardha Halasana), one-legged forward bend (Janu Sirasasana) with head support, seated forward bend (Paschimottanasana) with head support.³⁹

Other yoga asanas helpful in migraine and tension headache prevention include standing cat stretch, circle of joy, eagle arms, hold elbows overhead, neck rechargers, 6-way neck stretches, hare pose, front-stretching pose, child pose, bridge pose, fish pose, supine twist, ear-closing pose, deep relaxation in the corpse pose.⁴⁰ Relaxation poses are of great importance in preventing migraine headaches. They can be done at the beginning or at the end of a yoga session or at any time of the day when the body feels stressed or tired. Flapping fish pose (Matsya kridasana) is a great relaxation pose. We may naturally sleep in a variation of this pose due to our body's intuitive need for deep rest and relaxation. Pose of the monre or hare pose (Shashanhasana) can calm an overactive mind which is common among migraine sufferers. This pose brings fresh blood and oxygen to the head and calms and soothes the nerves. Double angel pose (Dwikonasana) is highly recommended for both tension and migraine headache. By making the arms act as a lever, this pose stretches the shoulders and chest and reduces the tension beneath the shoulder blades. Palming eye exercise (rubbing the palms of both hands together until they feel warm and gently placing them on both eyes is also advisable.⁴¹

4. Meditation:

Stress is a major contributor to both tension and migraine headaches. AH-OM Breath meditation can reduce stress. In this meditation, sit in a comfortable position. There are many types of meditations available. One can focus on the mantra and/or awareness of breath and let thoughts fade away. With exhalation, silently say or hear AAAAHHHHH and take a deep long inhalation filling your lungs and abdomen. When you exhale which is longer than inhalation, say/hear in your mind OOOOMMMM while exhaling all the air and pull the navel in towards the

spine. Walking meditation, zen breathing exercises, yoga complete breath (Ujjayi), pebble meditation, music meditation, well-being meditation are other options. In addition, keeping a proper posture and alignment of the head and neck during breathing meditation can help reduce tension and migraine headaches. Massage therapy, topical heat or cold and stretching exercises can also help minimize the severity and frequency of migraine headaches. It is very important that migraineurs get the proper amount of sleep.⁴²

5. Balms/herbal pastes for headaches:

A mixture of herbal essential oils can help to alleviate headache. Peppermint essential oil in massage oils and balm can with help with migraine. Combine the following essential oils in a base oil (almond, coconut or sesame oil) for quick relief of headache: 5 parts eucalyptus oil, 1 part anise oil, 1 part menthol crystals, 1 part camphor.⁴³ Dr Lad in the book *The Complete Book of Ayurvedic Remedies*, suggests making a paste by adding ¼ teaspoon nutmeg powder to some water and applying it to the forehead and leaving it for 30 minutes. For pitta-type headache a cooling paste can be made by mixing sandalwood powder with water. One can apply this paste to the forehead and temples and leave it on the skin for half to one hour before rinsing.⁴⁴

6. Aromatherapy:

Essential oils can enter the body through the skin, nasal passages, bronchioles, lungs and gastrointestinal tract.

I. Vata-type headaches require essential oils which have the qualities of wet, heavy, calming and warming. This is due to the light, dry, mobile and cold nature of the vata dosha. If vata is due to obstruction of channels of the body, pungent essential oils can help. These include: A) Heating alteratives to remove the accumulations of toxins and purify blood. (e.g. clary sage, sandalwood, etc.). B) Heating carminatives help to normalize and move the obstructed vata in the digestive tract.. (cumin, cinnamon, ginger). C) Mild warming diaphoretics induce sweating, eliminating toxins, increasing circulation and reducing muscle tension and aching joints (camphor, oregano, eucalyptus). D) Heating nervines to strengthen the nervous system and improve mental health (lemon balm, myrrh, nutmeg, etc.). E) If vata is caused by deficiency, nutritive herbs need to be given to build tissues such as emmenagogues (pennyroyal) and nutritive aphrodisiacs (aloe).

II. Pitta-type headaches: Due to the hot and wet nature of pitta, it can be treated with cooling, heat dispelling, drying, nutritive and calming oils. These include A) Cooling diaphoretic oils to dispel heat and inflammation (chrysanthemum, yarrow). B) Astringent oils reduce discharge and tighten the tissues or stop bleeding (calendula, yarrow). C) Cooling alteratives purify the blood and fight infections (spearmint immortelle). D) Bitter tonics destroy toxins (aloe vera, neem). E) Cooling carminatives are aromatic spices (fennel, peppermint). F) Cooling emmenagogues to regulate female cycle (carrot seed, jasmine). G) Cooling nervines

are calming to the mind (gotu kola, sandalwood). H) Nutritive tonics (neroli, spikenard). I) Rejuvenatives renew the body and mind (brahmi, rose). J) Antipyretics reduce pitta's fire (neem).

III. Kapha-type headaches: They can be treated with warming, drying, lightening and stimulating therapy. A) Diuretics to reduce water (coriander, parsley). B) Diaphoretic oils to eliminate water through sweating (eucalyptus, cloves). C) Cooling diaphoretics (peppermint, spearmint). D) Heating nervines (basil, calamus) E) Astringent oils to reduce water and congestion (sage) F) Expectorant to clear out bronchioles (bay, camphor).⁴⁵

7. Pranayama (breathing exercises):

Different types of breathing exercises have different effects on the body, mind and spirit. Breathing practices purify nadis (subtle channels that carry prana through the field of mind). If the headache is due to vata vitiation, one can benefit from alternate nostril breathing (Anuloma Viloma). If the headache is due to pitta vitiation, doing lunar and shitali pranayama can help and if due to kapha dosha vitiation, solar and kapalabhati pranayama can be beneficial.⁴⁶

8. Soothing nose drops (Nasya):

Putting about 5 drops of brahmi ghee in each nostril can alleviate the pain of migraine headache. In vata-type headaches, placing 3-5 drops of warm ghee in each nostril can help to calm down the headache.⁴⁷

9. Color and gem therapy:

In Ayurveda, the energetic qualities of colors can be used in healing headaches. Therefore, one with vata-type headache can use more orange, yellow, green, gold, brown and purple. The person with pitta-type headache can focus more on using blue, white, brown and violet. Kapha-type headache patients can add more yellow, green, gold, blue, white and violet. Gems and precious stones have healing properties as well. Vata dosha can be balanced by yellow sapphire, ruby emerald, pearl. Pitta is pacified by blue sapphire and emerald and pearl. Ruby and blue sapphire can pacify kapha.⁴⁸

Conclusion:

Migraine is a disabling disease. Migraineurs are usually prescribed multiple preventive and acute therapy medications to deal with recurrent headaches. Migraine sufferers are seeking alternative (nonpharmacologic) therapies to alleviate migraine headaches. The healing science of Ayurveda opens new doors for treatment of migraine and other type of headaches. Ayurvedic treatments are holistic therapies that are tailored to the individual since according to Ayurvedic medicine, everyone is a unique combination of five elements and three life source energies (vata, pitta, kapha). Ayurveda uses different modalities such as nutrition (based on individual

constitution), lifestyle modifications, herbs, panchakarma, yoga, meditation, relaxation techniques, pranayama (breathing exercises), aromatherapy, marma points, color therapy and gem therapy to help treat migraine headaches. These treatment approaches create a balanced physiology. This state of complete balance in healing the body and mind can allow the illness to resolve and symptoms to disappear.