

A PROSPECTIVE OBSERVATIONAL STUDY ON TRIGGERING FACTORS AND ASSESSMENT OF TREATMENT PATTERN IN MIGRAINE PATIENTS

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ABSTRACT- To determine the precipitating factors and assessment of treatment pattern in migraine patients. This observational study was conducted in 100 migraine patients from Sri Sri Neuro centre Warangal. Patients data was collected from case sheets and through predesigned questionnaire containing information on age, sex, social status and a predetermined list of precipitating factors. In our study, of 100 patients more number of patients (56 %) were found among 21 – 40 years age group. Female patients were found to be (93) more affected than male. The major triggering factors identified were stress (62.9 %), change of weather (56 %), travelling (53 %). In our study, most commonly prescribed drugs are combination of Rizatriptan and Naproxen (59 %), followed by sumatriptan and naproxen (16 %) and preventive therapy such as propranolol and flunarizine (66 %) followed by Divalproex sodium (17 %), Amitriptylline (5 %) are given. Female patients are more affected compared to male patients and highest count of patients was observed in age group 21 – 40 years age group. Stress, change in weather and travelling are identified as major triggering factors for migraine. A combination of triptans and NSAIDs (rizatriptan + naproxen) is most commonly prescribed along with preventive medications which frequently includes combination of propranolol and flunarizine.

Key words- Migraine, photophobia, phonophobia, rizatriptan, naproxen.

INTRODUCTION

Headache is one of the most common complaints encountered by healthcare practitioners, accounting for more than 1 % of visits to physicians' offices or emergency departments. The peak prevalence of tension type and migraine headache, the most common of the primary headache disorders, occurs during the most productive years of life (20 to 55 years of age). Migraine is a highly prevalent disorder characterized by attacks of moderate to severe throbbing headaches that are often unilateral in location, worsened by physical activity, and associated with nausea and/or vomiting, photophobia, and phonophobia [1]. The prevalence of migraine varies considerably by age and gender. Before the age of 12 years, migraine is more common in boys than in girls, but prevalence increases more rapidly in girls after puberty [2]. It is a primary headache disorder divided into two major subtypes, migraine without aura and migraine with aura. The migraine *aura* is a complex of positive and negative focal neurologic symptoms that precedes or accompanies an attack and is experienced by approximately 31 % of migraineurs on some occasions. The aura typically evolves over 5 to 20 minutes and lasts less than 60 minutes. Headache usually occurs within 60 minutes of the end of the aura. Occasionally, aura symptoms begin at the onset of headache or during the attack [3].

List of headache precipitating factors [4]

Precipitating factors:

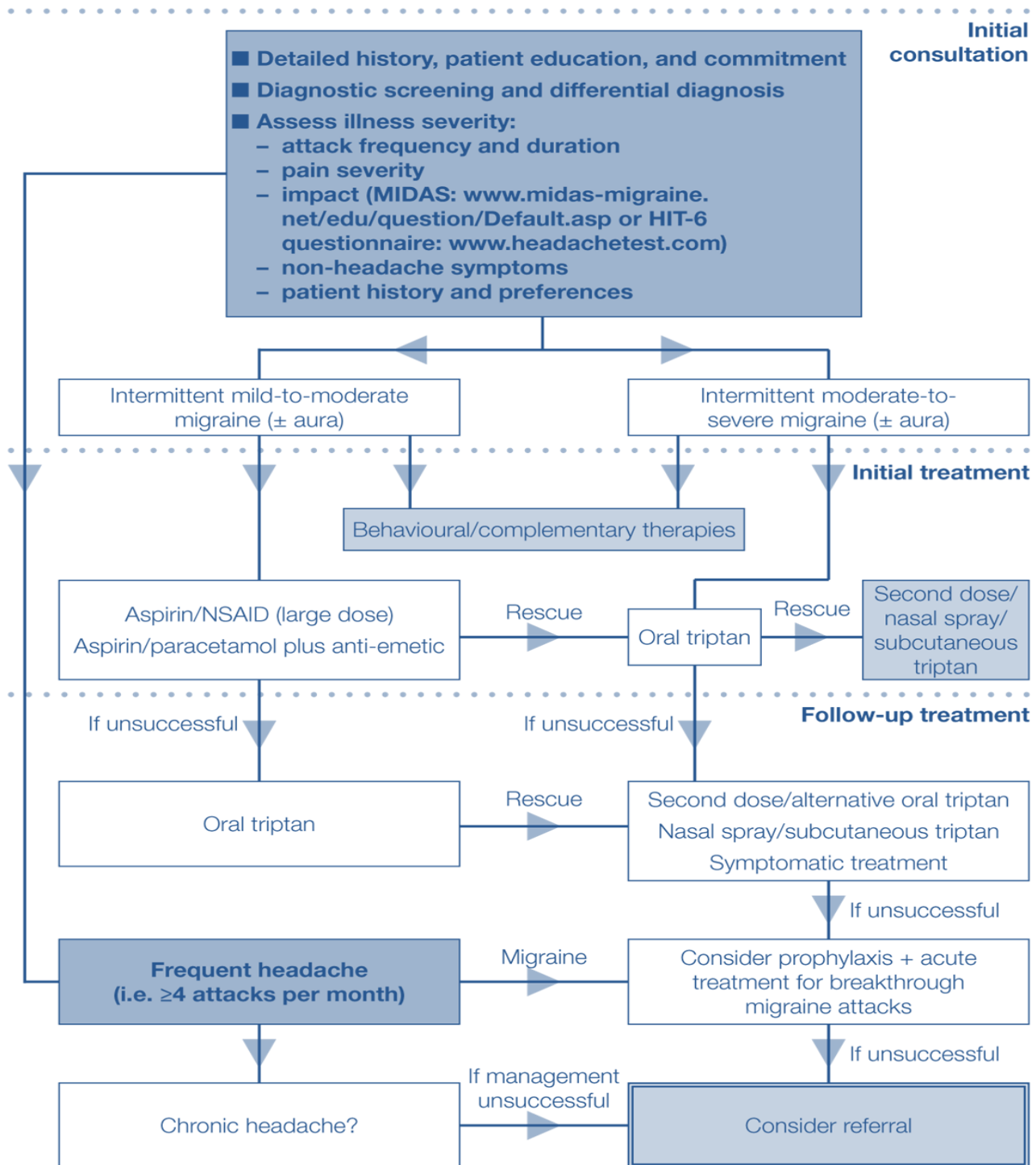
1. Fatigue
2. Stress

3. Anxiety
4. Cold
5. Warm
6. Sunlight
7. Sleep deprivation/Insomnia
8. Food
9. Activity
10. Journey
11. Reading

Attention to trigger factors plays a prominent role in the clinical management of Migraine. Migraine treatment can include preventive therapy aimed at reducing the frequency and severity of migraine attacks, as well as acute therapy used to abort a migraine attack.

Effective first-line therapies for mild to moderate migraine are non-prescription nonsteroidal anti-inflammatory drugs and combination analgesics containing acetaminophen, aspirin, and caffeine. Triptans are first-line therapies for moderate to severe migraine, or mild to moderate migraine that has not responded to adequate doses of simple analgesics. Triptans should be avoided in patients with vascular disease, uncontrolled hypertension, or hemiplegic migraine. Intravenous antiemetics, with or without intravenous dihydroergotamine, are effective therapies in an emergency department setting. [5]





NSAID=non-steroidal anti-inflammatory drug.

Figure 1: MIPCA acute treatment of migraine guideline [6]

METHODOLOGY:

A prospective observational study was conducted in a Neurology clinic in Warangal region over a period of 3 months. 100 Migraine patients’ data was collected and a pre-designed proforma was used to collect the required information. Prescriptions were analysed and compared with American Family Physician Guidelines.

Inclusion criteria: Patients of age 10-80 years were included who were diagnosed with Migraine.

Exclusion criteria: Patients with other illness were excluded

RESULTS:

In our study, of 100 patients, 56 % patients were found in 21-40 and least number of patients (5 %) were found in age between 61-80 years of age. Female patients were found to be (93) more affected than male patients (7). Among 100 patients, 89 patients were identified with specific triggering factors. The major triggering factors of these patients are identified as stress (62.9 %), change of weather (56 %), travelling (53%), insomnia (43 %), head bath (32 %), food and strong smells are observed in equal range (21 %). Menstruation (6.7 %), sunlight (3.3 %) and trauma (1.1 %) are identified as minor triggers in these patients. Among 89 patients, 24 % of patients were identified with only one triggering factor, 16 % patients with two triggering factors and patients associated with multiple triggers are 58 %. In our study, combination of triptans and NSAIDs are mostly prescribed over triptans alone or NSAIDs alone. Preventive medications are more frequently prescribed which constitutes 95 patients out of 100.

Table 2: Prescribed drugs with doses

S. No	Drug name	Prescribed dose	No. of patients
1	Rizatriptan + Naproxen	10 + 500mg	60
2	Sumatriptan + Naproxen	85 + 500mg	17
3	Zolmitriptan + Naproxen	5mg + 500mg	1
4	Sumatriptan + Diclofenac	85 + 50mg	1
5	Zolmitriptan	5mg	1
5	Diclofenac	50mg	2
4	Naproxen	500mg	14
5	Paracetamol + Tramadol	325 + 37.5mg	6
6	Ibuprofen	400mg	1
7	Propranolol + Flunarizine	20mg / 40mg + 10mg	66
8	Flunarizine	5mg / 10mg	3
9	Amitriptyline	10mg	5
10	Divalproex sodium	500mg / 750mg	17
11	Topiramate	25 / 50mg	2

DISCUSSION:

In our study, majority (56 %) of the patients were found in 21 – 40years age group and most of them were female (93). In a study conducted by Biman K Ray *et al.*, [7] among the patients suffering from migraine (n=342), the mean age was 32.2 years. 280 patients (81.87 %) were female. Balakrishnan Ramasamy *et al.*, [8] have found that incidence of Migraine is higher in female (169,76 %) than male (53, 24 %). Female sex hormones are considered to be major risk factor. Majority of migraine patients were among 18-29 years age group constituting about 77 patients (34.65 %).

In our study, stress and change of weather are observed as most frequently associated risk factors followed by journey and insomnia. Strong odour, food and menstruation are observed in less number of patients. In a study conducted by Jeong-wook park *et al.*, [9], the likelihood of a headache trigger was 57.7 % for stress, 55.1 % for sleep deprivation, 48.5 % for fatigue, and 46.5 % for any trigger. A study conducted by Surabhsingh Rajput *et al.*, [10] found that most common triggers in migraine were emotional stress (25.43 %) followed by fasting (18.42 %) and sunlight (16.22 %). Both the studies have shown that stress is majorly associated risk factor. Balakrishnan Ramasamy *et al.*, [8] have stated that more common triggers identified were sun exposure (85, 38.3 %), sleep deprivation (83, 37.4 %), stress (84, 37.8 %) and travel (80, 36 %).

In our study, most commonly prescribed drugs are combination of Rizatriptan and Naproxen (59 %), followed by sumatriptan and naproxen (16 %), preventive therapy such as propranolol and flunarizine (66 %) followed by Divalproex sodium (17 %), Amitriptylline (5 %). Rizatriptan is more frequently prescribed because it has quicker onset of action than sumatriptan, based on the study done by Tfelt-Hansen P *et al.*, [11]. The drugs which are prescribed less in our study site were likely to be Diclofenac (3 %), Zolmitriptan (2 %), Ibuprofen (1 %). According to American Family Physicians [5] Nonsteroidal anti-inflammatory drugs (NSAIDs) or caffeine-containing combination analgesics may be first-line treatment for

mild to moderate migraine, or severe migraine that has previously responded to these agents. Triptans are considered first-line abortive treatment of moderate to severe migraine, or mild attacks that have not responded to non prescription medicines. Ergotamine-containing compounds may also be reasonable in this situation. Like triptans, ergotamines and dihydroergotamines are migraine- specific drugs that bind to serotonergic receptors but poor absorption and high rates of adverse events preclude their use in most situations.

A study done by Pringsheim T *et al.*, [12] supports the use of sumatriptan, rizatriptan and the NSAID as abortive therapy for menstrual migraine which is similar to menstruation precipitated migraine cases of our study. A Cochrane review done by McCrory DC *et al.*, [13] found that all triptans are similar in effectiveness and tolerability. A Meta-analysis of 53 trials using oral triptans done by Ferrari MD *et al.*, [14] found that the three most effective agents for pain relief were 10mg of Rizatriptan, 80mg of eletriptan and 12.5mg of almotriptan. According to Färkkilä M *et al.*, [15] trialsnonresponders to one triptan may respond to another; therefore switching triptans is also reasonable. In contrast a study done by Dib M *et al.*, [16] comparing ketoprofen with zolmitriptan (Zomig) showed zolmitriptan to be modestly more effective (two-hour relief in 61.6 versus 66.8 % of participants, respectively), but it was associated with more adverse events such as tight throat and flushing.

In our study most of the patients were prescribed with the combination of triptans and NSAID (80 %) followed by patients using only NSAIDs (19 %), only triptans (1 %). However maximum number of patients (95 %) were also prescribed with preventive medications such as propranolol and flunarizine, divalproex sodium, amitriptylline. Incontrast to our study a survey conducted by Roger K.cady *et al.*, [17] found that of 5025 patients maximum number of patients were previously using NSAIDs (57.5 %) followed by triptans (28.2 %) , combination of triptans and NSAIDs (14.2 %). At baseline, patients who previously used NSAIDs reported significantly fewer migraines per month, lower migraine severity, shorter migraine duration and poorer ratings for effectiveness and tolerability versus responses from patients previously using triptans or triptans and NSAIDs.

CONCLUSION: In our study we found that female patients are affected to a greater extent than male patients and more number of patients are identified in age group 21-40 years. Stress, change in weather conditions and travelling are determined as most frequent triggering factors. A combination of Triptans and NSAIDs (rizatriptan + naproxen) is most commonly prescribed along with preventive medications such as combination propranolol and flunarizine. Clinical pharmacist can educate patients to identify triggering factors and take measures to avoid them.

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