

“MENSTRUAL MIGRAINE- AN UNBEARABLE INVISIBLE ILLNESS AMONG REPRODUCTIVE AGE WOMEN”

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DOI No. – 08.2020-25662434

Abstract

Migraine affects more women than men, and there is a known link between migraine and hormonal changes throughout a woman’s life. Menstruation increases the risk of migraine in susceptible women². They occur before, during, or immediately after the period. More than half of women with migraine report menstruation (having a period) as a trigger for their migraine attacks. Menstrual migraine is also referred as Catamenial migraine or hormonal headache. It is a headache disorder occurring in women of reproductive age group relevant to menstrual cycles.

Keywords: *Menstrual Migraine, Unbearable, Illness, Reproductive*

“There is no denying the fact that menstrual migraine imposes serious implications on one’s well-being on the whole. The dismissal of menstrual pains and aches in general, coupled with the social stigma around menstruation leads to menstrual migraines being undiagnosed and uninvestigated.”

- Apoorva Phutela¹

INTRODUCTION

Migraine affects more women than men, and there is a known link between migraine and hormonal changes throughout a woman’s life. Menstruation increases the risk of migraine in susceptible women². They occur before, during, or immediately after the period. More than half of women with migraine report menstruation (having a period) as a trigger for their migraine attacks. Menstrual migraine is also referred as Catamenial migraine or hormonal headache. It is a headache disorder occurring in women of reproductive age group relevant to menstrual cycles.

INCIDENCE

Headache is a common neurological complaint in communities. Migraine ranks among the top 20 causes of the disease burden as per the years lived with disability (YLD) criteria³. The incidence of migraine varies over the course of the menstrual cycle. In the general population, approximately 60% of women with migraine report an increased frequency of headache during menses⁴. Migraine was more frequent in female patients aged more than 21 years⁵. Research by the World Health Organization has established migraine as 6th highest cause of years lost to disability – and it affects more women than men at a factor of 2:1.⁶

DEFINITION

Catamenial migraine is a headache disorder occurring in reproductive aged women relevant to menstrual cycles.

Catamenial migraine is defined as attacks of migraine that occurs regularly in at least 2 of 3 consecutive menstrual cycles and occurs exclusively on day 1 to 2 of menstruation, but may range from 2 days before (defined as -2) to 3 days after (defined as +3 with the first day of menstruation as day +1)⁷.

Studies show that migraine is most likely to occur in the two days leading up to a period and the first three days of a period⁸.

The PMS headache occurs before the period and is associated with a variety of symptoms that distinguish it from the typical menstrual headache.

CAUSES OF MENSTRUAL MIGRAINE

- 1. Hormonal changes:** There is a link between migraine and falling levels of the hormone oestrogen. The natural drop in oestrogen levels before period starts is linked to menstrual migraine. Women who have heavy and painful periods have higher levels of prostaglandin (another hormone), which has also been identified as playing a role in a menstrual migraine.
- 2. Use of oral contraceptives:** influence estrogen levels, women on birth control pills may experience more frequent menstrual migraine attacks.

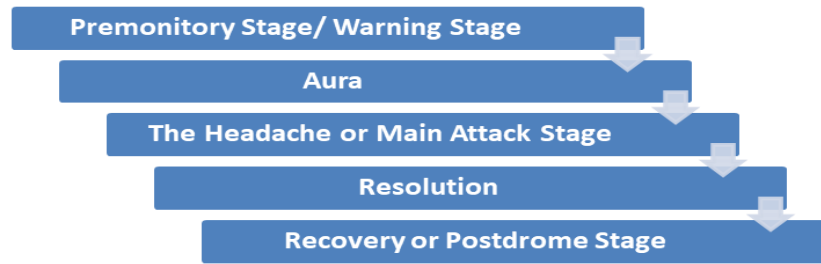
SYMPTOMS OF MENSTRUAL MIGRAINE

Menstrual migraine symptoms are similar to migraine without aura⁹. Many women report an increase in the frequency of migraine headaches in occurrence with the menstrual period.

- Migraine headaches occur most commonly on one side of the head.
- Migraine head ache often has a throbbing nature.
- It is accompanied by either sensitivity to noise, smell, light or combination of these.
- Migraine headaches are often preceded by a prodrome which can include a change in mood or fatigue.
- Many patients who have migraine headaches often notice that it is preceded by an aura which can include blind spots in their vision called scotomas, or they may see flashing colorful lights.
- Migraine headaches often include Nausea/vomiting as a symptom.
- Migraine headaches tend to be more severe and less responsive to treatment. They can also last longer than other types of migraine.
- Other symptoms include headache pain accompanied by fatigue, acne, joint pain, decreased urination, constipation, and lack of coordination. You may also experience an increase in appetite and a craving for chocolate, salt, or alcohol.

STAGES OF MIGRAINE ATTACK ACCORDING TO THE MIGRAINE TRUST¹⁰

It is often difficult to know when a migraine attack is going to happen. However, the stages of migraine can be distinguished as per their symptoms and the pattern of each attack. In adults, we can divide a migraine attack into four or five stages that lead on from each other.



Migraine headache may occur in one stage, all stages or in combination of these stages. Each stage can vary in its severity. Migraine attacks in children are often much shorter than in an adult.

PREMONITORY STAGE/ WARNING STAGE

This is sometimes described as the warning stage in which certain physical and mental changes occur. These can include:

- Feeling tired
- Excessive yawning
- Food cravings
- Changes in mood such as feeling down or irritable (high or low)
- Feeling thirsty
- Neck stiffness
- Passing more urine. These feelings can last up to 24 hours.

AURA

Around a quarter of people with migraine have aura. Migraine without aura does not include this stage. The aura of migraine includes a wide range of neurological symptoms. These symptoms include:

- Changes in sight (visual disturbances) such as dark spots, coloured spots, sparkles or ‘stars’, and zigzag lines
- Numbness or pins and needles
- Weakness
- Dizziness or vertigo (sensation of spinning and poor balance)
- Speech and hearing changes

Some people experience memory changes, feelings of fear and confusion, and more rarely, partial paralysis or fainting. Aura is the result of a wave of nerve activity that spreads over the brain (known as cortical spreading depression). As this electrical wave spreads, the nerves fire in an abnormal way and this range of reversible neurological symptoms (aura) develop. This stage can last from five to 60 minutes, and usually happens before the headache. In adults, they usually happen before the headache itself, but in children, they may happen at the same time as the headache. It is possible to have the aura symptoms without the headache; this is often referred to as ‘silent migraine’.

THE HEADACHE OR MAIN ATTACK STAGE

This stage involves moderate to severe head pain. The headache is typically throbbing and is made worse by movement. It is usually on one side of the head, especially at the start of an attack. However, pain may present on both sides, or all over the head. Nausea (sickness) and vomiting (being sick) can

happen at this stage and feeling of sensitive to light, sound, smell and movement. Painkillers work best when taken early in this stage.

RESOLUTION

Most attacks slowly fade away, but some stop suddenly after the person with migraine is sick, or cries a lot. Sleep seems to help many people, even an hour or two can be enough to end an attack. Many children find that sleeping for just a few minutes can stop their attack.

RECOVERY OR POSTDROME STAGE

This is the final stage of an attack, and it can take hours or days for a drained, fatigued or ‘hangover’ type feeling to disappear. Symptoms can be similar to those of the first stage (premonitory). Often, they mirror these symptoms. For example, if loss of appetite present at the beginning of the attack, the person might be very hungry now. If the person was tired in first stage, she might feel full of energy.

Being aware of the different stages of the migraine attack can be helpful. It can help to prepare for an attack, get a diagnosis and decide when to take acute treatment, such as painkillers or adapt activities.

CATEGORIES OF MENSTRUAL MIGRAINE

Three clinical patterns were identified¹¹:

- Pure menstrual migraine without aura;
- Menstrual related migraine without aura and
- Non-menstrual migraine without aura.

In pure menstrual migraine, there are no aura and no migraine occurring during any other time of the menstrual cycle. In contrast, menstrual related migraine also occurs in 2 of 3 consecutive menstrual cycles, mostly on days 1 and 2 of menstruation, but it may occur outside the menstrual cycle.

Catamenial migraine significantly interferes with the quality of life and causes functional disability in most sufferers. The fluctuation of estrogen levels is believed to play a role in the pathogenesis of catamenial migraine. Menstrual migraine attacks show severe intensity, long duration (lasting even more than 72 hours), marked unresponsiveness to pharmacological treatments, and present higher recurrence rate and work-related disability than non-menstrual attacks.

Diagnostic Evaluation

“Keep in mind if something helps or worsens your headache. The following might be a few things you’d like to discuss with a healthcare physician: the pain medications you’re taking and how often you’re using them, the activities, meals, stressors, or situations which may have triggered your migraine”

- Apoorva Phutela¹

The dismissal of menstrual pains in general, coupled with the stigma around menstruation leads to menstrual migraines being undiagnosed. There are no tests available for menstrual migraine. The

most appropriate method of identifying the migraine headache is to maintain dairy and record the peri menstrual effects at least for three months. For menstrual migraine to be diagnosed migraine should occur predominately between two days before and up to three days into menstruation, in at least two out of three consecutive menstrual cycles. According to the National Headache Foundation, we know knowledge is the best weapon for battling headache and migraine. The foundation described the tools for individuals with migraine¹² as follows;

CONSULT PHYSICIAN IMMEDIATELY OR GO TO AN EMERGENCY DEPARTMENT, IF

- Having worst headache ever
- Having worst migraine attack ever
- Headache accompanied by following symptoms like:
 - Unresolved loss of vision
 - Loss of consciousness
 - Uncontrollable vomiting
 - The pain of headache lasts more than 72 hours with less than a solid four-hour, pain-free period while awake
 - Experience of headache or a migraine attack that presents unusual symptoms that are abnormal for you and frightening

NATIONAL HEADACHE FOUNDATION HEADACHE TESTS¹³

There are three tests to understand the severity of migraine and to take appropriate decision to consult the physician;

1. HEADACHE IMPACT TEST:

HIT stands for Headache Impact Test. This tool helps patients communicate the severity of their headache pain to their healthcare provider. It helps to:

- Determine the impact headaches have on the patient's life
- Better communicate the information to the healthcare provider
- Track the patient's headache history and the effectiveness of therapy over time.

Healthcare providers should evaluate the following symptoms to determine if a patient has migraine:

- Visual distortions such as blind spots, flashes of light and zigzag lines
- Motor weakness
- Disruption to sensory symptoms such as smell, taste or touch
- Temporary loss of ability to speak or understand speech
- Temporary lack of coordination or control of arms and legs
- Vertigo
- Unilateral headache pain
- Pulsating headache
- Aggravation of headache by routine physical activity
- Nausea and/or vomiting
- Sensitivity to light and/or sound
- Moderate to severe pain intensity

2. MIDAS

MIDAS stands for Migraine Disability Assessment Questionnaire. It was developed to measure headache-related disability in three areas:

- Paid work and education (school/college)
- Household work
- Family, social and leisure activities.

By measuring the number of days missed in these activity areas due to migraine, the MIDAS tool can “improve migraine care by getting treatment right the first time a patient consults” with his or her healthcare provider. The MIDAS score looks at the patients’ medical needs and helps the healthcare provider to determine the appropriate treatment at the first consultation.

***MIDAS Questionnaire**

INSTRUCTIONS: Please answer the following questions about ALL headaches you have had over the last 3 months. Write zero if you did not do the activity in the last 3 months.

1. On how many days in the last 3 months did you miss work or school because of your headaches? ____ days
2. How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches (*do not include days you counted in question 1 where you missed work or school*)?..... ____ days
3. On how many days in the last 3 months did you **not** do household work because of your headaches? ____ days
4. How many days in the last 3 months was your productivity in household work reduced by half or more because of your headaches (*do not include days you counted in question 3 where you did not do household work*)?..... ____ days
5. On how many days in the last 3 months did you miss family, social, or leisure activities because of your headaches? ____ days

A. On how many days in the last 3 months did you have a headache? (*If a headache lasted more than one day, count each day.*)..... ____ days

B. On a scale of 0–10, on average how painful were these headaches? (*Where 0 = no pain at all, and 10 = pain as bad as it can be.*)..... ____

*Migraine Disability Assessment Score
(Questions 1–5 are used to calculate the MIDAS score.)
Grade I—Minimal or Infrequent Disability: 0–5
Grade II—Mild or Infrequent Disability: 6–10
Grade III—Moderate Disability: 11–20
Grade IV—Severe Disability: > 20

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(Source: Questionnaire for Migraine Disability Assessment Score (MIDAS), Menoufia Medical Journal. Available From: https://www.mmj.eg.net/viewimage.asp?img=MenoufiaMedJ_2019_32_4_1423_27_4252_f1.jpg)

3. ID MIGRAINE:

Answering “yes” to two out of three of these simple questions effectively identifies migraine sufferers.

- Has a headache limited your activities for a day or more in the last three months?
- Are you nauseated or sick to your stomach when you have a headache?
- Does light bother you when you have a headache?

Menstrual migraine may also be accompanied by premenstrual syndrome (PMS) symptoms such as bloating, breast tenderness, nausea, and mood swings. However, PMS headaches generally have symptoms different than those of a menstrual migraine. PMS headaches typically entail constipation, fatigue and joint pain as well.

MIGRAINE APPS

Migraine monitoring applications are more than just an intuitive tool for tracking headaches, their severity, duration and triggers; Migraine monitor allows accessing the support of the doctor. Some of the apps are:

1. Migraine Monitor App
2. Curelator N1-Headache (previously called Curelator Headache)
3. Migraine Buddy
4. Manage My Pain Pro
5. Best migraine tracker for sharing with your doctor: Health Log
6. Bezzy Migraine
7. Headache Log
8. Insight Tmer

MANAGEMENT

Hormonal changes can influence the occurrence of migraine, particularly related to the menstrual cycle. Menstrual migraine may require both acute and preventive treatment¹⁴. The pharmacological treatment of menstrual migraine can require specific cyclic prophylactic approaches (non-steroidal anti-inflammatory drugs, coxibs, magnesium, long half-life triptans or oestrogen supplements in various formulations), but usually the low frequency of attacks suggests a first approach with specific symptomatic drugs. Preference should be given to triptans, due to their specificity in controlling migraine pain and its accompanying symptomatology; among them, in particular for sumatriptan, many specific studies proved a real effectiveness in the management of acute menstrual migraine attack¹¹.

PREVENTION

Preventive strategies of Menstrual Migraine include,

- Exercise regularly. Avoid strenuous exercise.
- Maintain a diary and record the cycles of migraine and other associated symptoms. Write down the information of menstrual cycles like when it was started, how long it was there, any associated health problems, how often migraine occurs etc.
- Include balanced diet.
- Avoid foods that trigger your headaches. Some foods that are common migraine triggers include: chocolate, caffeine, alcohol, aspartame and other artificial sweeteners, processed meat, and cheeses.
- Maintain proper hydration of the body. Drink at least 8-10 glasses of water a day.
- Graze throughout the day. Hunger can cause headaches. Eat several small meals and snacks instead of three big ones.

- Maintain appropriate body weight.
- Take adequate rest and sleep at least for 6-8 hours.
- Relax. Stress leads to migraine for many people. Try techniques like deep breathing, yoga, and meditation to take the pressure off.
- Consult physician if symptoms persist.

DEVICES WHICH MAY BE USED FOR TREATMENT OR PREVENTION INCLUDE^{15, 16}

- Cefaly, a small headband device that sends electrical pulses through the forehead to stimulate a nerve linked with migraines.
- Spring TMS or eNeura Stms (single pulse transcranial magnetic stimulation for migraine), a device for people who have an aura before migraine headaches. You hold it at the back of your head at the first sign of a headache, and it gives off a magnetic pulse that stimulates part of the brain.
- Noninvasive vagus nerve stimulator (nVS) *gamma Core* is a hand-held portable device placed over the vagus nerve in the neck. It releases a mild electrical stimulation to the nerve's fibers to relieve pain

Menstrual migraine is a preventable health problem among woman of reproductive age group with careful lifestyle modification and appropriate treatment.

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