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THE STUDY OF CLINICAL PROFILE IN MIGRAINE PATIENT

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Background: Migraine contributes to 16% to the headache patients and it is the 2nd most common cause of headache affecting 15% of women and 6% of men worldwide.
Aims and objectives: Purpose of this study was to review detail demographic and clinical profile of migraineurs along with the study of practice patterns of acute treatment and prophylaxis in patients attending OPD of a tertiary care hospital of central India.
Material and methods: All the patients with migraine attending OPD in Department of Medicine formed our study population. The Study protocol and informed consent form (ICF) was approved by the Scientific Review Committee. We had included 100 consecutive patients of migraine during the study period (February 2015 to October 2015) after voluntary written informed consent for participation in the study. Data was presented in the form of tables, a bar diagram, and a pie chart.
Results: Maximum number of migraine patients were in the age group 21-30 years (46%), lower incidence of migraine was seen in higher age group patients. The overall mean age of onset of migraine was 29.5 years, with a lower mean age in females. Migraine was more commonly seen in females (69%) in comparison to males (31%). Majority of the patients in our study presented with migraine without aura (89%). Unilateral headache was seen in 69% patients and 31% of patients had a bilateral headache. 72% of patients had severe pain, while 28% of patients had moderate pain. Traveling (42%), tension (32%) and hunger (24%) were the most common precipitants. 97% were taking NSAIDs for an acute attack of migraine and only 3% were taking Triptans. 21% of patients had positive family history of migraine. Prevalence of migraine in migraineur's parents to be 52.9%,
Conclusion: Females are most commonly affected by migraine. Travelling, tension and hunger being the most common precipitating factors. NSAIDs are most commonly prescribed for migraine. We recommend that further large clinical as well as epidemiological studies must be conducted to confirm and further extrapolate our findings in the general population.

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Introduction

Headache is one of the commonest medical complaints and accounts for 25% [1] of a general neurologist outpatient practice. Migraine contributes to 16% to the headache patients and it is the 2nd most common cause of headache affecting 15% of women and 6% of men.[2]

Historically, research on headache was conducted on an ad hoc basis, with no common diagnostic criteria used. This makes it difficult to apply studies conducted before 1990 to the present day. Year zero for headache was 1988, the year of publication of the International Headache Society (IHS) classification criteria for headache subtypes.[3] since its inception, it has become possible to diagnose patients accurately and consistently. The criteria have since been revised, and new classification criteria were published in 2004.[4] Guidelines on how to conduct studies with acute medications were first put forward by Glaxo in 1991,[5] followed by IHS- recommended guidelines a few years later.[6] Due to commercial considerations and clinical importance, most recent headache research is concentrated on migraine.

Most often, Migraine diagnosis is easy and treatment is straightforward but, in small number, it can be complex and debilitating. Although there are many unanswered questions, much more is now known about the pathophysiology of migraine, there are newer drug options and newer treatment strategies. As a result, we need to conceptualize migraine differently and modify our attitude and approach. This review will highlight some aspects of this new understanding and emphasize the need to look at migraine from the right perspective.

We had undertaken the study to know the incidence and prevalence of migraine in a selected population, to find out precipitating factors in our context that contribute to having a migraine attack, any hereditary association with the subject, to find out the treatment aspect in our selected population.

Aims and Objective

1. To characterize the migraineurs presenting to neurology OPD with respect to their:
   - Clinical
   - Physical
   - Biochemical
2. Establishing pattern and frequency of migraine which helps in planning and modifying the treatment.
3. Assessment of current therapy.

Specific objective

- To study baseline demographic characteristic of patients.
- To study the characteristics of migraine headache.
- To study precipitating factors.
- To study clinical and laboratory characteristics.
- To study the prevalence of migraine in family members.

Material and Methods

The present prospective observational study was carried out in the Department of Medicine, M.G.M. Medical College and M.Y. Hospital Indore from February 2015 to October 2015. All the patients with migraine formed our study population. We had included 100 consecutive patients of migraine who attended Headache and Medicine OPD in M.Y. Hospital, Indore (M.P.) during the study period. The protocol and informed consent form (ICF) were approved by the Scientific Review Committee. Before enrolling any patient into the study, a voluntary written informed consent was taken from them for participation in the study.

Inclusion Criteria

- Patient of age between 18 to 60 years of either gender presenting with moderate to severe pain
- Patients meeting the ICHD 3 Beta criteria for migraine with aura or migraine without aura
- Patients and/or his/her legally acceptable representative willing to provide their voluntary written informed consent for participation in the study

Exclusion Criteria

- Age <18 or >60 years
- Recent trauma
- Suspected secondary headache
- Thunderclap headache,
- Fever,
- Meningismus,
- Altered mental status,
- Focal neurological symptom,
- Headache due to other etiologies like a tumor, vascular disease (SLE, APLA Syndrome), epilepsy
- Patients and/or his/her legally acceptable representative not willing to provide their voluntary written informed consent for participation in the study

Methodology

Patients and their caregivers were explained in details about the disease. A patient information document written in understandable language was provided to the patients and their legally acceptable representatives.

After taking into considerations all the inclusion and exclusion criteria, the written consent to take part in the study was obtained. Patient's data was collected during a hospital visit using a standard Case Report Form.

Data collected in the form of a demographic characteristic, characteristics of migraine headache, precipitating factor, clinical and laboratory characteristic, the prevalence of migraine in family members, current therapy.

Patients family members were contacted telephonically.

Statistical Analysis

A standardized Case Report Form was used for collecting the data. Data was initially entered into Microsoft Excel for analysis. As the present study being an observational study, no statistical analysis was required. Data obtained from patients was presented in the form of tables, a bar diagram, and the pie chart.

Financial Implications

Ours being a government-run hospital, all the treatment provided to the patients is free of cost, hence there was no financial inputs or funding from the patients for the specific requirement of the study. All the study related expenses were borne by the investigator.

Results and Discussion

Age

A maximum number of migraine patients were in the age group 21-30 years (46%), lower incidence of migraine was seen in higher age group patients. A similar trend was observed by **Panda et al.** [7]

Age of Onset

The overall mean age of onset of migraine was 29.5 years. The mean age of onset in males was 31.29 ± 11.15 years and in female was 28.71 ± 11.34 years. A study done by **Panda et al** [7] the mean age of onset was 23.3 years and the majority of the patient had a migraine in the second and third decade of life. [Table 1]

Gender

Migraine was more commonly seen in females (69%) in comparison to males (31%), showing a female preponderance. **Panda et al**[7] also reported a higher female incidence (72%) than male incidence (28%). **Lipton et al,**[8] **Rasmussen et al,**[9] **Stewart et al,**[10] and **MacGregor et al,**[11] reported migraine to more common in the female population, with a female to male ratio of approximately 3:1.

Migraine with Aura and Without Aura

Majority of the patients in our study presented with migraine without aura (89%), while 11% of patients presented with aura. **Panda et al**[7] also reported an incidence of 83.8% migraine without aura. Migraine without aura is the commonest presentation. **Hansen et al**[12] also reported a higher incidence of migraine without aura (75%). A study was done by **Stewart et al**[13] also reports migraine without aura to be more common.

Characters of Migraine

Unilateral headache was seen in 69% patients and 31% of patients had a bilateral headache. 72% of patients had severe pain, while 28% of patients had moderate pain. **Ravishankar et al**[1] reported a 60% incidence of unilateral headache in their study. [Table 2]

Photophobia, phonophobia, nausea, and vomiting were the most common presenting symptoms. In 90% of patients, the headache was aggravated by routine physical activity

Vertigo, Transient diminution of vision, Gastrointestinal symptoms, Sensory deficit, Difficulty in speaking, Sweating and Transient diplopia are another symptom which is reported in few patients. None of the patients had reported a motor deficit. [Table 2]

Panda et al[7], reported the most common symptoms to be photophobia (84%), phonophobia (81.8%), nausea (71.7%) and vomiting (50%). The sensory deficit was present in 4 patients, while the motor deficit was present in 3 patients, dysarthria and transient diplopia were present in only 1 patient. Autonomic symptoms like sweating, gastrointestinal symptom, vertigo, and borborygmi were also seen.

Raskin et al[14] reported the most common symptoms being nausea (87%), photophobia (82%), light-headedness (72%) and scalp tenderness (65%). Vertigo was reported in 33% of patients. Seizure and confusing state were rare symptoms.

Precipitants

Three most common migraine precipitating factors seen in our study were traveling (42%), tension (32%) and hunger (24%). Other less common precipitating factors like the smell (Petrol, Perfumes, Agarbatti, Cigarette smoke, Pungent smell), Lack of sleep, Watching TV, Physical activity, Oily food, Dust, Red bean (rajma), Cola drinks, were also seen. [Table 3]

Panda et al[7] also reported that travel, tension, and hunger as the most common precipitants for migraine, which was present in 76%, 46%, and 43% patients respectively.

Kelman et al[15] reported the common precipitating factor of migraine being tension (80%), hunger (57%), sleep disturbances (50%), odours (44%), lights (38%), smoke (36%), lack of sleep (32%), food (27%) and physical activity (22%).

Medicines For Migraine

Majority of the patients in our study (97%) were taking NSAIDs for an acute attack of migraine and only 3% were taking Triptans. NSAIDs were found to be effective in alleviating the pain in migraine patients. Majority of the patients (32%) got relief from headache within 1-2 hours, followed by 23% within 2-3 hours after taking the medication. [Table 4]

Majority of the patients in our study (69%) were taking prophylactic medication for prevention of migraine. Beta-blocker (Propranolol) was the most common prophylactic medication (76.81%). Other prophylactic medications which were prescribed were Tricyclic Antidepressant (Amitriptyline), Calcium Channel Blocker (flunarizine), Anticonvulsant (Topiramate).

Majority of the patients (56.52%) were taking prophylactic medication for 6 months – 1-year duration. Only 4.35% of patients were taking prophylactic medication for more than 5 years duration.

Panda et al[7] reported NSAID's being the most commonly prescribed drug and was effective in 80.9% of patients. Beta-blocker, antidepressant, and calcium channel blocker were the most commonly prescribed prophylactic medication.

Positive Family History Of Migraine

21% of patients had a positive family history of migraine in our study. Mother (41.3%) was the most commonly involved family member followed by a female sibling (28.3%). None of the family members had neurological involvement in the form of headache, seizures or stroke. However, only one family member from both the maternal and paternal side had a migraine. [Table 5]

Panda et al[7] reported a positive family in 24.7% of patients. A study done by **Bener et al**[16] reported positive family history in 46.5% of patients.

We found a prevalence of migraine in migraineur's parents to be 52.9%, while in a study done by **Andersson et al**[17] reported it to be 58.3%.

Conclusion

This was an observational study from an Indian center on the clinical characteristics of migraineurs in India. It revealed that migraine to be more common in females (69%) with an average age of onset in 2nd and the 3rd decade with a mean age of onset is 28.71 ± 11.34 years in females and 31.29 ± 11.15 years in males. Migraine without aura (89%) is more common than migraine with aura (11%). It is

unilateral in 69% cases and severe in 72% cases. Photophobia (89%), phonophobia (77%), nausea (74%) and vomiting (46%) are most common symptoms. Travel (42%), tension (32%) and hunger (24%) is the most common precipitating factor. NSAID's (97%) was the most commonly prescribed medication for an acute attack of migraine and beta blocker (76.8%) is the most common prophylactic medication. There is a relatively low frequency of family history of headache. 21% of patients have a positive family history. Mother (41.3%) and female sibling (28.3%) are the most common family members who have a migraine. Though a definite pattern of inheritance can't be commented on, the majority with a positive family history of headache had a trend to possible maternal inheritance.

We recommend that further large clinical, as well as epidemiological studies, must be conducted to confirm and further extrapolate our findings in the general population. Specific biochemical analyses and genomic studies need to be done to elucidate the possible genetic defect and its biochemical effects in migraineurs.

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Table 1: Age of onset of migraine

Age of onset of migraine	**Number**	**Percentage**
< 20 years	26	26
21-30 years	39	39
31-40 years	17	17
> 40 years	18	18
Total	100	100

Table 2: Characteristics of migraine headache

Characteristics	**Number**	**Percentage**
Location of headache • Unilateral • Bilateral	 69 31	 69 31
Quality • Pulsatile • Constricting • Severity of pain (sev/mod)	 72 28 72/28	 72 28 72/28
Photophobia	89	89
Phonophobia	77	77
Nausea	74	74
Vomiting	46	46
Aggravated by or causing routine physical activity	90	90
Aura	11	11
Vertigo	8	8
Transient diminution of vision	10	10
Gastrointestinal symptoms	3	3
Sensory deficit	5	5
Motor deficit	0	0
Difficulty in speaking	3	3
Sweating	13	13
Transient diplopia	3	3

Table 3: Precipitating factors for migraine

Precipitating Factors for Migraine	Number	Percentage
Traveling	42	42
Tension	32	32
Hunger	24	24
Smell		
• Petrol	4	4
• Perfume	10	10
• Agarbatti	4	4
• Cigarette smoking	8	8
• Pungent smell	3	3
• Lack of sleep	13	13
• Watching television	17	17
• Physical activity	12	12
• Depression	4	4
• Oily food	5	5
• Dust	5	5
• Red beans (Rajma)	0	0
• Cola drinks	3	3

Table 4: Treatment taken by patients in an acute attack

Treatment in an acute attack of migraine	Number	Percentage
NSAIDS	97	97
TRIPTANS	3	3
Total	100	100.0

Table 5: Prevalence of headache in different family members

Prevalence of headache	Number	Percentage
Mother	19	41.30
Father	5	10.87
Female siblings	13	28.26
Male siblings	7	15.22
Maternal aunt	1	2.17
Maternal uncle	0	0.00
Paternal aunt	0	0.00
Paternal uncle	1	2.17
Total	46	100.00