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Review Article

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Migraine, Evaluation, and Management in Primary Health Care

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ABSTRACT

Background: Headache is a common complaint as it is experienced by most of the general population at some stage in their lives. It accounts for 10% of the consultations of general practitioners and one-third of the referrals to neurology. One of the commonest headache disorders is migraine. Migraine can have a significant effect on the quality of life of a migraine patient. Therefore, appropriate evaluation and management are important to control such condition.Objective: To review the published literature that discussed migraine, its symptomology, evaluation, and management. Methods: PubMed database was used for articles selection, and the following keys were used in the mesh ((“migraine"[Mesh]) AND (“management”[Mesh]) OR (“evaluation"[Mesh])). Conclusion: The patient should be well educated and informed thoroughly about the condition when the diagnosis of migraine is established. Managing migraines by complete avoidance of the triggers cannot guarantee the stoppage of the attacks. However, it is recommended to stick to a daily routine of good habits in order to minimize the possibility of aggravated migraine. The first-line option of treatment in acute migraine patients is OTC analgesics. Nevertheless, in cases of chronic migraine, frequent attacks, or acute medications intolerance or unresponsiveness, preventive therapy should be considered. Effective migraine preventive medications include beta-blockers, tricyclic antidepressants, anticonvulsants, and calcium channel blockers.

Key words: *migraine, symptomology, aura, prevention, management*

INTRODUCTION

Headache is a common complaint as it is experienced by most of the general population at some stage in their lives [1-3]. It accounts for 10% of the consultations of general practitioners and one-third of the referrals to neurology [4].

One of the commonest headache disorders is migraine, which is considered as one of the top 10 causes of disability by the world health organization [5, 6]. Migraine has an indirect impact on the UK economy of around 2 billion

sterling pounds a year because it is responsible for around 25 million days off work per year, as well as the cost of medications and healthcare in general [7]. It also affects the patients' quality of life as it may lead to functional stability during the episodes of migraines [2]. It has been claimed that around 1% of the general population worldwide have chronic migraines [8-10]. Therefore, we aimed in this article to review the published literature that discussed migraine, its symptomology, evaluation, and management and to provide a review that covers the important aspect of migraine for primary health care practitioners.

METHODS

PubMed database was used for articles selection, and the following keys were used in the Mesh ((“migraine"[Mesh]) AND (“management” [Mesh]) OR (“evaluation"[Mesh])).
In regards to the inclusion criteria, the articles were selected based on the inclusion of one of the following topics: migraine, evaluation, and management.
Exclusion criteria were all other articles that did not have one of these topics as their primary endpoint.

DISCUSSION

One of the commonest headache disorders is migraine and it can be associated with several troublesome symptoms [11, 12]. Examples of these symptoms include nausea, vomiting, photophobia, and mood changes [13]. The severity and the frequency of the associated symptoms with migraine decrease along with the increased frequency of migraine attacks [14, 15].
However, recurrent migraine attacks may be associated with cutaneous allodynia, which is a painful perception of non-painful stimuli. This is thought to be due to the hypersensitization of the central nervous system along with the trigeminal nociceptive pathway [16]. Nevertheless, this hypersensitization of the CNS will lower the threshold of attacks initiation, and thus increase the frequency, as well as the damage of the periaqueductal grey matter. This explains why chronic migraine is difficult to manage [15, 17].
Chronic migraine patients usually live most of their lives with persistent pain and associated burdensome symptoms that can have an impact on their quality of life. However, the degree of headache and the associated symptoms and their intensity differ among individuals [14].
The headache is usually throbbing in migraine patients but it is not related to blood pressure problems or their medications. Photophobia, which is intolerance of normal sources of light, is common in migraine patients. They also may not tolerate routine sounds (phonophobia) nor strong odors (osmophobia) [18]. Moreover, some symptoms can appear in the premonitory phase, which is 48 hours during and prior to the attack [19]. Examples of these symptoms are low concentration, mood changes, lacrimation, rhinorrhea, and nasal congestion [20, 21]. After the attack, patients often feel fatigued and lethargic for a period of time called the postdrome phase [22]. Cranial allodynia, movement sensitivity, nausea, and vomiting can also be experienced by the patients during the headache attack. The attack may last from 4 to 72 hours. Some patients may experience migraine aura during or prior to the headache attack [23].
A typical aura should have at least one of the following, fully reversible visual symptoms, fully reversible sensory, or fully reversible dysphasic speech disturbance. It should have also at least two of the following, unilateral sensory/visual symptoms, the symptom should develop gradually for 5 minutes or more, and the symptoms should last for more than 5 minutes but less than an hour. Visual symptoms include positive visual features, such as spots or flickering lights and negative visual features like vision loss. Sensory symptoms include a feeling of numbness or needles. In general, the most common symptom is visual aura [24, 25].
The least common symptom in the aura is motor weakness. Motor weakness is most commonly seen in hemiplegic migraine. In familial hemiplegic migraine, other aura symptoms like sensory symptoms and aphasia can be seen along with the motor symptoms and last for more than one hour [26]. In basilar-type migraine, the most common aura symptoms are diplopia, bilateral visual symptoms, tinnitus, vertigo, and dysarthria. Altered level of consciousness, paresthesia, and ataxia can also be seen in basilar-type migraine. This is because the aura symptoms in basilar-type migraine originate from the cerebral hemispheres or the brainstem [25].

Management

Migraine patients may experience the attacks spontaneously or due to some aggravating factors that can trigger the attacks. Examples of the most common factors are lack of sleep, hunger, alcohol, and stress. Less common triggers include weather changes and sensory stimuli such as flashing lights as the visual stimulus or strong smells

as olfactory [27]. Considering the use of acute-relief analgesics and caffeine as migraine triggers are still controversial. Nevertheless, minimizing drinking coffee, tea, and caffeinated drinks is recommended and frequent analgesics use should be avoided as possible [28, 29].

Managing migraines by complete avoidance of the triggers cannot guarantee the stoppage of the attacks. However, it is recommended to stick to a daily routine of good habits in order to minimize the possibility of aggravated migraines, for example, regular sleeping, and timed regular meals, modification of caffeine intake, and avoiding alcohol [25].

In general, the patient should be well educated and informed thoroughly about the condition one the diagnosis is established. The patient should be informed about the uncertainty of this condition and its medication effects [30]. There is no guarantee of freedom from the headache and its effect on the quality of life. In managing migraine cases, the goals should be improving pain control and maintaining normal daily function by proper management of the attacks [31, 32].

The management of migraines has specific and nonspecific therapies. Specific treatments include triptans and ergot. Nonspecific therapy is divided into medicinal and nonmedicinal therapies. Nonspecific medicinal treatments include NSAIDs, antiemetics, and narcotics. Nonspecific nonmedicinal methods include icepack, relaxation therapy, meditation, yoga, visual therapy, and biofeedback [30].

Although there is a neurogenic inflammation in migraine, it is not considered as the usual inflammatory response. However, NSAIDs have shown to be effective in reducing the inflammation in migraine and thus the pain. This effect is seen because NSAIDs limit sensory neurons activation and nociceptor activation by decreasing the release of inflammatory proteins and reducing free radicals, respectively. NSAIDs have an effect on limiting also the inflammatory pain response by decreasing the synthesis of prostaglandin and blocking prostanoid receptors, too [33]. Therefore, NSAIDs are considered one of the options in the first line of treatment in acute attacks.

The first-line options of treatment in acute migraine patients are OTC analgesics such as paracetamol, ibuprofen, or aspirin. An antiemetic can be added, for example, domperidone [2]. The patient should be advised to reduce the frequency of analgesics use especially in non-migraine headaches [34]. Other NSAIDs are also effective, such as diclofenac and naproxen [35, 36]. Analgesic medications that contain caffeine must be avoided.

If the patient did not respond to or could not tolerate those acute medications (OTC analgesics), triptans should be the next step of treatment. There are rapid-acting triptans such as zolmitriptan and rizatriptan and slow-acting triptans like naratriptan. Due to the short half-life of the rapid-acting triptans, there is a higher chance of recurrence within the first 24 hours. On the other hand, slow-acting triptans are associated with lower rates of headache recurrence but have a slower onset of pain relief [34].

If there was no response to a particular triptan in three migraine attacks, switching to another triptan is advised because there is a high chance of a good response. Nevertheless, one-third of migraine patients do not respond to triptans at all. In addition, combination drugs of an NSAID and a triptan have shown more efficacy than using either one alone [2].

However, in cases of chronic migraine, frequent attacks, or acute medications intolerance or unresponsiveness, preventive therapy should be considered [37]. Many drugs have been approved as effective migraine prevention medications, for example, beta-blockers, tricyclic antidepressants, anticonvulsants, and calcium channel blockers [38, 39]. The dose of the chosen preventive drug must be titrated and optimized slowly in order to avoid the troublesome side effects and intolerance. The drug course should last for at least 4 months in order to obtain its efficacy. Then, the withdrawal should be gradual when discontinuation is considered. Propranolol, amitriptyline, and topiramate are the first-line preventive medications that are recommended to be used. In addition, sodium valproate can be used as preventive treatment as it has shown its efficacy [2].

CONCLUSION

The patient should be well educated and informed thoroughly about the condition when the diagnosis of migraine is established. Managing migraines by complete avoidance of the triggers cannot guarantee the stoppage of the attacks. However, it is recommended to stick to a daily routine of good habits in order to minimize the possibility of aggravated migraine.

The first line options of treatment in acute migraine patients is OTC analgesics. Nevertheless, in cases of chronic migraine, frequent attacks, or acute medications intolerance or unresponsiveness, preventive therapy should be considered. Effective migraine preventive medications include beta-blockers, tricyclic antidepressants, anticonvulsants, and calcium channel blockers.

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