ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

Review of Migraine for General Practice

Dr. Ashok Kumar[1]*, Dr. Shivani Bansal[2], Dr. Ravi Kumar[3]

[1*]Professor, Department of General Medicine, Santosh Medical College & Hospital, Santosh Deemed to be University, Ghaziabad.
[2]Professor, Department of General Medicine, Santosh Medical College & Hospital, Santosh Deemed to be University, Ghaziabad.
[3]Assistant Professor, Department of General Medicine, Santosh Medical College & Hospital, Santosh Deemed to be University, Ghaziabad.

Corresponding Author: [1*]Dr. Ashok Kumar

ABSTRACT
Migraine remains the second leading cause of disability worldwide. Typically, a diagnosis is based on the patient's medical history and physical examination, and imaging is unnecessary. Migraine can be categorised based on the presence or absence of aura and the frequency of headaches. The number of headache days affects whether a patient suffers from episodic or chronic migraine. Migraine treatment can be used to treat the migraine and prevent its occurrence. In this article, we take a pragmatic, up-to-date approach to migraines from a practical standpoint.

Keywords: Migraine headache;Headache;Preventive therapy;Abortive therapy

1. INTRODUCTION

Migraine is the most common neurological condition treated in Primary Care. According to the findings of the most recent Global Burden Disease research, migraine is the second leading cause of disability worldwide and the leading cause among young women.[1] Migraine is a common problem, affecting 18% of women and 6% of men, whereas chronic migraine affects 2% of the worldwide population and is exceedingly burdensome for sufferers, their families, and society.[2] Careful anamnesis and physical examination are essential for making a correct diagnosis. Typically, testing is not required. Nonpharmacological and pharmacological interventions comprise the treatment. The purpose of pharmacological interventions is to cure and prevent headaches.

2. METHODS AND MATERIALS

Family physicians require up-to-date information regarding migraine headache treatment. Here, we do a literature review on migraine headaches. A PubMed literature search was used to identify relevant papers. Further selection of papers was accomplished by focusing on the following essential points: diagnostic and defining criteria of migraine; migraine headache

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

characteristics; acute migraine management; migraine prevention; and innovative migraine medications. In addition, the clinical experience of the authors with migraine has been exploited to propose a schema to aid in the evaluation and management of migraines in a Primary Care environment.

Migraine with visual aura is characterised by visual symptoms that typically precede the headache and continue at least five minutes. Typically, the visual aura is an expanding blind spot or visual scintillations (shimmering objects in the visualfield). Vision impairment is insufficient to diagnose aura. Other aura characteristics include reversible symptoms of speech and language difficulty, such as word finding difficulties and even aphasia (inability to express or comprehend words), sensory phenomena such as tingling in the extremities that extends to the face, motor effects such as weakness and brainstem problems such as unsteadiness, and characteristics of cranial nerve dysfunction. Theseaura symptoms often endure between 5 to 60 minutes. They may precede or begin during the headache, or they may occur independently of the headache. For a patient to be diagnosed with migraine, he or she must have experienced at least five migraine attacks, as indicated below. Untreated attacks in adults typically last four or more hours. A migraine requires only two of the following four headache characteristics: unilateral distribution, pulsatile quality, moderate or severe pain (more than 5 on a scale of 10), and exacerbation by physical activity (suchas bending over). Additionally, only one of the following is required to diagnose migraine: nausea or vomiting, or sensitivity to light and noise.

Criteria for ordering an MRI

Neuroimaging may be performed for suspected migraine for the following indications: unusual, prolonged, or persistent aura; increasing frequency, severity, or change in clinical features; first or worst migraine; migraine with brainstem aura; migraine with confusion; migraine with motor manifestations (hemiplegic migraine); late-lifemigraine accompaniments; aura without headache; side-locked headache; and posttraumatic headache.

Treatment

Explain to the patient that migraine is a recurrent and episodic disease for which there is presently no treatment, but which, when diagnosed and treated, generally provides for a sufficient quality of life. Inadequate treatment of migraine attacks has a significant socioeconomic impact and raises the likelihood of chronic migraine development. 11There are non-pharmacologic and pharmacologic migraine treatments.

Non-specific acute treatment

The use of acetaminophen and nonsteroidal anti-inflammatory medications (NSAIDs) such as acetylsalicylic acid (ASA), ibuprofen,diclofenac, and dexketoprofen is supported by data of high quality. [14] On their own, these therapies can control mild migraine attacks and auras. In the specific case of paracetamol (acetaminophen), its potency is lower, and it may be an effective first-line treatment for acute migraine in those who cannot tolerate NSAIDs or aspirin.[15] In general, it is only indicated for pregnancy-migraine, adolescence-childhood, and attacks without significant handicap. Adjuvant drugs consist mostly of antiemetic/neuroleptic Dopamine D2 receptor antagonists (domperidone, metoclopramide,

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

chlorpromazine), which are required for patients with nausea or vomiting and aid in the absorption of the remainder of the therapy.

Specific acute treatment

Triptans are the preferred treatment for moderate-to-severe migraine attacks, and should be recommended to all migraine sufferers. Due to their vasoconstrictive impact, triptans are contraindicated in patients with uncontrolled hypertension, cardiovascular, cerebrovascular, and peripheral vascular illness.[17] Palpitations, neck or chest stiffness, dysgeusia, and laryngeal discomfort are the most common adverse effects, and the patient should always be advised of these when the drug is prescribed. Despite these effects, it should be noted that they are incredibly harmless at the vascular level. [18] Seven triptans are currently available ,and the decision between them must be customised based on the time of migraine start (night or day), onset intensity (rapid or progressive), presence and timing of nausea or vomiting, levels of disability, and frequency and pattern of attacks. [19] It is also feasible to combine triptans with a nonsteroidal anti-inflammatory drug (NSAID) or acetaminophen, or to use alternate means of administration such as injectables or nasal spray, which may result in better outcomes than regular dose triptan tablets. [20]

The adverse effects and safety profile of triptans is significantly superior to that of ergotics, which are no longer used for newly diagnosed migraines. In recent years, distinct new medications for acute treatment have been developed. Lasmiditan is a 5HT1Freceptoragonist (unlike triptans, which agonise the 5HT1B/1Dreceptors) that is now marketed in the United States and is likely to be licenced in Europe shortly. Their greatest advantage over triptans is that they do not cause vasoconstriction because they do not affect 5HT1B receptors. Their effectiveness has been demonstrated in two clinical trials. The most significant side effect of lasmiditan is somnolence, so patients should not drive for at least 8 hours after taking the medication. Gepants, which operate as CGRP receptor antagonists, constitute a second novel pharmacological class for acute therapy. Gepants, like lasmiditan, do not cause vasoconstriction. The FDA has approved Ubro-gepant and Rimegepant, and their most common side effect is nausea.

Prevention of migraine headaches Preventive treatment is used to decrease the frequency, duration, or severity of migraine attacks, thereby making acute treatment more effective. The ultimate objective is to improve quality of life and lessen the functional burden of migraine on patients. Preventive drugs are the cornerstone of headache treatment and should be considered in the following situations: [16,21]

Topiramate, valproic acid, and gabapentin are anticonvulsants that could be beneficial for migraineprevention. There are other others, however research on their efficacy in migraine patients has not been adequately established for any of them. Topiramate is the most often used and most effective medication in this category. Topiramate side effects include cognitive difficulties, pins-and-needles sensation in the extremities, kidney stones, emotional changes such as depression, visual changes such as acquired myopia, retinal alterations, and glaucoma, and decreased appetite with the possibility of weight loss. In addition to weight gain, hair loss, and acne, valproic acid has many more negative effects than any other alternative. Due to its negative effects, it should not be used as an initial treatment. The most often used antidepressant, isamitriptyline, can cause weight gain and drowsiness. [22] The maximum daily dose is gradually increased to 1 mg/kg. I normally utilise different

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

antidepressants, such asvenlafaxine. This is initiated at 37.5 mg daily and gradually increased to at least 75 mg. The patient's blood pressure should be watched while receiving this medication, as it may induce a rise in blood pressure. Even if there is no underlying depression, antidepressants can be used to treat migraines.

Erenumab (Aimovig), Fremanezumab (Ajovy), Gal-canezumab (Emgality), and Eptinezumab (Vyepti) have been released in the United States in recent years following positive clinical study findings. 30 Monoclonal antibodies (mAb) designed against Calcitonin Gene Related Peptide (CGRP) or its receptor with a low side effect profile and migraine preventive efficacy. CGRP is the primary neurotransmitter that is produced from nerve terminals in the brain during a migraine attack, and it is responsible for a number of migraine symptoms. These are self-administered subcutaneous injections once per month and every three months or monthly for Fremanezumabonce. Eptinezumab (Vyepti), which binds to CGRP ligand, is the sole intravenous medication administered every 12 weeks. During clinical trials, a relatively low frequency of adverse effects was documented, with injection site erythema and injection site induration being the most common, followed by diarrhoea or constipation, nasopharyngitis, and upperrespiratory tract infection.[22-23] Cardiovascular hazards remain the primary worry, but a recent trial examining the use of erenumab in individuals with known coronary artery disease did not demonstrate an increase in myocardial infarction or angina. Real-world data confirm the positive effectiveness and safety profile reported in clinical trials.

Based on the limited evidence available, repeated great occipital nerve peripheral block may be an effective preventative treatment for chronic migraine (CM). Also, it has been demonstrated that they have an immediate symptomatic effect on aura and discomfort. In view of the existing data, it is vital to underline that the addition of corticoid to the anaesthetic has not proven to be more effective, therefore only BA should be considered. Other nerves, including supraorbital, occipital, auriculotemporal, and maxillary, may also be obstructed. Regarding an entity such as gestational migraine, it should be emphasised that there are studies that support its usage, and that its symptomatic and preventative application is expanding. It should be emphasised that only lidocaine (FDA category B) should be utilised in comparison to other anaesthetics. Topiramate, onabo-tulinumtoxin type A, and monoclonal antibodies directed against CGRP offer the strongest evidence of success in the treatment of Chronic Migraine (Erenumab, Fremanezumab, Galcanezumaband Eptinezumab).

3. REFERENCES

1. Steiner TJ, Stovner LJ, Jensen R, Uluduz D, Katsarava Z.Migraine remains second among the world's causes of disabil-ity, and first among young women: findings from GBD2019. JHeadache Pain. 2020;21:137.
2. Goadsby PJ, Holland PR, Martins-Oliveira M, Hoffmann J,Schankin C, Akerman S. Pathophysiology of migraine: a disorderof sensory processing. Physiol Rev. 2017;97:553---622.3. Goadsby PJ, Holland PR. An update: pathophysiology ofmigraine. Neurol Clin [Internet]. 2019;37:651---71.
3. Maniyar FH, Sprenger T, Monteith T, Schankin CJ, Goadsby PJ.The premonitory phase of migraine --- what can we learn fromit? Headache. 2015;55:609---20.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

4. Kissoon NR, Cutrer FM. Aura and other neurologic dysfunctionin or with migraine. Headache. 2017;57:1179---94.
5. Bose P, Karsan N, Goadsby PJ. The migraine postdrome. ContinLifelong Learn Neurol. 2018;24(4-Headache):1023---31
6. Bigal ME, Lipton RB. Clinical course in migraine: conceptualizingmigraine transformation. Neurology. 2008;71:848---55.
7. May A, Schulte LH. Chronic migraine: risk factors, mechanismsand treatment. Nat Rev Neurol [Internet]. 2016;12:455---64.Available from: https://doi.org/10.1038/nrneurol.2016.93
8. Evans RW, Burch RC, Frishberg BM, Marmura MJ, Mechtler LL,Silberstein SD, et al. Neuroimaging for migraine: the Ameri-can Headache Society systematic review and evidence-basedguideline. Headache. 2020;60:318---36.
9. Lipton RB, Fanning KM, Serrano D, Reed ML, Cady R, Buse DC.Ineffective acute treatment of episodic migraine is associatedwith new-onset chronic migraine. Neurology. 2015;84:688---95.
10. Kelman L. The triggers or precipitants of the acute migraineattack. Cephalalgia. 2007;27:394---402.13
11. 11.Cameron C, Kelly S, Hsieh SC, Murphy M, Chen L, Kotb A, et al.Triptans in the acute treatment of migraine: a systematic reviewand network meta-analysis. Headache. 2015;55(S4):221---35.
12. Lipton RB, Silberstein S. Migraine headache: diagno-sis and current and emerging preventive treatments.Prim Care Companion CNS Disord. 2018;20 Suppl. E1,http://dx.doi.org/10.4088/PCC.li17059su1c. PMID: 30698925.22. Silberstein SD. Preventive migraine treatment. Contin LifelongLearn Neurol. 2015;21:973---89.
13. Carville S, Padhi S, Reason T, Underwood M. Diagnosis and mana-gement of headaches in young people and adults: Summary ofNICE guidance. BMJ. 2012;345:1---5.
14. Diener HC, Bussone G, Van Oene JC, Lahaye M, Schwalen S,Goadsby PJ. Topiramate reduces headache days in chronicmigraine: a randomized, double-blind, placebo-controlledstudy. Cephalalgia. 2007;27:814---23.
15. Linde M, Wm M, Ep C, Dc M. Valproate (valproic acid or sodiumvalproate or a combination of the two) for the prophylaxis ofepisodic migraine in adults. Cochrane Database Syst Rev. 2013[review].
16. Silberstein SD, Holland S, Freitag F, Dodick DW, Argoff C,Ashman E. Evidence-based guideline update: pharmacologictreatment for episodic migraine prevention in adults report ofthe quality standards subcommittee of the American Academyof Neurology and the American Headache Society. Neurology.2012;78:1337---45.
17. Dorosch T, Ganzer CA, Lin M, Seifan A. Efficacy of angiotensin-converting enzyme inhibitors and angiotensin receptor blockersin the preventative treatment of episodic migraine in adults.Curr Pain Headache Rep. 2019;23.28
18. Stubberud A, Flaaen NM, McCrory DC, Pedersen SA, Linde M.Flunarizine as prophylaxis for episodic migraine: a systematicreview with meta-analysis. Pain. 2019;160:762---72.
19. Diener HC, Dodick DW, Aurora SK, Turkel CC, Degryse RE,Lipton RB, et al. OnabotulinumtoxinA for treatment ofchronic migraine: results from the double-blind,

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12,Dec 2022

randomized,placebo-controlled phase of the PREEMPT 2 trial. Cephalalgia.2010;30:804---14.

20. Deng H, Li GG, Nie H, Feng YY, Guo GY, Guo WL, et al. Efficacyand safety of calcitonin-gene-related peptide binding mon-oclonal antibodies for the preventive treatment of episodicmigraine --- an updated systematic review and meta-analysis.BMC Neurol. 2020;201:1---12.31
21. 21.Evans RW, Burch RC, Frishberg BM, Marmura MJ, Mechtler LL,Silberstein SD, et al. Neuroimaging for migraine: the Ameri-can Headache Society systematic review and evidence-basedguideline. Headache. 2020;60:318---36.
22. Lipton RB, Fanning KM, Serrano D, Reed ML, Cady R, Buse DC.Ineffective acute treatment of episodic migraine is associatedwith new-onset chronic migraine. Neurology. 2015;84:688---95.
23. 23.Kelman L. The triggers or precipitants of the acute migraineattack. Cephalalgia. 2007;27:394---402.13