MIGRAINE - A COMPREHENSIVE REVIEW

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ABSTRACT
Headaches are general and some out of them are worse than others which are defined as migraines. Migraine headaches are one of the most common problems owing to alterations in the brain and surrounding blood vessels and may exist from four to seventy two hours. Over a lifetime, only one percent of us escape headaches altogether. Over a year, it is estimated that ninety percent of the population get at least one headache. About sixteen to seventeen percent of the population get a migraine headache sometime in their life — that is to say over a billion people worldwide at some point get migraine. Migraine may bring a suffering phase in an individual’s schedule yet it can be handled with the familiarity of some self-care remedies and by making simple modifications in the routine lifestyle. Depending upon the severity and occurrence of the attacks, it becomes essential to take migraine medications on a temporary basis or long duration. However, natural care along with appropriate drugs, if need be may expedite the healing process. In fact, holistic approach may even avert the happenings of migraine episodes in the first place. During adolescence migraines become more common among women and this carry on for the rest of the lifetime, and two times more common among elderly females than male. In women migraines without aura are more common than migraines with aura, however in men the two types happen with similar rate of recurrence. On the whole, maintaining a healthy weight, regular and healthy meal routine, regular sleeping schedule, exercise and lastly positive and stress-free attitude towards life may facilitate to pave the clear way to recovery and make things easier for migraine management.

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INTRODUCTION

History of migraine:

Galen of Pergamon used the term hemicrania (half-head), from which the word migraine was eventually derived. Approximately 1500 BCE in ancient Egypt an early description consistent with migraines was available in the Ebers papyrus. In 200 BCE, writings from the Hippocratic School of medicine described the visual aura that can come first before the headache and a partial relief obtained through vomiting. In 1887 Louis Hyacinthe Thomas first divided migraines into two types namely: migraine with aura (migraine ophthalmique) and migraine without aura (migraine vulgaire). About 7,000 BCE Trepanation, the deliberate drilling of holes into a skull, was practiced since it was considered to work via “letting evil spirits escape”. In the 17th century William Harvey recommended trepanation as a treatment for migraines. While many treatments for migraines have been attempted but in 1868 that use of a substance known as fungus ergot from which ergotamine was isolated in 1918. Methysergide was developed in 1959 and the first triptan, Sumatriptan, was developed in 1988. During the 20th century improved study plan with effective preventative measures were detected and validated and also put forth that the pain arose from the meninges and blood vessels of the head. Areteaus of Cappadocia divided headaches into three types: cephalalgia[1,2], cephalæa, and heterocrania. Migraines were first comprehensively classified in 1988. In 2004 The International Headache Society newly restructured the classification of headaches according to which migraines are primary headaches along with tension-type headaches and cluster headaches, among others.

Epidemiology (statistical information): [3-5]

Migraine is the 3rd most widespread and 7th leading cause of disability worldwide. Among adults of all ages, migraine is one of the top 20 causes of disability in human life (The World Health Report 2001, WHO). In the UK, there are an estimated 190,000 migraine attacks every day (Steiner et al, Cephalalgia, 2003). Just over one third (34.3 %) of migraine sufferers face difficulties or discrimination at work because of their mare migraine condition (The Migraine Trust, 2004).

Worldwide, migraines affect nearly 15 % or just about one billion people. According to the National Headache Foundation, more than 37 million (about 12 %) Americans suffer from migraine, and it affects three times as many women as men. It is more common in women at 19 % than men at 11 %. In the United States, about 6 % of males and 18% of females get migraine frequently in a given year, with a lifetime risk of about 18 % and 43 % respectively affecting them loss of work and lost productivity from migraine. In Europe, migraines affect 12 to 28 % of people at certain point in their life time at about 6 to 15 % of adult men and 14 to 35% of adult women facing in any case one migraine attack yearly. Rates of migraines are slightly lower in Asia and Africa than in Western countries. Incidence rates for people under 30 years of age vary from 1.5 to 6 per 1000 in men and from 3 to 24 per 1000 in women.

Chronic migraines happen in around 1.4 to 2.2 % of the population. Migraine remains undiagnosed and undertreated in at least 50 % of patients, and less than 50 % of migraine patients consult a physician (Pavone, & Panconesi, September 2007). Migraines most commonly start between 15 and 24 years of age and occur most frequently in those 35 to 45 years of age. In children, about 1.7 % of 7 year old and 3.9 % of those between 7 and 15 years old have migraines, somewhat more common in boys before puberty.

The journal Current Pain and Headache estimate roughly that people who have chronic migraines lost an average of five working days in every quarter of the year. People who get regular migraines were also found to make less income than people free from migraine. It is estimated that 40 % to 60 % of migraine attacks are due to premonitory (warning) symptoms lasting hours to days. Migraine is an illness of long duration and the prevalence is highest from the ages of 25 years to 55 years. Migraine can occur at all ages and usually begins before the age of 20 in 50 %. The overall prevalence of headache increases from preschool age children to mild adolescence. Before teenage years migraine prevalence is higher in boys than in girls. As adolescence approaches, incidence and prevalence increases until 40 years, thereafter it declines. 50 % of the general population have headaches during any given year, and more than 90 % report a lifetime history of headache. The prevalence of migraine in children and adolescents is 7.7 %. Tension-type headache is more common than migraine, with a lifetime prevalence of about 52 %, 90 % of migraine patients have a little headache-related disability, and out of them half are rigorously disabled and need bed rest. The severity of migraine is variable. 25 % of migraine patients experience 4four severe attacks per month, 48 % have 1 to 4 severe attacks, and 38% have ≤ 1 severe attack per month. However, Migraine also is a common primary headache disorder, affecting 18 % of women and 6 % of men. Chronic daily headaches occur ≥ 15 days per month and affect 5 % of women and 2.8 % of men. By far, the most common headache disorder in the general population is periodic tension-type headache, which affects 40 % of the population. Prevalence of migraine in adults is estimated at 10 to 15 % in Africa. In the EC (2004, 15 countries evaluated), the total cost of migraine was estimated at €25 billion per year, the next-highest after dementia among neurological disorders.

Migraine - Definition:

Migraine [6,7] is a neurological disease or disorder characterized by recurrent moderate to severe headaches often in association with a numerous symptoms of autonomic nervous system. The word derived from the Greek ἡμικρανία (hemikrania), "pain on one side of the head", from ἡμι- (hemi-), "half", and κρανίον (kranion), "skull". Although many people use the term "migraine" to describe any severe headache, a migraine headache is the result of specific physiological changes that occur within the brain and lead to the characteristic pain and associated symptoms of a migraine. A migraine headache can cause concentrated throbbing or a pulsing sensation in one area of the head and is normally accompanied by nausea, vomiting, and intense sensitivity to light and sound, smells, feeling sick, vomiting, painful headache and disturbed vision.

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The pathways of Migraine:

The exact cause of migraine is still under study. Recent evidence suggests that the following said sequence of pathways (Figure 1) may happen. Migraines are characterised by recurrent, pulsating pain on one or both sides of the head and are generally accompanied by one or more symptoms. First: Migraine 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 result in symptoms such as visual disturbance, numbness or tingling sensations and dizziness. Forth: Chemicals in the brain cause blood vessel dilation and inflammation of the surrounding tissue. Fifth: The inflammation spreads across nerve supplied by the trigeminal nerve causing pain.

![Figure 1: Migraine pathways.](image)

Distinction between migraine and normal headache:\[6\]:

A headache is a pain in the head that occurs arbitrarily and at irregular intervals but is not actually a disease. The key difference between a migraine sufferer with pain and the pain of an ordinary headache is rather than the dull pain of a tension headache, 85 per cent of migraine sufferers experience a continual throbbing, pulsating or pounding pain which is felt with each beat of the heart, similar to a knife being stabbed continually into the head. As a consequence, migraines were thought to be caused by vasodilatation blood vessels in the brain expanding and pressing on pain-sensitive structures but experts are not sure what cause migraines. Migraines run in families, but it isn't clear why some people only get migraines out of them. Although term "migraine" is used to describe any severe headache, a migraine headache is the result of specific physiologic changes that occur within the brain.

Types of Headaches:\[8\]:

People who have family history of migraines will suffer from migraines frequently and the pain persists anywhere in the region of head and neck. Headache is a symptom caused by several conditions stimulated from head and neck. Brain tissue is non-sensitive to pain due to non-existence of pain receptors in it. Pain is caused by pain sensitive areas around head and neck like muscles, nerves, arteries, veins, subcutaneous tissue, eyes, ears, sinuses etc Depending on the cause and origin. The headache is classified into 2 types: 1. Primary headache. 2. Secondary headache.

Primary headache:

These are the most common headache. Migraine, tension headaches, cluster headaches, hemicrania continua are included in this category. Tension headaches are most common, arises due to strain in muscles of head and neck. Pulsating pain in head, pain in eyebrows, band like tightness in upper part of the neck, nausea, sometimes vomiting is also associated in this primary headaches and this pain lasts for 3 hours to 3 days. According to old theories, intracranial vasoconstriction is responsible for aura of migraine. New theory tells that neuronal hyper excitability of cerebral cortex especially occipital cortex causes the migraines.

Secondary headache:

Headaches may be caused by problems elsewhere in head and neck. Some of them are not harmful. Thunder clap headache is caused by subarachnoid haemorrhage which is caused by stroke in which blood accumulates around the brain. Headache with fever neck stiffness is caused by meningitis. Headache that aggravates by strain and change of position is due to increased intracranial pressure arising due to brain tumor or idiopathic intracranial hypertension, or cerebral venous sinus thrombosis. Headache with visual disturbances is caused by giant cell arthritis in which blood vessel wall is inflamed and obstructs the blood flow. Headache, dizziness, vomiting sensation with muscular weakness happens due to angle closure glaucoma. Headache, nausea, and vomiting are sometimes caused by carbon monoxide poisoning.
**Triggering factors for headache**[8-12],
1. Weather and temperature changes like extreme sunlight and rain, extreme cold exposure.
2. Strong odours such as perfumes, paint smells.
3. Tight hair accessories like bands, clips, hat.
4. Strenuous exercises including sex.
5. Poor posture in daily activities.
6. Red wines and alcoholic drinks cause headache.
7. Skipping meals or Overeating.
8. Smoking and taking coffee.
9. Mental stress, grief, excessive thinking, depression.
10. Due to drugs like contraceptive pills.
11. Lack of proper sleep.

**Kinds of headache**[10].

**Tension headaches:**
Tension headaches, the most common type, feel like a constant ache or pressure around the head, especially at the temples or back of the head and neck. Not as severe as migraines, they don't usually cause nausea or vomiting, and they rarely halt daily activities. Over-the-counter treatments, such as Aspirin, Ibuprofen, or Acetaminophen (Tylenol), are usually sufficient to treat them. Experts believe these may be caused by the contraction of neck and scalp muscles (including in response to stress), and probably changes in brain chemicals.

**Cluster headaches:**
Cluster headaches, which affect more men than women, are recurring headaches that crop up in groups or cycles. They appear suddenly and are characterized by severe, debilitating pain on one side of the head, and are often accompanied by a watery eye and nasal congestion or a runny nose on the same side of the face. During an attack, people often feel restless and unable to get comfortable; they are unlikely to lie down, as someone with a migraine might. The cause of cluster headaches is unknown, but there may be a genetic component. There is no cure, infact medication can cut the frequency and duration. Medications prescribed for the prevention of cluster headaches include: Verapamil with Prednisolone: Verapamil is considered more effective than other treatments such as lithium though high doses are typically required. Greater occipital nerve injections of Betamethasone plus Lignocaine are considered effective prophylaxis for episodic cluster headaches. Lithium is effective in treating cluster headache, though to a lesser degree than Verapamil. It is also associated with serious side effects which mean it is less safe than Verapamil. Lithium appears to be more effective in individuals with chronic compared to episodic cluster headaches. Testosterone replacement therapy also useful for cluster headaches. Lifestyle measures: Avoiding alcohol and foods associated with cluster headaches may be beneficial for some, as may avoiding smoking. Adopting a healthy lifestyle (e.g. Doing regular exercise and maintaining regular sleeping and eating routines) may also be beneficial, as may avoiding stress and tension which may trigger attacks.

**Sinus headaches:**
When a sinus becomes inflamed, often due to an infection, it can cause pain. It usually comes with a fever and can be diagnosed by symptoms or the presence of emission viewed through a fibre-optic scope. Headaches due to sinus infection can be treated with antibiotics, as well as antihistamines or decongestants.

**Rebound headaches:**
Excess use of painkillers for headaches can, ironically, lead to rebound headaches. The principal causes include over-the-counter medications like aspirin, acetaminophen (Tylenol), or ibuprofen (Motrin, Advil), as well as prescription drugs. One of the hypotheses is that too much medication can cause the brain to move into an excited state, triggering more headaches. Another ground is that rebound headaches are a symptom of withdrawal as the level of medicine drops in the bloodstream.
Migraine headache facts:

Despite the word "migraine" explained as any severe chronic headache due to neurological disorder and they are usually accompanied by increased sensitivity to light, sound, and smells and associated with sensory warning signs like tingling in the arms and legs, nausea, vomiting. These warning symptoms can range from flashing lights or a blind spot in one eye to numbness or weakness involving one side of the body. The distressing pain brought by migraines can last for hours or several days. People with migraine tend to have recurring attacks activated by a number of different factors, including stress, anxiety, hormonal changes, bright or flashing lights, lack of food or sleep, and dietary substances. Migraine in some women may relate to changes in hormones and hormonal levels during their menstrual cycle. Scientists trusted that migraines have a genetic cause and connected with the dilation and constriction of blood vessels in the head and muscles, in the neck and face. Migraine headaches which are recurring range from moderate to severe pain. Migraine is three times more common in women than in men. A number of people explained when migraine was just to attack they experienced flashing lights or zigzag lines or temporarily lose their vision. Migraines are usually self-limited, recurrent severe headache with autonomic nervous symptoms. Migraine which lasts for 72 hrs is known as status migrainosus. Migraine attacks generally activating the sympathetic nervous system is frequently thought to be part of the nervous system that controls primitive responses to stress and pain called as “fight or flight” response, and this activation creates many of the symptoms combined with migraine attacks. According to WHO, Fact sheet 277, March 2004 depression is three times more common in people with migraine or severe headaches than in healthy individuals. Roughly one-third of affected individuals can predict the onset of a migraine because it is preceded by an "aura", visual disturbances that appear as flashing lights, zigzag lines or a temporary loss of vision.

A principal assumption on the mechanism of a migraine put forth that the temporal artery that lies outside the skull and just under the temple, enlarges or dilates in response to a triggering event such as acute stress or caffeine intake. They are coiled around the temporal artery and cause them to release chemicals that can cause inflammation, pain, and even greater enlargement of the artery as a result of which the pain becomes bad. Children can get migraine attacks too. It was explained by Goadsby in New England Journal of Medicine, 2002 that attacks can start at any age, but they usually start in children who are in their early to mid teens. Migraine headache is a result of specific changes within the brain. It causes severe head pain that is often accompanied by sensitivity to light, sound, or smells. A migraine headache is the result of specific physiologic changes that occur within the brain and lead to the characteristic pain and associated symptoms of a migraine. The headache of a migraine often involves only one side of the head but in some cases, patients may experience pain bilaterally or on both sides. The pain of a migraine is frequently described as throbbing or pounding and it may be made worse with physical exertion and such patients consistently experience nausea or vomiting. The exact cause of migraine is not yet known. Changes in neurotransmitter levels within the brain are said to be responsible. The pain usually is unilateral (on one side of the head); although about a third of the time the pain is bilateral (on both sides of the head). Most people with migraine find their condition to be manageable with a combination of medications and lifestyle modifications, diet and exercise. Migraines are diagnosed by the typical clinical signs and symptoms. At the American Academy of Neurology 2010 annual meeting it was put forward that moderate or severe depression increases the risk of episodic migraines becoming chronic. Waking up tired or having trouble falling asleep is common problem in the people with migraines. "Many people will have insomnia as a result of their migraine and "change of moods can be a sign of migraine". Some patients will feel very depressed or suddenly down for no reason," "Others will feel very high". Dutch researchers recently reported a possible genetic link between depression and migraine, particularly migraine with aura. The aura may last for several minutes, and then resolves as the head pain begins or may last until the headache resolves. For patients who have never experienced an aura, the symptoms can be frightening and can imitate the symptoms of a stroke.

Migraines can run in families and are diagnosed using certain criteria. 1. At least five previous episodes of headaches. 2. Exist between 4–72 hours. 3. At least two out of these four: one-side pain, throbbing pain, moderate-to-severe pain is worsened by or prohibits routine activity. 4. At least one associated feature: nausea and/or vomiting, or, if those are not present, then sensitivity to light and sound. 5. A migraine may be foreshadowed by aura, such as visual distortions or hand numbness. 6. Symptoms of migraine can occur a while before the headache, immediately before the headache, during the headache, and after the headache. 7. Many people experience migraines with auras just before or during the head pain, but most do not. 8. Migraine sufferers also may have signs called prodrome that can occur several hours or a day or so before the occurrence of headache. These premonitions may consist of feelings of excitement or intense energy, cravings for sweets, thirst, drowsiness, irritability, or depression. 9. Migraine is a chronic condition with recurrent attacks. Most but not all migraine attacks are associated with headaches. Migraine headaches usually are described as an intense, throbbing or pounding pain that involves one temple or sometimes the pain is located in the forehead, around the eye, or at the back of the head. 10. A migraine headache usually is aggravated by daily activities such as walking upstairs, Nausea, vomiting, diarrhea, facial pallor, cold hands, cold feet, and sensitivity to light and sound commonly accompanied by migraine headaches. 11. As a result of this sensitivity to light and sound, migraine sufferers usually prefer to lie down in a quiet, dark room during an attack. A typical attack lasts between 4 and 72 hours. Patients and their family members usually aware that these warning symptoms are the beginning to commence migraine attack.
Signs of migraine:
1. Depression, irritability, or excitement: Mood changes can be a sign of migraines. Dutch researchers recently reported a possible genetic link between depression and migraines, especially migraines with aura. American Academy of Neurology 2010 annual meeting suggests that moderate or severe depression increases the risk of episodic migraines becoming chronic.
2. Lack of restful sleep: Waking up tired or having trouble falling asleep are common problems in people with migraines. Studies have shown an association between lack of restorative sleep and the frequency and intensity of migraines.
3. During migraines, most people will have insomnia says Edmund Messina, MD, medical director of the Michigan Headache Clinic, in East Lansing. Lack of sleep can also trigger migraines.
4. Stuffy nose or watery eyes: Some people with migraines have sinus symptoms, such as stuffy nose, clear nasal drainage, droopy eyelids, or tearing.
6. Pulsing and throbbing pain on one or both sides of the head: Pulsating pain is a common sign of migraines. The throbbing is often felt on one side of the head. In an online survey of patients with migraines, by the National Headache Foundation observed that 50% "always" have throbbing on one side, while 34% expressed that they "frequently" have this symptom.
7. Eye pain: Migraine pain often behind the eye burrows. Dr. Messina say said People will blame it on eye strain and many will get their eyes checked, but that won't make their headaches better relieved.
8. Neck pain: Stiffness of neck most likely is the early stage of the migraine. After a migraine attack throbbing pain experienced at the back of their neck. The National Headache Foundation found 38% of migraine patients "always" have neck pain and 31% "frequently" throughout migraine headaches.
9. Frequent urination: If you have to go urinate often it can be known that a migraine is coming. It's one of the many symptoms people experience just before a migraine attack is going to happen. These warning signs, also known as the prodome phase of a migraine, can come before an hour or as much as two days before the start of headache pain.
10. Yawning: Yawning too much is another sign that a migraine is about to strike and it is one of the signs of an approaching migraine.
11. Numbness or tingling: Some people with migraines have sensory aura and they may have a temporary lack of sensation or a pins-and-needles feeling, typically on one side of the body, moving from the fingertips through the arm as well as across the face.
12. Nausea or vomiting: A recent analysis of the National Headache Foundation's American Migraine Prevalence and Prevention study found people with frequent migraine-related nausea have more severe pain and more trouble getting relief from medication than migraine sufferers with little or no nausea.
13. Light, noise, or smells trigger or worsen pain: In the throes of a migraine attack, the migraine patient tends to seek place of safety in a dark, quiet place. Bright lights and loud noises and certain kinds of odours can trigger a migraine or intensify the pain.
14. Trouble speaking: Speech difficulties can be another sign that a migraine will happen. "More people with migraines will feel like they're blithering."
15. Weakness on one side of the body: When an arm goes bendy, it can be a sign of a migraine. Some people experience muscle weakness on one side of the body before a migraine attack.
16. Vertigo or double vision: One type of migraine, called a basilar-type migraine, can cause dizziness, double vision, or loss of vision. Some people with migraines may experience balance problems also.
17. Headache hangover: After the migraine passes, a person may feel that his body has been relaxed. Researchers found that certain patients commonly experienced symptoms such as fatigue, trouble concentrating, weakness, dizziness, light-headedness, and loss of energy during the post-migraine period.
18. Activity triggers or worsens pain: Routine activities such as walking or climbing stairs can make migraine pain worse. Some migraines are induced by exercises like running, weight-lifting or physical exertion.
19. Increasing pain during physical activity.
20. Inability to perform regular activities due to pain.
22. Bloodshot eyes.
23. Cravings for sweet or salty foods.
24. Irritability.
25. Sleepiness.

Things can trigger a migraine:
1. Anxiety.
2. Stresses.
3. Lack of food or sleep.
4. Exposure to light.
6. Each person’s experience is different, and symptoms may change with each kind of migraine.
Causes for migraine:
1. Stress.
2. Anxiety.
3. Fatigue.
4. Hunger.
5. Pregnancy.
6. Perimenopause.
7. Depression.
8. Oral contraceptive pills.

Four possible phases to migraine attacks are:

Migraines have well defined stages. Most people experience more than one phase. Not everyone will experience the aura stage and it is possible to have the aura symptoms without the headache. Each phase can vary in length and severity. The stages are:
1. Prodrome phase or Premonitory Stage\[13\]. This phase occurs in 6- percent of migraines which exist for 2 hours to 2 days. This describes certain physical and mental changes such as tiredness, craving sweet foods, feeling thirsty, alternation of mood, irritability, depression, euphoria, fatigue, stiffness in neck, sensitivity to smells, light are seen.
2. Aura phase: head ache in this phase survive for few minutes and at that time Vision, sensory, motor disturbances, blurred vision, zigzag lines in vision can be clearly observed. Feeling of sensation needles are prickling in head and nose region, motor disturbances, alteration in speech, weakness in limbs are also seen but these symptoms may exist 5 to 60 minutes.
3. Pain phase or Main Attack Stage: This phase lasts for 2 hrs to 3 days and Pain is associated with nausea, vomiting, vision disturbances. Sensitive to smell, light, sounds. Unilateral or bilateral headache pain is mild to moderate. The head pain is typically described as throbbing and one sided.
4. Postdrome phase or Resolution\[14\].
5. Recovery Stage: The effect of migraine lasts for few days after the main headache is ends known as postdrome phase i.e. weakness, not feeling refreshness. Most migraines fade slowly although some can be resolved suddenly by vomiting.

To get relief from these 4 pain phases simple pain medicines such as Ibuprofen and Paracetamol (acetaminophen) can be used for the headache, nausea, and for the avoidance of triggers. Specific agents such as triptans or ergotamines may be used by those for whom simple analgesics are not effective. Relief of symptoms, or sensitive treatments, during attacks consists of Sumatriptan, ergotamine drugs, and analgesics such as ibuprofen and aspirin. If these treatments are administered early the effectiveness can be more. Sympathetic activity also delays emptying of the stomach and thereby prevents oral medications from entering the intestine being absorbed. The damaged absorption of oral medications is a common reason for the ineffectiveness of medications taken to treat migraine headaches. The increased sympathetic activity also decreases the circulation of blood, and this leads to paleness of the skin as well as cold hands and feet and then contributes to the sensitivity to light and sound as well as blurred vision. Nevertheless, migraine still remains largely under diagnosed and undertreated.

Aura:

Aura is a term used to describe a neurological symptom of migraine, most commonly visual disturbances. There can be:
1. Blind spots.
2. Colored spots.
3. Sparkles or stars.
4. Flashing lights before the eyes.
5. Tunnel vision.
6. Zigzag lines.
7. Temporary blindness.
8. Numbness or tingling.
10. Dizziness.
11. A feeling of spinning (vertigo).
12. Pins and needles sensations in an arm or leg.
13. Less commonly, an aura may be associated with limb weakness (hemiplegic migraine).
14. Speech or language problems (aphasia).
15. Pain that has a pulsating, throbbing quality. They are two types namely

Migraine without Aura:

Former name is common migraine hemicrania simplex. Common symptoms are attacks last between 4 and 72 hours when untreated or unsuccessfully treated. The headache is usually on one side of the head with a throbbing or pulsating pain which affects the patient’s routine daily life and will worsen owing to everyday exercise such as walking or climbing stairs. During this type of migraine the patient can likely to feel sick and may vomit or have diarrhoea and he may also become sensitive to light (photophobia) and/or sound (phonophobia). Additional neurological symptoms which develop before the headache begins, usually lasting about 20 to 60 minutes. These symptoms include visual disturbances such as flashing lights or blind spots in the field of eyesight, tingling, numbness or pins and needles in the arms and legs, speech problems or weakness on one side of the body. These symptoms may also
occur either with a mild headache or even no headache. Intense throbbing headache, usually on one side of the head, shoddier by movement lasts for 4 to 72 hours.

**Migraine with Aura:**

Former Names are Classic or Classical Migraine, Focal Migraine Ophthalmic Migraine, Hemiparasthetic Migraine, Aphasic Migraine, Migraine Accompanee, Complicated Migraine. Common indications are people who experience migraine with aura will have some or all the symptoms of a migraine without aura. 2. Rarer Types of Migraine with Aura are: 1. Basilar-type Migraine. The symptoms will include two or more out of visual disturbances in both eyes, hearing problems, tingling in the hands and feet, dizziness, vertigo and ringing in the ears, loss of balance, double vision, blurred vision, difficulty in speaking and fainting. During the headache, some people lose consciousness. These are very frightening. Studies on basilar-type migraine are limited. 2. Hemiplegic Migraine: Hemiplegic migraine is another rare but severe form of migraine causes reversible paralysis, usually on one side. Hemiplegic migraine often begins in childhood. In some people, aura symptoms can last for days or weeks. It is another rare but severe form of migraine where reversible paralysis occurs, usually on one side. In some people, aura symptoms can last for days or weeks. Hemiplegic migraine often begins in childhood and there may be an often strong family history. With regard to diagnosing this condition usually require a full neurological examination to discard other causes, as the symptoms can be indicative of other diseases.

**Familiar Hemiplegic Migraine (FHM):**

This condition has been linked to a genetic defect and transitory paralysis on one side of the body, coma, confusion, and drowsiness can subsist. The headaches continue for 5 to 10 days. The symptoms can be misunderstood as epilepsy.

**Sporadic Hemiplegic Migraine (SHM):**

In this type of aura migraine, the same symptoms of FHM without any family link. Migraine Aura without Headache: also known as silent migraine where an aura or other migraine symptoms are experienced, but the headache does not develop about 1% of migraine patients experience migraine aura without ever having a headache.

**Other Types of Migraine:**

These are less common. 1. Ophthalmologic migraine: It is a very rare type of migraine that occurs mainly in young people in which there is weakness of one or more of the muscles that moves the eye. In addition to headache, symptoms of ophthalmologic migraine are a very rare type of migraine that occurs mainly in young people in which there exist weaknesses in the muscles that move the eye. In addition to headache, symptoms of ophthalmologic migraine include dilation of the patient’s inability to move the eye upward, downward or across, as well as a drooping of the upper eyelid. 2. Abdominal Migraine. This type of migraine usually occurs in children and describes recurring attacks of abdominal pain which last from 1 to 72 hours. Symptoms include loss of appetite, nausea and vomiting. The diagnosis of abdominal migraines is still controversial. Some evidence indicates that recurrent episodes of abdominal pain in the absence of a headache may be a type of migraine or a forerunner to migraines. These episodes may happen in a way that may not follow a migraine-like prodrome and usually last minutes to hours. They often occur in those with either a personal or family history of typical migraines. 3. Menstrual Migraine: Many women feel their migraine attacks are linked to their menstrual cycle. Migraine is a definite condition where the attacks occur between two days before a period starts or finishes and at no other time within two days of a period of starting or finishing the headache may be disappeared. 4. Status Migrainosus: This is a medical term fedishor debilitating migraines. This is also known as intractable migraine which last several weeks.

**Differential diagnosis**\(^{[15]}\):

Other conditions that can cause similar symptoms to a migraine headache include temporal arthritis, cluster headaches, acute glaucoma, meningitis and subarachnoid haemorrhage. Temporal arthritis typically occurs in people over 50 years old and presents with tenderness over the temple, cluster headaches presents with one-sided nose stuffiness, tears and severe pain around the orbits, acute glaucoma is associated with vision problems, meningitis with fevers, and subarachnoid haemorrhage with a very fast onset. Tension headaches naturally occur on both sides, are not pounding, and are less disabling. Those with stable headaches which meet criteria for migraines should not receive neuroimaging to look for other intracranial disease. This requires that other concerning findings such as papilledema where in swelling of the optic disc is absent.

**Prodrome:**

One or two days before a migraine, you may notice subtle changes that signify an oncoming migraine, including: 1. Constipation. 2. Depression. 3. Food cravings. 4. Hyperactivity. 5. Irritability. 6. Neck stiffness. 7. Uncontrollable yawning.

**Postdrome:**

The final phase, known as postdrome, occurs after a migraine attack. During this time you may feel drained and washed out, though some people report feeling mildly elated. Other signs and symptoms which may specify, denotes more serious medical situation.
Problems:
1. An abrupt, severe headache like a thunderclap.
2. Headache with fever, stiff neck, mental confusion, seizures, double vision, weakness, numbness or trouble speaking.
3. Headache after a head injury, especially if the headache gets worse.
4. A chronic headache becomes worse after coughing, exertion, straining or a sudden movement.
5. New headache pain exists if the patient older than 50.

Triggers:
Some things can cause a migraine to start which are called triggers and they may be different from each other. Some common triggers are:
1. Stress.
2. No eating poor eating.
3. Poor sleeping habits.
4. Change in common habits.
5. Red wine.
7. Strong odours.
8. Chocolate.

Certain events and factors like medical, environmental, dietary, emotional and physical may also contribute in causing the onset of migraine attack. Emotional triggers include stress, anxiety and depression. Physical triggers comprise fatigue, strain in shoulder or neck and poor posture. Dietary reasons such as alcohol, caffeine, irregular eating habits, and food additives like tyramine, dehydration and dieting may lead to a sudden fall or rise in the blood sugar levels which may lead to migraine attacks. Environmental triggers consist of smoking, flashing lights, strong odour, climatic changes, noisy or stuffy atmosphere. Medicinal reasons such as sleeping pills, contraceptive medications or certain hormonal treatments like hormone replacement therapy may also be one of the reasons behind migraine incidents. When it occurs as tension headaches stress, fatigue, and sleep deprivation are the most common triggers. Some people can clearly identify triggers that cause the migraine headaches, but many cannot. Potential migraine triggers include various triggers are thought to bring about migraine in certain people prone to developing migraine. Triggers existed do not always cause migraines likewise avoiding triggers also does not always prevent migraines.

Different people may have different triggers:
Individual triggers can include: 1. Foods: Aged cheeses, salty foods and processed foods may trigger migraines. Skipping meals or fasting also can trigger attacks. 2. Food additives: The sweetener as aspartame and the preservative monosodium glutamate, found in many foods, may trigger migraines. 3. Drinks: alcohol, especially wine, and highly caffeinated beverages may trigger migraines. 4. Stress: Stress at work or home can cause migraines. 5. Sensory stimuli: Bright lights and sun glare can induce migraines; assign the case of loud sounds. Unusual smells including perfume, paint thinner, people second-hand smoke and others can trigger migraines in some. 6. Changes in wake-sleep pattern: Missing sleep or getting too much sleep may trigger migraines in some people. 7. Physical factors: Intense physical exertion, including sexual activity, may provoke migraines. 8. Changes in the environment: A change of weather or barometric pressure can prompt a migraine. 9. Medications: Oral contraceptives and vasodilators, such as nitroglycerine, can aggravate migraines. 10. Hormonal changes in women: Birth control pills are a common trigger. Women may have migraines at the end of the periods cycle as the oestrogen component of the pill is stopped which is termed as an oestrogen-withdrawal headache. 11. between 12 to 60 % of people report foods as triggers. Evidence for dietary triggers, however, mostly relies on self-reports are not accurate enough to prove or disprove any particular triggers.

Migraine Symptoms: In general, symptoms of a migraine attack include:
1. Moderate-to-severe, throbbing pain in the head, eye pain.
2. Most commonly one-sided pain less frequently both sides of the head is affected.
3. Pain located near the eye on affected side.
4. Pain that worsens with exertion or physical activity.
5. Sensitivity to light and sound.
6. Nausea or vomiting.
7. Debilitating pain that hinders daily activities.

Risk factors for migraine:
Up to 25 % of people experience a migraine headache at some point in their life. Most migraine sufferers are female than men. It is estimated that after adolescence, the ratio of female to male patients who experience migraines is about 3:1. There seems to be a genetic predisposition to migraine, if there is often a strong family history of migraine in patients with this disorder. Several factors make you more prone to having migraines.

A person who has migraine has a more risk of having 1 or more other medical or psychiatric disorders (depression is the common comorbidities of migraine affecting about 40 % of migraine sufferers); these other disorders are comorbid to migraine. The following Figure 2 shows some of the prominent comorbidities.
Figure 2: Various comorbid medical and psychiatric conditions associated with migraines.

Family history \[16-18\],

Migraines also liable to run in families because of genetic component and up to 90 percent of people with migraines have a family history of migraine attacks. If one or both of the parents have migraines, then there is adequate chance of having migraines to their sons and daughters. In fact, three out of four people who get migraines are women. According to the Office on Women’s Health this may be because of hormonal fluctuations brought on by menstruation or menopause. The journal Current Pain and Headache estimated that migraines affect 18 percent of all women. Though obesity isn’t a straight trigger of migraines, being considerably overweight can increase the risk for a regular headache progressing into migraine.

Complications are:

1. Abdominal problems: Certain pain relievers called non-steroidal anti-inflammatory drugs (NSAIDs), such as Ibuprofen like Advil, Motrin IB, others, may cause abdominal pain, bleeding, ulcers and other complications, especially if taken in large doses or for a long period of time. 2. Headaches medication-overuse\[^{19-21}\]: Over-the-counter or prescription headache medications are taken more than 10 days a month for three months, or in high doses, you may be setting yourself up for a serious complication known as medication-overuse headaches since they only stop relieving pain but also cause headaches and also causes continued the cycle if medicines are consumed further. 3. Serotonin syndrome: Serotonin syndrome is a rare, potentially life-threatening condition that occurs when the body has too much serotonin, which is a chemical found in the antidepressants known as selective serotonin again uptake inhibitors (SSRIs) or serotonin and norepinephrine reuptake inhibitors (SNRIs). These medications naturally raise serotonin levels and when combined, they cause more increased serotonin levels in the system, if taken one of these medications. Triptans include medications such as Sumatriptan (Imitrex) or Zolmitriptan (Zomig). Some common SSRIs include Sertraline (Zoloft), Fluoxetine (Sarafem, Prozac) and Paroxetine (Paxil). SNRIs include Duloxetine (Cymbalta) and Venlafaxine (Effexor XR).

Also, some people experience complications from migraines such as: 1. Chronic migraine: migraine is lasted for 15 or more days a month for more than three months, you had a chronic migraine. 2. Status migrainosus: People with this complication have migraine attacks that last for more than three days. 3. Persistent aura without infarction: Usually an aura goes away after the migraine attack. However, some people may have an aura that lasts for more than one week after a migraine attack has come to an end. A prolonged aura may have similar symptoms to bleeding in the brain (stroke). In this regard, there exists a prolonged aura without signs of bleeding in the brain or other problems. 4. Migrainous infarction: Some people who have a migraine with aura may have aura symptoms that last longer than one hour which can be a sign of bleeding in the brain. If anybody attacks migraine with aura, then the aura symptoms last longer than one hour, which necessitates neuroimaging tests to determine if there is bleeding in the brain. 5. Age: Migraines can begin at any age, though most people experience their first migraine during adolescence. By the age of 40, most people having migraines experience their first attack. 6. Sex: Women are three times more likely to have migraines. Headaches are inclined to affect boys more than girls during childhood, but on the contrary by the time of puberty and beyond, more girls are affected.
Pregnancy migraine management\cite{22-25},

The women who have migraines, headaches begin just before or shortly after onset of menstruation. They may also change during pregnancy or menopause and recover after menopause. Some women report that migraine attacks begin during pregnancy, or the attacks may get worse. However, for many, the attacks advanced or didn't happen during later stages in the pregnancy. Many women find that their headaches stabilize or even resolve during pregnancy. This may be related to more consistent hormone levels that occur during pregnancy. To lessen the risk of birth defects, certain medications used to prevent migraines must be discontinued prior to a pregnancy. There are only limited studies of medications which are used to treat migraine headaches during pregnancy. Acetaminophen is relatively safe when used in recommended doses. If a patient is experiencing frequent headaches, there available some treatment alternatives that may be provided by doctor. Many migraine medications, including the triptans, are not well studied in pregnancy. The probable benefits to the patient need to be weighed against the risks to the foetus before these medications are prescribed.

Children migraine management\cite{26,27},

Migraine headaches may occur in children. Treatment is similar to the treatment of migraines in adults, but medication dosages may need to be adjusted depending on the age. 1. Acetaminophen and ibuprofen are often quite effective in controlling acute headaches. 2. For more severe or refractory headaches, some of the triptans have been identified as being beneficial to the patient. 3. If headaches occur frequently, daily medication may be permitted for prevention. 4. Diet, regular sleep patterns, routine exercise, and biofeedback, are all likely highly useful in decreasing the frequency and severity of migraines in children. 5. Headache diary is a helpful for identification and avoidance of triggers.

Preparing for appointment of doctor:

The patient should seek medical advice if he has frequent or severe migraine symptoms that cannot be controlled with over the counter painkillers. The symptoms may be a sign of a more serious condition, such as a stroke or meningitis, and should be assessed by a doctor immediately. 1. Paralysis or weakness in one or both arms and/or one side of the face. 2. Slurred or garbled speech. 3. A sudden agonising headache resulting in a blinding pain unlike anything experienced before. 4. Headache along with a high temperature, stiff neck, mental confusion, seizures, double vision and a rash possible.

Diagnosis:

Before starting any form of treatment the patient should ensure that he is being treated for the appropriate migraine condition. If other medical conditions co-exist beside the migraine confirmed diagnosis and appropriate treatment can help prevent some migraine attacks from occurring and enable to control the remaining attacks more efficiently. Migraine is neurovascular disorder and is associated with genes that regulate the functioning of the brain cells. The symptoms of an individual migraine attack may vary from a mild distress to a major emergency which may manifest all the characteristics of the disorder. A number of people experience the migraine attack preceded by the development of aura up to 30 % of the individuals. Other symptoms associated with migraine include frequent urge of urination, perspiration, nausea, feeling of sickness followed by vomiting, experiencing hypersensitivity towards light, also known as photophobia, difficulty in focusing, sensitivity to sound or phonophobia or may develop osmophobia which is characterized by the sensitivity towards smells.

Diagnostic procedures\cite{28}:

There are no specific tests which can diagnose migraine. The neurology doctor will likely diagnose the condition on the basis of the medical history, a review of the symptoms, and a physical and neurological examination ECT. It may sound obvious, but before commencing any form of treatment the patient should ensure that he is being treated for the right condition if other medical problems co-exist alongside the migraine which is noteworthy with regard to treatment. A confirmed diagnosis of migraine and appropriate treatment can help to prevent some attacks from occurring and ensure to control the remaining attacks. Imaging the brain with an MRI and CT scans or performing a brain wave test (electroencephalogram [EEG]) is not necessary if the patient's physical examination is normal. The diagnosis of a migraine is depending on signs and symptoms. Neuroimaging tests are necessary to diagnose migraine to find other causes of headaches if examination and history do not confirm a migraine diagnosis.

Tests:

Tests such as electroencephalography (EEG), computed tomography (CT) brain with contrast to identify any defects, magnetic resonance imaging (MRI), CBP ESR serum electrolytes and spinal tap may also be performed for detecting: 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. Tumours.

Blood tests:

The doctor may order blood tests to examine blood vessel problems, infections in the spinal cord or brain, and toxins in the system.
Computerized tomography (CT) scans:
A CT scan uses a series of X-rays to create detailed cross-sectional images of the brain. This enables doctors to diagnose tumours, infections, brain damage, bleeding in the brain and other possible medical problems that may be causing the headaches.

Magnetic resonance imaging (MRI):
An MRI creates a powerful magnetic field and radio waves to produce detailed images of the brain and blood vessels. MRI scans help doctors diagnose tumours, strokes, bleeding in the brain, infections, and other brain and nervous system pertaining neurological conditions.

Spinal tap (lumbar puncture):
If the doctor suspects an underlying condition, such as infections or bleeding in the brain, he may recommend a spinal tap (lumbar puncture). In this procedure, a thin needle is inserted between two vertebrae in the lower back to extract a sample of cerebrospinal fluid for laboratory analysis.

According to the International Classification of Headache Disorders II (ICHD-II) criteria for migraine without aura, a patient must have at least five headache attacks. Physicians will look at family medical history and check the patient for the symptoms described in order to diagnose migraine. 1. Five or more attacks. 2. Four hours to 3 days in duration. 3. At least 2 of unilateral location, pulsating quality, Moderate or severe pain intensity. 4. Aggravation by or avoidance of routine physical activity. 5. At least one or two additional symptom such as nausea, vomiting, sensitivity to light and sound (Photophobia and/or phonophobia). 6. Headache attacks lasting 4 to 72 hours untreated or unsuccessfully treated. 7. Aggravated by or causing avoidance of routine physical activity for instance, walking or climbing stairs. 8. The headache cannot be attributed to another disorder.

Management of migraine treatment:
There are three main aspects of treatment- trigger avoidance, acute symptomatic control, and pharmacological prevention. Medications are more effective if used earlier in an attack.


There are three different levels of migraine treatment:
1. Preventative treatment to stop attacks from occurring.
2. Acute treatment to attack as soon as it is happened.
3. Rescue treatment of acute treatment found ineffective or does not fit. The treatment for migraines depends upon on how frequently the headaches occur and how long the headaches last.

The complex nature of migraines means that the treatments available are varied and differ from person to person. When headaches are affecting badly, a number of different preventative medications cut out the migraine attacks from happening. If an individual experiences frequent headaches, or if the headaches routinely last for several days, then preventive medications may be indicated. These may be prescribed on a daily basis to decrease the frequency, severity, and duration of migraine headaches. There are many different medications which have been shown to be effective. Migraine preventative medication is usually used between 3 to 18 months. This treatment generally leads to a big reduction in the number of headaches of the sufferer. This improvement often continues if the sufferer stops taking the preventative drug. Therefore these drugs can aid to break a cycle of migraine in certain cases. It is important to record fully any kind of migraine attacks that happen when taking preventative medication can assist the doctor to decide whether the medication is helping to lessen the headaches.

However, some medicines containing combinations of drugs with codeine or caffeine have been strongly suspected as it causes chronic daily headache. Over-The-Counter (OTC) analgesics often fail because they are taken too late in the migraine attack cycle. The digestive process slows down during a migraine attack which reduces drug absorption in the stomach, and the medicine is therefore not effective. Taking analgesics in soluble form where ever possible as this helps to absorb in the stomach. If one can recognize the warning signs that a migraine attack is starting, should take medication without delay.

A variety of medications have been specifically designed to treat migraines. In addition, some drugs commonly used to treat other conditions also may help relieve or prevent migraines[29-31]. Medications used to combat migraines fall into two broad categories:

Cardiovascular drugs:
Beta blockers are commonly used to treat high blood pressure and coronary artery disease can reduce the frequency and severity of migraines. The beta blocker propranolol has proved effective for preventing migraines.

Calcium channel blockers:
Another class of cardiovascular drugs, especially Verapamil also may be helpful in preventing migraines and relieving symptoms from aura.
Antihypertensive medication:
Lisinopril has been found useful in reducing the length and severity of migraine. Side effects can include dizziness, drowsiness or light-headedness.

Antidepressants:
Certain antidepressants are good at helping to prevent some types of headaches, including migraines. Tricyclic antidepressants, such as Amitriptyline, Nortriptyline and Protriptyline are often prescribed for migraine prevention. Tricyclic antidepressants may reduce migraine headaches by affecting the level of serotonin and other brain chemicals, though Amitriptyline is the only one proved to be effective for migraine headaches. Preliminary research suggests that one Serotonin-norepinephrine reuptake inhibitors (SNRIs), Venlafaxine (Effexor, Venlafaxine HCL), may be helpful in preventing migraines.

Anti-seizure drugs:
Some anti-seizure drugs, such as Valproate (Depacon), Topiramate (Topamax) and Gabapentin (Neurontin), seem to reduce the frequency of migraines. Lamotrigine (Lamictal) may be helpful if you have migraines with aura. In high doses, however, these anti-seizure drugs may cause side effects, such as nausea and vomiting, diarrheal, cramps, hair loss, and dizziness.

Cyproheptadine:
This antihistamine specifically affects serotonin activity, sometimes prescribed to children as a preventive measure.

Botulinum toxin type A (Botox):
For the treatment of chronic migraine headaches in adults. Injections are made in muscles of the forehead and neck. When this is effective, the treatment typically needs to be repeated every 12 weeks.

Migraine medications:
The treatment of an acute migraine headache may vary from Over-The-Counter medicines (OTC), like Acetaminophen (Tylenol and others) or Ibuprofen (Advil, Motrin, etc.)

Narcotics:
Narcotic pain medications are not necessarily appropriate for the treatment of migraine headaches and are associated with the phenomenon of rebound headache, where the headache returns sometimes more intensely when the narcotics wear off. In all cases of migraine, the use of acute pain therapies must be watched closely so that a patient does not develop headache due to medication overuse.

Ergots:
Ergotamine and caffeine combination drugs (Migergot, Cafergot) are less effective than triptans. Ergots seem most effective in those whose pain lasts for more than 48 hours. Ergotamine may be the cause to deteriorate nausea and vomiting connected with migraines and increase side effects, besides lead to medication-overuse headaches.

Anti-nausea medications:
Since migraines are time and again accompanied by nausea, with or without vomiting, medication for nausea is appropriate and is usually combined with other medications. Frequently prescribed medications are Chlorpromazine, Metoclopramide (Reglan) or Prochlorperazine (Compro).

Opioid medications:
Opioid medications containing narcotics, particularly codeine, are sometimes used to treat migraine headache pain for people who can't take triptans or ergot. Narcotics are habit-type and are frequently used only as a final option.

Glucocorticoids (Prednisone, Dexamethasone):
A glucocorticoid may be used in combination with other medications to recover from pain relief. As there is possibility of steroid toxicity, Glucocorticoids shouldn't be used regularly.
Other medications:

A number of strong pain killers, and other medicines may help to stop a migraine attack. If anti-sickness (anti-nausea or anti-emetic) drugs are taken several minutes before an analgesic, it can help to reduce nausea and enhance the action of the pain killer drugs. Regularly recommended anti-emetics include Domperidone and Metoclopramide. Stronger analgesics available include Naproxen, Diclofenac sodium and Tolufenamic acid.

Several severe migraine sufferers are treated with one type of migraine-specified drugs known as triptans. Almotriptan, Eletriptan, Frovatriptan, Naratriptan, Rizatriptan, Sumatriptan and Zolmitriptan all yield the same effect, but the different characteristics of each drug will suit particular people only. Triptans can be given as pills, as quick-dissolving tablets, as a nasal spray, or as injection and if taken by mouth gets relief from the symptoms of migraine in about half an hour. Ergotamine preparations\(^{[33,34]}\) or if necessary a sedative, can be prescribed when any of the above drugs prove to be ineffective. The value of ergotamine for migraine is limited due to problems in absorption and side effects, mainly nausea, vomiting, abdominal pain, and muscle cramps. Thus it is best to keep away from them.

Rescue medication\(^{[35]}\):

If acute medications do not give enough relief from an attack rescue medication can be preferred if acute treatment does not show positive results. Anti-nausea (anti-emetic) plus anti-inflammatory or pain-relieving medications may be advised.

Pain-relieving medications:

It is termed as acute or abortive treatment; these types of drugs are taken during migraine attacks and are designed to put an end to symptoms that have already existed.

Preventive medications\(^{[36]}\):

These types of drugs are taken regularly, often on a daily basis, to reduce the severity or frequency of migraines.

Many people with migraine attacks use triptans to treat their migraines. Triptans work by promoting constriction of blood vessels and blocking pain pathways in the brain. Triptans effectively relieve the pain and other symptoms that are associated with migraines. Some triptans are available as nasal sprays and injections, in addition to tablets. Side effects of triptans include nausea, dizziness, and drowsiness and muscle weakness. They aren't recommended for people at risk of strokes and heart attacks. People with migraines often take beta blockers or antidepressants to prevent headaches, and triptans, such as Imitrex or Relpax, once symptoms start.

Although over-the-counter analgesics such as aspirin and ibuprofen work well to stop many kinds of headache pain, but they're a bit ineffective to soften migraines. Prescription drugs also don't work well for many migraine sufferers, and most of them may cause unnecessary side effects. For this sort of migraine sufferers, home remedies may be their best option.

Dangers of over using medication:

Chronic daily headache: There is a condition called &apos; medication overuse headache &apos; which is linked with over-using pain killers, like Paracetamol. Excess utilisation of pain killers by the patients may get daily headache, which is called chronic daily headache\(^{[37]}\), implies headache on at least fifteen days in any one month that is known as the headache is frequent. Several combination medical drugs with Codeine or Caffeine may be causing medication overuse headache. Therefore regular use of these drugs on more than three days a week make the headaches worse so that it is imperative to avoid over-using medication. In such cases getting medical advice is necessary.

Complementary treatments:

1. Acupuncture.
2. Chiropractic.
3. Homeopathy.
4. Herbalism.
5. Osteopathy.

Simple mechanical techniques to relieve the pain of migraine attacks:

Temperature – both hot and cold:

Applying an icepack, or a hot water bottle, to the painful area. Hot or cold showers help some sufferers or try soaking the hands and feet in hot or cold water. Anyone can use this no-risk headache therapy, even pregnant women. To alleviate neck tightness, apply heat to the back of the neck, for a pulsating headache, try icing the temples.
Pressure:
To get relief from the headache apply pressure to the pulse points on the side of the forehead or neck.

Massage and reflexology:
As they are complicated techniques, a trained practitioner is needed to get the most excellent results. Since osteopathy and chiropractic are also stage-managed techniques to avert damage, these techniques should be undertaken under the guidance of registered practitioner.

Biofeedback:
The biofeedback [38] technique has been used to reduce the number of attacks and the pain of migraine. This technique teaches to control certain body functions and redirect blood to the hands, reduces blood flow in the head and helps to ease headache pain. Once patient learns the technique, it can be practised elsewhere. The chief aim is to educate people how to control bodily responses easing tight muscles and to prevent headache pain.

Botox:
Botox [39] is the brand name for botulinum toxin A, a toxin secreted by the bacterium that causes botulism. When injected into muscle, the toxin stays in the injected area without passing into the bloodstream, and gives relaxation to the injected muscle.

Acupuncture:
In acupuncture, thin needles are inserted under the skin to resupport the flow of energy. Acupuncture could help prevent acute migraines and reduce the drug treatments with lesser adverse side effects.

Massage:
For temporary relief, try rubbing the temples or take-up a neck, back, head, or shoulder massage. If six weekly massage sessions are held there may be noticed less frequent migraines and better sleep during the massage weeks.

Stretching:
Headache-relieving stretches can get at muscle tension that contributes to pain. Add them to your workout or use them when a headache looms. Try these three: neck range of motion (chin forward, upward, and toward each shoulder); shoulder shrugs (shrug up, up and forward, and up and back); and neck isometrics (press palm into forehead and hold; press hand on each side of the head). Stretch twice a day for 20 minutes per session. Hold the stretch for five seconds, relax for five seconds, and repeat each stretch three to five times.

Aerobics:
The National Pain Foundation advocated that regular aerobic exercises, such as brisk walking, biking or swimming slow running can reduce migraine intensity and frequency.

Meditation and Yoga:
Various meditation techniques can be used to focus attention and calm the mind from distractions such as chronic pain and can reduce migraine frequency and severity and improve overall quality of life. The National Centre for Complementary and Alternative Medicine explained that Yoga combines physical postures, breathing exercises, and meditation to boost relaxation and balance the mind, body, and spirit, and may get less frequent and less painful attacks, apart from anxiety.

Relaxation exercises:
Deep breathing, relaxing to music, can help people to slow down migraine headache in addition to mental and body relaxation.

Transcranial magnetic stimulation:
Delivering magnetic pulses to the brain may become a useful therapy for zapping migraines which give better relief than those who treated their pain with a placebo device. This non-invasive treatment takes one or two hours and is conducted in a clinic by placing an electromagnetic coil near the head to deliver the pulses.

Electrode implants:
People with intractable headaches may one day rely on electrodes implanted in the neck or brain to provide pain relief. In this treatment, an electrode is surgically implanted at the base of the skull, near the occipital nerve. A power source is also implanted (near the collar bone or elsewhere in the body) to deliver electrical impulses via a wire to the electrode.
Home Remedies for Migraines[39],
1. Peppermint: The anti-inflammatory property of peppermint helps soothe the nerves and it has an antispasmodic and calming effect. Simply drink peppermint tea sweetened with honey. Repeat as needed. Massage each of the temples with one drop of peppermint essential oil or a combination of peppermint and lavender oils.
2. Cayenne Pepper: Cayenne pepper is a great home remedy for migraines because it stimulates circulation and improves blood flow. Plus, it contains capsaicin, a compound that works as a natural painkiller.
3. Chamomile: Chamomile has anti-inflammatory, antispasmodic, and soothing properties that help relieve migraines. Regularly drinking chamomile tea can also help prevent the problem.
4. Ginger: Ginger may prove effective in the treatment of common migraines. It blocks prostaglandins, which are chemicals that promote muscle contractions, impact hormones and regulate inflammation in blood vessels in the brain. It also clearly reduces nausea. Be cautious not to combine ginger supplements with blood thinners because of potential drug interactions. Ginger has been well-documented as anti-inflammatory, antiviral, antifungal, and antibacterial. Ginger powder benefits can be compared with Sumatriptan, a common migraine prescription, but with fewer side effects.
5. Apple Cider Vinegar: Being a nutritional powerhouse, apple cider vinegar helps reduce migraines. Apple cider vinegar also offers health benefits like aiding detoxification, controlling blood sugar, regulating high blood pressure, reducing bone pain, promoting weight loss and relieving constipation.
6. Apples: Eating an apple as soon as you experience the warning signs of a migraine attack can help reduce the problem. Moreover, research suggests that the smell of a green apple can also help reduce the severity of migraine and shorten migraine episodes, especially for those who find the smell pleasing.
7. Feverfew: Feverfew is another effective home remedy for migraines that has been used for centuries. The herb contains a compound called parthenolide that relieves spasms in smooth muscle tissue and prevents inflammation. It also neutralizes prostaglandins that influence pain signals, thereby reducing pain.
8. Lemon peel: 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.
9. Fresh grape juice: Consume the juice in the concentrated form, without adding water.
10. Carrot juice mix: Mix 200 ml of beet, spinach or cucumber juices, with 300 ml of carrot juice and drink it on a regular basis. 11. Primrose oil: 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.
11. Include garlic in your diet: Either chew a piece of garlic in the raw form or mix it with other food items.
12. Chamomile tea: Another effective method would be to have chamomile tea. This is effective in reducing the occurrence of migraine.
13. Luke warm water: Taking lukewarm water enema is effective. It cleanses the bowels, thereby removing the toxins from the body and helping prevent migraine.
14. Sandalwood powder: Take some sandalwood powder and add a few drops of water to it, and make a paste. Apply this paste on the forehead and let it dry. Once dry, rub it off by hand and wash it.
15. Cabbage leaves juice: 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.
16. Coffee: It can help and hinder headaches. A cup of strong coffee can help reduce migraine symptoms.
17. Fish oil: Fish oil reduces inflammation and works by restricting the blood vessels in your temples.
18. Butterbur: The most effective "natural medicine," is called butterbur, or parasites. Butterbur is a plant grown in Germany. It is very effective in treating migraine pain and asthma, as well as alleviates upset stomachs. Butterbur is safe, although it can only be available online.
19. Magnesium: In doses of 400 to 600 milligrams per day, magnesium is effective for menstrual-associated migraines and migraines associated with auras.
20. Vitamin B₂ (Riboflavin): In doses of 400 milligrams a day, vitamin B₂ can also act as a preventative for migraines. It can cause some people to urinate more frequently or have darker urine, so the dosage may have to be adjusted.
21. Co-enzyme Q10: Taking 300 milligrams per day has proven to be effective in reducing head pain.
22. Niacin (Vitamin B₃) rich diet: Increased intake of niacin is helpful in alleviating migraine pain. Some of the foods rich in vitamin B₃ are yeast, whole wheat, green leafy vegetables, tomatoes, nuts, sunflower seeds, liver and fish.
23. Ice Pack: Using an ice pack is perhaps the most popular home remedy to get rid of tension and asthma, as well as migraine headaches. It has a numbing effect that alleviates pain. You can also try alternating hot and cold compresses for about 15 minutes, as needed. For better results, add lavender and/or peppermint essential oils to the water for the compress.
24. Massage: Massaging the head helps ease migraine headaches as it blocks pain signals sent to the brain. It also boosts serotonin activity and stimulates certain serotonin receptors, thereby reducing the symptoms as well as frequency of migraines.
25. Headband: This is a practice that’s been done since ancient times. It relieves headache pain.
26. Coriander Seed: coriander to relieve sinus pressure and headaches by pouring hot water over the fresh seeds and inhaling the steam. Coriander seeds anti-inflammatory potential may prove beneficial for some migraines.
29. Lavender oil: Inhaling lavender oil during a migraine may help calm or conquer some symptoms more quickly. Breathe in Tea or apply a diluted solution to the temples.

30. Rosemary oil: It can be diluted and applied topically or inhaled for aroma therapeutic purposes. The plant’s leaves can be dried and ground for use in capsules. Rosemary has antimicrobial, antispasmodic, and antioxidant effects and ability to reduce migraine pain.

31. Lime Tree, Linden: The plant has been used to calm nerves and ease anxiety, tension, and inflammatory problems. It can be used to relieve tension and sinus headaches, calming the mind and inducing sleep.

32. Teaberry: It is popularly known as wintergreen Teaberry as an astringent and as a stimulant to fight fatigue. It has potential to treat neuralgias and headaches and stomach pain and vomiting.

33. Mullein: It is used for treating inflammatory conditions to spasms, diarrhoea, and migraines. Tinctures of the plant are used in modern homeopathic therapies for migraine treatment.

34. Yarrow: It is used to heal wounds and slow blood loss and inflammatory conditions, muscle spasms, and anxiety or insomnia, relieve colds, flu’s, coughs, and diarrhoea.

35. Evodia: Evodia has traditionally been used to treat abdominal pain, headaches, diarrhoea, and vomiting. The anti-inflammatory and pain-reducing properties of the fruit may help ease migraine pain and blood pressure.

Although many herbal remedies can be safe when used correctly, they may also have side effects, just like any prescription medication. Some herbs can interact with other medicines, such as oral contraceptives or heart medications. They can be dangerous or even deadly when misused. Some herbs have little research to back claims, to verify toxicity levels, or identify potential side effects.

Ayurvedic remedies: According to Ayurveda, migraine is mainly a result of imbalance in the Vata and Pitta dosha. Therefore, remedies that help to correct this imbalance are useful in dealing with the problem. Some of the herbs recommended are Brahmi, Jatamansi, Shankhpushpi and Ashwagandha, but for best results, they need to be taken at the appropriate dose under the supervision of an experienced Ayurveda practitioner. Migraine headaches are difficult to cure and therefore, over time, it is important that one can learn how to prevent them from occurring in the first place.


**Diet and Migraine**

There is no specific diet for the migraine that helps with symptom relief. Understanding the particular triggers of the migraines and avoiding those dietary triggers may help some sufferers decrease the frequency of attacks. However certain foods can be triggers for migraines in susceptible people. These foods include: 1. Red wine. 2. Aged cheeses. 3. Preservatives used in smoked meats (nitrates). 4. monosodium glutamate. 5. Artificial sweeteners. 6. Chocolate, and. 7. Dairy products. 8. Alcoholic beverages can also trigger migraine in some people.

**Lifestyle changes:**

1. Maintain a regular schedule for eating and sleeping.
2. Avoid certain foods that might trigger a migraine.
3. Keep well hydrated since dehydration has been identified as a migraine trigger for some people.
4. Exercise regularly.
5. Relaxation strategies and meditation also have been recognized as effective strategies to prevent migraines and decrease headache severity.

Some people find that exercises that promote muscle relaxation can help manage the pain of migraines. Examples of types of mind-body exercises that can help encourage relaxation such as-

1. Meditation.
2. Progressive muscle relaxation.
3. Guided imagery.
4. Yoga. Most migraine patients can manage mild-to-moderate attacks at home with the following strategies: Self-care measures can help ease the pain of a migraine headache.
5. Get enough sleep, but don’t oversleep every day and it is proper to go to bed and wake up at regular times.
6. Rest and relax. If possible, rest in a dark, quiet room when you feel a headache is anticipated. Place an ice pack wrapped in a cloth on the back of your neck and apply gentle pressure to painful areas on your scalp.

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7. Keep a headache diary and continue even after you see your doctor. It will help the patient to learn more about what triggers the migraines and what treatment is most effective.
8. Resting with pillows comfortably supporting the head or neck.
9. Resting in a room with little or no sensory stimulation like light, sound, or odours.
10. Withdrawal from stressful surroundings.
11. Try certain over-the-counter headache medications.

12. Drugs:
1. Nonsteroidal anti-inflammatory drugs (NSAIDs) like Aspirin, Ibuprofen (Motrin, Advil), and Naproxen are pain relievers but they cause Stomach ulcers and bleeding are serious potential side effects.
2. Acetaminophen (Tylenol) may be safely taken with NSAIDs for an additive effect. Taking acetaminophen by itself is usually safe, even with a history of stomach ulcers or bleeding.
3. Combination medications: Some Over-The-Counter pain relievers have been approved for use with migraine. These include Excedrin Migraine, which contains acetaminophen and aspirin combined with caffeine.

Devices and surgery:
Medical devices, such as biofeedback and neurostimulators, have some advantages in migraine prevention, mainly when common anti-migraine medications are contraindicated or in case of medication overuse. Biofeedback helps people to be conscious of some physiological parameters so as to control them and try to relax and may be efficient for migraine treatment. Neurostimulation uses implantable neurostimulators similar to pacemakers for the treatment of intractable chronic migraines with encouraging results for severe cases. A transcutaneous electrical nerve stimulation device is approved in the United States for the prevention of migraines. Migraine surgery, which involves decompression of certain nerves around the head and neck, may be an option in certain people who do not improve with medications.

Prognosis for migraines:
Most patients who have migraines find that their headaches may be controlled with the preventive medications and lifestyle changes. Patients with a diagnosis of migraine need to be aware of how their lifestyle may directly impact the frequency and severity of their headache and means of proper timely controlling migraine triggers may provide substantial benefit. Responsive prevention and treatment of migraine is extremely important. An increased sensitivity after each successive attack, eventually leads to chronic daily migraine in some individuals. Most individuals can overcome much of the discomfort from this debilitating disorder with proper combination of drugs. Most people with migraines have periods of lost productivity due to their disease is not associated with an increased risk of death. Lifestyle modifications such as diet and exercise, yoga and muscle relaxation technique may be useful to help migraine sufferers to manage the triggers of their condition and avoiding dietary triggers of migraines may be able to help some patients decrease the frequency of attacks. Most people with migraines find their condition to be manageable with a combination of medications and lifestyle modifications. Preventive medications of a variety of drug classes may be used in some patients to decrease the frequency of migraines.

CONCLUSION
Researchers believe that migraine is the result of fundamental neurological abnormalities caused by genetic transformations at work in the brain. Migraines are a significant source of both medical costs and lost productivity. It has been estimated that they are the most costly neurological disorder in the European Community, costing more than € 27 billion per year of which missed work is the greatest component. In those who do attend work with a migraine, effectiveness is decreased by around one third Negative impacts also frequently occur for a person's family. Many people with insufficient treatment of their migraine attacks do not realise to try different treatment options for migraine over a period of time so that one should ensure to find what treatment or treatment combination suits him best. New models are aiding the scientists in studying the basic science involved in the biological cascade, genetic components and mechanisms of migraine. Understanding the causes of migraine as well as the events that affect them will give researchers the opportunity to develop and test drugs that could be more targeted to prevent attacks entirely. Overall, migraines do not appear to increase the risk of death from stroke or heart disease. Although there are still many unanswered questions, much more is now aware about the pathophysiology of migraine, due to newer drug options and newer treatment strategies. The people need to conceptualise migraine differently and modify their attitude and approach suitably. Abundant evidence indicates that migraine reduces health-related quality of life more than osteoarthritis or diabetes. Part of the disability among people with headache can be attributed to complicated conditions, which need adequate management.
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