

**A STUDY ON HEADACHE AND ITS TREATMENT :A HOSPITAL BASED STUDY**

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**Abstract**

Hippocrates 470-410 BC described headache as a shining light in the right eye with violent pain arising in the temples and spreading to the entire head and neck area being triggered by exercise and intercourse and relieved by vomiting.

**Methodology:** Patients presenting with headache for more than 1 month of all age groups and sexes were selected. Selected patients were subjected to detailed history and complete examination according to a defined proforma. According to clinical diagnosis. Patients with Migraine and Tension headache features were consulted with neurologist and psychiatrist. Treatment is given accordingly.

**Results:** Most common type of headache is Tension headache. Majority of the patients were of age group 21-50 years and it is more predominant in males. Next Most common type of headache is migraine. It's more common in females in 1:2 ratio. Third common type of headache is sinus headache and it is more predominant in males. Headache was localized more than one site (59%) in majority of cases and 22% in forehead region. Patients who were having mucosal contact points headache, underwent FESS and 88.89% of patients were relieved from headache. T.Propranolol 80 mgs and Amitriptyline 50 mgs were given for migraine patients. Most of the patients had subjective relief of headache. Patients diagnosed with tension headache were treated with relaxation techniques, physical exercises and Amitriptyline 10 mgs once a day in evening and most of the patients had subjective relief of headache.

**Conclusion:** Headache is nearly a universal human experience. The lifetime incidence of headache is estimated to be at least 90%. A carefully taken history is key to accurate diagnosis and the majority of patients will not have sinogenic pain. Accurate diagnosis will be helpful for successful treatment.

**Key Words:** Tension headache, Migraine, Sinusitis, FESS

**Introduction**

Headache had been a mankind troubler since the rise of civilization. Neolithic human skulls dating 3000-7000 BC<sup>(1)</sup> were discovered with signs of perforation with an instrument known as TREPANATION, performed originally to release demons and evil spirits but recently evident to be carried out for medical reasons<sup>2</sup> TREPANATION still practiced in African tribes for headache relief and fracture line removal following head injury<sup>(3)</sup>.

In ancient Egypt Headache prescriptions were written on papyrus. The Eber papyrus dated circa 1200 BC describes migraine, neuralgia and shooting pains<sup>(4)</sup> in medical documents from 2500 BC. Compression and cooling the scalp<sup>(5)</sup> method using strip of linen with clay and grains<sup>(5,6)</sup> were practiced then for headache relief. Hippocrates 470-410 BC described headache as a shining light in the right eye with violent pain arising in the temples and spreading to the entire head and neck area being triggered by exercise and intercourse<sup>(6)</sup> and relieved by vomiting. Aretaeus in second century AD discovered migraine headache based on descriptions of migraine by Celsus 215-300 AD. Galen in 200 AD introduced the term 'migraine' from greek word 'hemicrania'. Abbess Hildegard of Bingen in 12<sup>th</sup> century described in terms of migraine aura.

Thomas Williams in 1683 described prodromal symptoms associated with migrainous headache. Tissot in 1783<sup>(8)</sup> differentiated migraine from common headaches stating it to be a supraorbital neuralgia. Dubois Raymond, Mollendorf and Eulenberg put forth different vascular theories for migraine<sup>(7)</sup>. Erasmus Darwin in 18<sup>th</sup> century believed headache caused by vasodilatation could be treated by centrifugation. In 1778, Fothergill termed migrainous aura as 'fortification spectra'<sup>(9,10)</sup>. Living in 1873 originated the neural theory of migraine in the first monograph entitled *On Megrin, Sick-headache and Some Allied Disorders: A Contribution to the Pathology of Nerve storms*. William Gowers in 1888 in his neurology textbook, *A Manual of the Diseases of the Nervous system* recommended lifestyle modifications and use of Gower's mixture [nitroglycerin 1% alcohol solution] and marijuana for treating headaches.

## **MATERIALS AND METHODS**

The present study was conducted in the Dept of Neurosurgery, Mahadevappa Medical College, Kalaburagi.

### *Sample Size*

The study included 100 patients and the cases were diagnosed based upon the clinical examination and investigation.

### *Inclusion Criteria*

Patients presenting with headache for more than 1 month of all age groups and sexes.

### *Exclusion Criteria*

1. Medically unstable, lethargic, unarousable, agitated or uncooperative patients.
2. When the information obtained from the study is unlikely to change the patient's management such as in the situation of advanced care preferences, chronic disease, or end-of-life. These patients were evaluated as follows:

Selected patients were subjected to a complete examination according to a defined proforma. Detailed history with thorough clinical examination was done.

RESULTS

Table 1: Age distribution of Headache

	Age group (years)					
	5 – 10	11- 20	21 – 30	31 – 40	41 – 50	51 – 60
Tension Headache	--	3	14	10	14	5
Migraine	--	3	9	8	3	--
Cluster Headache	--	--	2	-	--	--
Sinus Headache	1	3	6	4	4	3
Refractive Error	--	2	1	-	--	--
Others	--	-	1	2	1	1

The highest age incidence is present in the age group of 21-30 year (33%), followed by 31-40 years (24%)

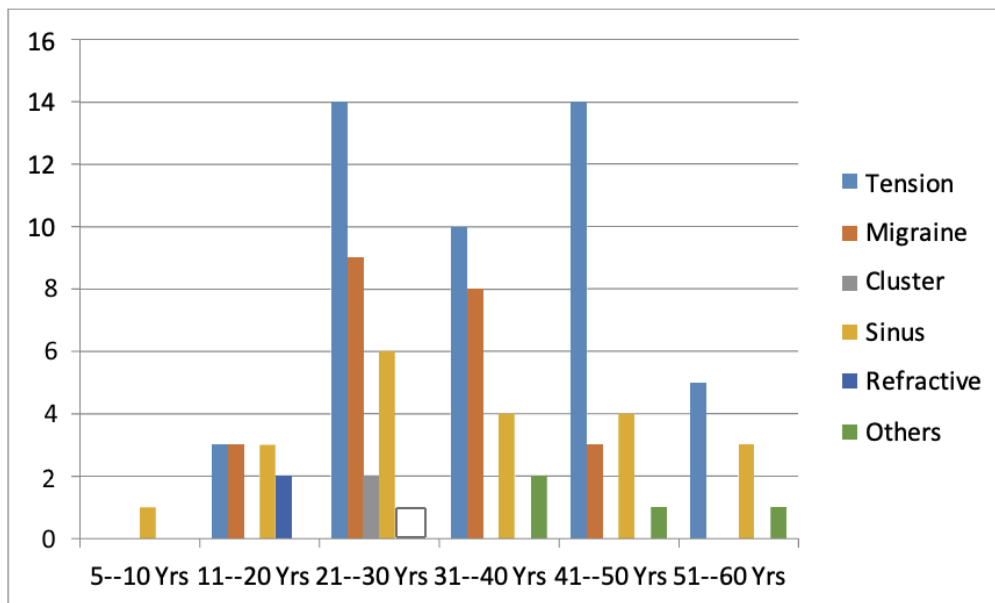


Figure 1: Age distribution of Headache

Tension headache is most common in age group of 21-50 years. Sinus headache is common in 21-30 years of age.

Table 2: Sex distribution of Headache

	Male	Female
Tension Headache	30	16
Migraine	7	16
Cluster Headache	1	1
Sinus Headache	12	9
Refractive Error	2	1
Others	3	2

65.22% of the patients of tension headache are males and 69.57% of migraine patients are Females. So tension headache is common in males and migraine is common in females.

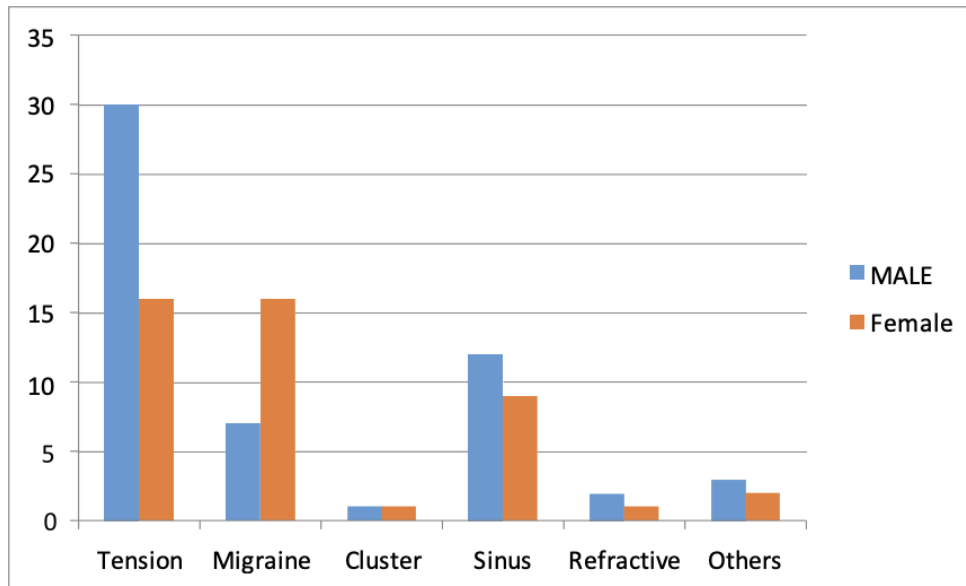


Figure 2: Sex distribution of Headache

Table 3: Sex Distribution (Other causes) (n=5)

	Male	Female
Hypertension	1	1
Trigeminal neuralgia	1	
Temporomandibular joint arthritis	--	1
Alcoholism	1	-

60% of the patients of headache due to other causes were males and 40% were females

Table 4: Etiology of Headache with Respect to Clinical Findings

	No. of cases	Percentage of Rhinogenic causes
DNS	7	33.33
Chronic sinusitis	3	14.29
Osteomeatal complex disease	7	33.33
Polyp	2	9.52
Allergic rhinitis	2	9.52

33.33% of patients of headache had DNS and 14.29% of the patients had acute sinusitis, 33.33% of the patients had osteomeatal complex disease and 9.52% of patients had polyp, 9.52% of patients had allergic rhinitis

Table 5: Localization of Headache

Localization	No. of cases
Forehead	22
More Than One Site	59
Parietal	9
Occipital and neck	10

Patients with headache in more than one site were maximum i.e., 59% followed by headache in Forehead 22% Out of 100 patients,63 patients were having nasal symptoms.All 63 patients were undergone DNE.Out of which 32 Patients had positive findings.31 Patients had normal study.32 Patients had DNS with sinusitis,Osteomeatal complex disease,polyp,acute sinusitis and allergic rhinitis

**Table 6: Patients who underwent DNE (n=32)**

	No. of cases	Percentage
Mucosal contact points present	9	28.12
Mucosal contact points absent	23	71.82

28.12% of the patients who underwent DNE for headache had mucosal contact points as the main pathology.

**Table 7: Patients who underwent FESS due to mucosal contact point (n=9)**

	No. of cases	Percentage
Total relief from headache	8	88.88
Significant relief	1	11.12

Out of 9 patients diagnosed as having mucosal contact points, 8 underwent FESS. All the patients are followed for 1 year. 88.88% of the patients who underwent FESS for headache due to mucosal contact points were relieved totally from headache and 11.12% had significant relief.

**Table 8: Patients who underwent FESS due to causes other than Contact Points (n=21)**

	No. of cases	Percentage
Completely free of pain	7	33.33
Significant symptom	3	14.29
No benefit from surgery	11	52.38

Out of 23 patients of headache due to causes other than contact point, 2 patients were diagnosed as Allergic Rhinitis. They were treated conservatively.21 underwent FESS. Patients who underwent FESS for causes other than mucosal contact points showed 47.62% improvement in headache and facial pain 11 Patients with no relief were clinically examined and consulted with neurologist and 6 patients were diagnosed as tension type headache and 5 patients were diagnosed as migraine.

**Migraine-**

Acute attack-Patients were advised to stay in dark and quiet room in lying down with head end elevation and T.Metoclopramide 5mgs+T.Paracetamol 500 mgs and T.Sumatriptan 100mgs were given.

Prophylaxis-T.Propranalol 40 mgs BD and T.Amitriptyline 50 mgs HS were given.Patients are followed up regularly at 15 days interval.

**DISCUSSION**

According to study conducted by Pramod Kumar et al 2000, the majority of the cases of headache belonged to the age group 10-30 years In our study, the majority of the patients had headache belonged to the age group 21-30 years.Thus, it can be concluded that the majority

of cases of headache belong to age group 21-30 years. Regarding the affection of sexes due to headache our study shows that males were more affected at 55%. In a study conducted by Pramod Kumar et al 2000 showed male preponderance at 53%. In a similar study conducted by Wenig et al and Lebovics et al demonstrated a male predominance of headache in both adults and adolescents<sup>10</sup>. Thus it concludes that headache is more common in males.

In a study conducted by Pramod Kumar et al (2000), localization of headache to forehead was 43% while headache at more than one site was 19%, pain at glabella 12% and headache at top of head was 9%. In our study, out of 100 patients of headache, 22 patients had headache at forehead i.e., 22%, 59 patients had headache at more than one site i.e., 59%, 9 patients had headache at parietal i.e., 9% and 10 patients had headache at occipital and neck i.e., 10%. Thus, it concludes that headache is localized at more than one site majority of cases. In a study conducted by Parsons DS, Batra PS to analyze the outcome of care for 34 patients who presented with headaches as one of their primary sinonasal complaints and were subsequently found to have contact points between nasal septum and one or more turbinates on diagnostic nasal endoscopy. In our study on 63 patients who underwent diagnostic nasal endoscopy, 9 patients had mucosal contact points present (28.12%). In our study, For migraine prophylaxis, T. Propranolol 80mg and T. Amitriptyline 50 mg were given. 18 [78.26%] patients had subjective relief of headache. 5 [21.74%] patients had significant symptom improvement.

In a study conducted by Jackson JL, Shimeall W, Sessums L, et al likelihood of obtaining at least a 80% reduction in migraine was greater in patients taking a tricyclic (mainly amitriptyline) as compared to placebo.

A Cochrane Systematic Review of the use of propranolol for migraine prophylaxis was published in 2004 by Linde and Rosnage and it shows 70% reduction in migraine frequency relative to placebo.

### ***Tension Headache***

In our study, for tension headache and T. Amitriptyline 25 mg once a day in evening, 40 [86.96%] patients had subjective relief of pain.

Lance and Curran's trials showed low dose tricyclic antidepressants (mean amitriptyline dose 50 mg/day) reduced headache by at least 70% compared with placebo.

### ***Cluster headache***

In our study, both patients improved better after taking verapamil 240 mg. Leone M, D'Amico D, Attanasio A, et al.'s Double-blind placebo-controlled trial that evaluated the efficacy of verapamil 360 mg (three divided dosages) over a 14-day period, a statistically significant reduction in headache frequency.

### **Surgical Interventions**

In our study, patients due to mucosal contact points were advised to undergo functional endoscopic sinus surgery. Out of 9 patients, All 9 patients underwent surgery. Post-operatively, 8 patients (88.89%) had total relief from headache, 1 patient (11.11%) had significant relief and it correlates with studies mentioned below.

### **Conclusion**

Headache is nearly a universal human experience. The lifetime incidence of headache is estimated to be at least 90%. A carefully taken history is key to accurate diagnosis and the majority of patients will not have sinogenic pain. Accurate diagnosis will be helpful for successful treatment

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