

Migraine

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Abstract

Migraine can be regarded as a highly prevalent chronic neurological condition with episodic exacerbations and is related with significant pain, disability. It also reduces the quality of life. The exact cause of migraine is not fully implicit. Migraine attacks also seem to result from pathophysiological mechanisms activated by specific triggering factors. Thus, management of migraine is an important healthcare issue. Migraine management includes avoidance of trigger factors, lifestyle modifications, non-pharmacological therapies, and medications. This paper reviews about the impact of some trigger factors and lifestyle modifications on migraine.

Keywords: Migraine; Lifestyle Modifications; Trigger Factors.

Introduction

Migraine has been reported as a common health problem in which professional help is needed. Migraine can be regarded as a highly prevalent chronic neurological condition with episodic exacerbations and is related with significant pain, disability [1]. It also reduces the quality of life. Thus, management of migraine is an important healthcare issue. The World Health Organization ranked migraines as the 19th leading reason of disability worldwide. Prevalence of migraine is highest in both men and women between the ages of 25 and 45 years [2].

Definition

Migraine is defined by the IHS as a recurrent headache that occurs with or without aura and lasts 4–72 h. Migraine is a chronic disorder with episodic manifestations, progressive in some individuals and it is very important public health

priority to identifying risk factors for its progression³.

Causes of Migraine

The exact cause of migraine is not fully implicit. Most of the researchers think that migraine is due to abnormal changes in levels of substances produced in the brain. When the levels of these substances increase, they can cause inflammation and press on nearby nerves causing pain.

Genes also have been linked to migraine; people with abnormal genes that control the functions of certain brain cells have chances to get migraines. Migraine attacks also seem to result from pathophysiological mechanisms activated by specific triggering factors. Migraine is more common in people who have family history of migraine.

Types

International headache society (IHS) divides headache into primary and secondary headache disorders. Primary headaches comprise migraine, tension-type headache, cluster headache, other autonomic cephalgias and other primary headache disorders.

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Clinical presentation of migraine: Migraine may present with aura and migraine without aura.

- Migraine without aura (previously called common migraine): Almost 80 percent of migraine victims have this type of migraine.
- Migraine with aura (previously called classic migraine): In this type of migraine focal neurological symptoms precede or some time accompany headache. The pain is moderate to severe and often unilateral, throbbing, accompanied by autonomic symptoms (e.g. Nausea, vomiting, sensitivity to sound, light, and smell). Migraine last from 4 to 72 hours, and when it is longer than 72 hours is called status migrainosus [4].

Phases of Migraine

Migraine attack has four possible phases:

Patient may experience some or all of the phases in their migraine attack.

1. Prodrôme (premonitory symptoms): About 60% of patients experience a premonitory phase that occurs hours or days before the onset of headache. The premonitory symptoms include hyperactivity, hypo activity, depression, craving for particular foods, repeated yawning.
2. Aura: An aura is usually a visual disturbance that lasts about 5 to 20 minutes. (Flashing lights, bright spots, or zigzag lines) somatosensory phenomena (unilateral or bilateral numbness or tingling in the hand, tongue, or side of the face, or weakness in one arm, slight incoordination of gait; confusion and drowsiness) are common.
3. Headache phase: It begins with onset of throbbing headache and decline in serotonin levels, often unilateral at onset, headache may be bilateral (40% of patients) either at onset or the headache intensifies over the next several hours. In addition to it, nausea (90% of patients) and vomiting (one third) can occur. Many patients experience sensitivity to odor, light, sound they seek dark and quiet room. Other symptoms may also occur such as blurry vision, anorexia, abdominal cramps, nasal stuffiness, sweating, stiffness or tenderness of neck, sensation of heat or cold. Pain gradually subsides.
4. Postdrome phase: Finally there is the 24-hour

period following the migraine, called the postheadache or postdrome phase. There is often scalp or neck tenderness, anorexia, feeling of exhaustion, irritability, poor concentration, feel sleepy or depressed [4].

Abbreviated International Headache Society criteria for the common primary headaches (Giles Elrington, 2002).

Migraine without Aura

- Headache lasting 4 hours to 3 days
- Nausea/vomiting and/or light and noise sensitivity
- Two of the following:
 - Unilateral pain
 - Moderate or severe intensity pain
 - Aggravation by simple physical activity
 - Pulsating pain

Migraine with Aura

At least 3 of the following:

- Reversible focal brainstem or cortical dysfunction
- Aura develops over >4 minutes, or 2 auras in succession
- Each aura <60 minutes
- Headache <60 minutes following aura

Episodic Tension-Type Headache

- Duration 30 minutes to 7 days
- At least 2 of the following:
 - Mild or moderate intensity pain
 - Bilateral pain
 - No aggravation by simple physical activity
 - Pressing or tight (non-pulsating) pain
 - No nausea/vomiting; may have light or noise sensitivity (not both)

Chronic Tension-Type Headache

- >15 days pain per month, for >6 months
- At least 2 of the following:
 - Mild or moderate intensity pain
 - Bilateral pain
 - No aggravation by simple physical activity

- Pressing or tight (non-pulsating) pain
- No vomiting; one only of nausea, light sensitivity, noise sensitivity.

All of the above diagnostic criteria require the exclusion of secondary (pathologically verifiable) causes for pain⁵.

Common Triggers

- Sleep
- Change in sleep patterns (lack of or too much sleep)
- Environmental trigger: sudden weather changes, bright flashing lights, sun without eye shades, screens, loud noises or strong odors (perfumes/ fumes)
- Physical activity: Over-exertion
- Psychological factors: stress and anxiety, depression or relaxation after stress [6].

Yadav Rk (2009) conducted a prospective study to evaluate migraine trigger on 182 patients with migraine. He found that migraine triggers were emotional stress, physical exhaustion, sleep deprivation, menstruation and weather changes [7].

- Physical events (like a hit to the head)
- Dietary Skipping meals/ fasting [8].
- Hormone changes during the menstrual cycle, pregnancy, menopause.
- Fever.
- Certain medications (vasodilators, estrogen).
- Alcohol beverages, especially red wine.
- Caffeine (coffee, tea, cola) too much or withdrawal.
- Foods that contain nitrates, such as hot dogs and cured meats.
- Foods that contain MSG (monosodium glutamate), a flavor enhancer found in fast foods, broths, seasonings, and spices.
- Foods that contain tyramine (strong and aged cheeses, soy products, smoked fish, pickled foods, canned figs) [9].
- Yeast products.
- Dairy products.

In another study conducted by L kelman (2007) the triggers of acute migraine attack were stress, hormones in women, not eating, weather, sleep disturbance, perfume or odor, neck pain, light(s), alcohol, smoke, sleeping late, heat, food, exercise and

sexual activity [10].

To identify Migraine Triggers, Migraineurs should keep a Headache Dairy and Write down the Details:

- Date and time of day when headache started
- Intensity, preceding symptoms, triggers
- Where and what person were doing when the migraine started
- What person ate or drank 24 hours before the migraine attack

This headache dairy helps physician to find out the right treatment for migraine patient.

Sun-Edelstein et al (2009) concluded in his study that it is of utmost importance to make the food diaries in order to identify the food triggers. It serves as the inexpensive method of reducing the migraine headaches [11].

Management of Migraine

Different elements need to be considered in migraine management. They include:

- Avoidance of trigger factors
- Lifestyle modifications
- Non-pharmacological therapies
- Medications

Lifestyle Factors

There is overlap between lifestyle factors and specific migraine triggers, but it is useful to consider the two separately. Some of important life style factors that may contribute to an increased migraine frequency are not easy for the patients to maintain.

- First step for the patient is to learn about the impact of some lifestyle choices on migraine.
- The next step is for patients to evaluate their own lifestyle and see where their lifestyle deviates from what is recommended.
- A third step can entail the use of a headache diary to help patients to assess the effect of lifestyle issues on the initiation of their migraine attacks. A detailed headache diary for several months may be necessary for this.
- The fourth step might involve making some lifestyle modifications and documenting the effect of these modifications on headache frequency through keeping a headache dairy [12].

Martin BR (2015) report a case of 23 year old female patient experienced migraine for 3 monthswith no previous history of migraines. Dietary and lifestyle changes were recommended in conjunction with the administration of a multivitamin, magnesium oxide and it is concluded the patient with atypical migraines and a history of poor dietary and lifestyle choices improved using nutritional changes and supplementing with a multivitamin and magnesium oxide [12].

Weight Reduction

Data from literature suggested that obesity can be related with migraine prevalence, frequency, and disability therefore weight reduction is important in obese person by prescribing and sustaining intensive lifestyle modifications i.e. dietary, physical activities, and behavioral for the migraine patient. Verrotti et al (2014) critically examined and reviewed all pertinent data from the literature in order to assess the possible relationship between obesity and migraine. Data from literature suggest that obesity can be linked with migraine prevalence, frequency, and disability both in pediatric and adult patients and it suggest clinicians should have a special interest for weight reduction of obese children suffering from migraine, prescribing and supporting intensive lifestyle modifications for the patient [3].

Get regular Meal

- Eat well balanced regular meals (protein, fruits, vegetables, and carbohydrates) at least three times a day and if necessary have snacks in between because long gap between meals can bring on a headache, probably by producing low blood sugar levels.
- Do not skip meals, especially breakfast and allow enough time to yourself for meals.
- Consume low lipid diet. Ferrara LA et al (2015) carried out randomized, crossover intervention trial to evaluate the effects of a low lipid intake on the incidence and severity of migraine crises, in comparison to a diet with moderate lipid intake. It is concluded that the patients with the low-lipid diet significantly affected the number and severity of migraine attacks in comparison to a normal-lipid diet [13].
- Get advice from a dietician if necessary.
- Drink plenty of water, as dehydration may trigger a headache.

Get Regular Sleep

- Maintain regular sleep patterns. Go to sleep and

awaken at the approximately same time each day, even on weekends

- Make a schedule ahead so don't have to stay up late for tests and finishing work.
- Sleeping less than 7 to 8 hours a night will probably not be sufficient.

Reduce Stress

- Reduce stress by avoiding conflicts and resolving disputes peacefully.
- When patient feel overwhelmed ask for help.
- During stress take slow, deep breaths and think about something that gives happiness.
- Excessive stress may trigger migraine attacks.
- Relaxation and better stress management may reduce headache frequency.
- Consult psychologist or another health professional that can help to learn better ways to cope with stress.

Limit Caffeine

- Too much Caffeine or its withdrawal can trigger headache attacks and also disturbs the sleep.

Get Regular Exercise

- Exercise moderately 3 to 5 times a week to reduce stress and for physical fitness.
- Build up exercise gradually. Strenuous exercise once in a while may trigger headache attacks in some people.
- Drink plenty of fluids to avoid dehydration during exercise.
- Do not exercise when hungry.
- Adapt exercise to own abilities.
- Do yoga and meditation [14].

Communicate in Healthy Way about Pain

- Silence about pain can lead to miscommunication and assumptions.
- Find an effective way to talk about migraine pain and ask for help if needed.

Compliance to Medication

Maintain the medication treatment chart designed by physician. Early intervention may help to prevent the migraine from progressing into a severe, disabling attack and keep medication in such a place where

patient. Keep rescue medicine and take it at the first sign of a headache.

Food and Drink

- Certain foods and drinks are thought to trigger migraine attacks. Patient need to find out the foods or drinks which trigger migraine attacks and either avoid them or consume them less.

Alternative Methods

- Biofeedback involves learning how to monitor and control body's responses to stress and easing muscle tension [15].
- Acupuncture probably has only an acute analgesic effect.
- Relaxation training may help relieve stress. Damen L et al (2006) systematically reviewed the efficacy of non-pharmacological prophylactic treatments of migraine in children. He concluded that a few non-pharmacological treatments such as relaxation may be effective as prophylactic treatment for migraine in children [16].
- Counseling also can help if migraines may be related to depression or anxiety.
- Manipulative treatments seem to be helpful for soft tissue pain or tenderness.
- Large doses of vitamin B2, and magnesium. (Oh, Taemin, 2010) reviewed literature on Riboflavin: An Alternative Approach to Managing Migraine attacks in the adult Population. It is concluded that orally administered riboflavin decrease migraine frequency, intensity, and duration in the adult population, all within statistical significance [17].
- Shaik MM (2015) reviewed articles that vitamin supplementation as possible prophylactic treatment against migraine with aura and menstrual migraine [18].
- Massage therapy: Massage therapy may help reduce the frequency of migraines. Researchers continue to study the effectiveness of massage therapy in preventing migraines.
- Cognitive behavioral therapy: It may benefit some people with migraines.

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