

Original Article

Study on Headache in ENT Practice

Fakruddin Ahmed¹, KA Al Mahmud², Md Kamal Uddin³, Maleka Afroz⁴

Abstract:

Headache is perhaps one of the commonest symptoms in all level of medical practice. Though most of the time it is very benevolent in nature. Yet, it may be the presenting symptom of a serious or/and life threatening disorder like meningitis, subarachnoid haemorrhage, stroke or brain tumor. It is this dual significance the one benign, the other potentially malignant that keeps the physician on the alert. This is a random prospective study of 120 cases of headache truly reflecting the sufferings of the victims of headache approaching the ENT specialists for the purpose to determine the exact cause of headache and get a satisfactory treatment.

Key words: Headache, primary headache, Migraine, Tension type Headache, secondary headache, Sinus Headache

Introduction:

Headache is defined as Pain or any unpleasant sensation in the region of cranial vault above the orbitomeatal line. It is now classified worldwide according to the International Classification of Headache disorders introduced by International Headache Society (IHS) and accepted by WHO into two principal types- Primary headache and Secondary headache. Primary

headache is the one where research scientists have failed to reach to any specific cause. Secondary headache is attributed to innumerable reasons and in fact can be caused by any physical disorder or discomfort. Primary headaches are Migraine, Tension-type headache, Cluster headache and other Trigeminal Autonomic Cephalalgias (TAC) which includes Paroxysmal hemicrania and Short-lasting Unilateral Neuralgiform headache attacks with Conjunctival Injection and Tearing (SUNCT) and other primary headaches of miscellaneous origin.¹

It is hard to find out a human being who had never experienced headache in life time. But consultation with the physician is done very seldom. Therefore true incidence of headache remains unknown. In general primary headache disorders constitute nearly 98% of all headaches; with tension-type headache (TTH) and migraine being the most prevalent.² TTH affects 60–80% of the population while migraine has a prevalence of 11-15%.^{2,3,4} Cluster headache is not so common ; but often misdiagnosed and mismanaged.^{5,6,7}

1. Registrar, Department of ENT and Head-Neck Surgery, BBMH, USTC, Foy's Lake Chittagong.
2. Resident Surgeon, Department of ENT and Head - Neck Surgery, BBMH, USTC, Foy's Lake, Chittagong.
3. Assistant Professor, Department of ENT and Head - Neck Surgery, BBMH, USTC, Foy's Lake, Chittagong.
4. Associate Professor, Department of ENT and Head - Neck Surgery, BBMH, USTC, Foy's Lake, Chittagong.

Address of correspondence: Dr. Maleka Afroz, Associate Professor, Department of ENT and Head - Neck Surgery, BBMH, USTC, Foy's Lake, Chittagong, E mail: dr.maleka@yahoo.com

Though many patients come to the ENT specialists with a headache claiming to have "sinus trouble", in reality a minority of these individuals found headaches that are solely nasal or sinus in origin.^{2,8,9,10} It is also rarely caused by other secondary reasons though important to be recognized for timely intervention.

Obviously very different possibilities are raised when a person presents for the 1st time in his life with a severe headache & another person who has had recurrent headache over a period of time. The scope of uncovering the cause in the 1st instance is much greater than the later. There is usually no difficulty in diagnosing some serious and life threatening diseases presenting with headache like meningitis, subarachnoid haemorrhage, glaucoma, acute purulent sinusitis by the respective specialists. It is when headache is chronic, recurrent & unattended by other important signs of disease that the physician faces one of his most difficult medical problem.

Diagnosis of the underlying cause of headache depends almost entirely upon an accurate history taking.² History must reveal the true characteristics of headache e.g. onset (sudden or gradual), length of suffering (recent or old), periodicity (episodic or chronic), duration of each episode, frequency, site of pain, side of pain, characteristics of pain, progression of pain, whether preceded by aura and premonitory symptoms or not; associated symptoms e.g. presence or absence of nausea, vomiting, photophobia, phonophobia, pallor, flushing of face, watering from the eyes, red eyes, pressure sensation over the head, heavy sensation over the head, nasal blockage, running nose, paraesthesia of limbs, weakness of limbs, dizziness, dysarthria, disability etc; Triggering factors e.g. Stress, nasal blockage, nasal cold, any particular food, insomnia, excessive sleep,

weather change etc; Relieving factors e.g. a good sleep, vomiting, medication etc; complaints in relation to ENT Head-neck region (nasal obstruction, nasal cold, earache, pain on opening the mouth, toothache, dysphagia etc.), complaints in relation to eyes (blurring of vision, pain in the eyes etc.) CNS complaints (high fever with rigor, disorientation, confusion, convulsion etc.), any H/O head injury, any H/O vascular diseases, metabolic disorder or OTC drug taken for headache.

A complete physical and neurological examination should be done though there are seldom any useful physical sign.¹¹ In the majority of cases investigations are not required to reach a diagnosis.^{12,13,14}

The approach to reach a diagnosis began with a search for the possibility of a secondary headache. If secondary headaches are excluded either on clinical grounds or through investigation.; the next step was to classify the headaches based on the characteristics of headache and duration of attacks. Attacks lasting less than 4 hours per day diagnosed as Trigeminal Autonomic Cephalalgia (TAC). TACs included cluster headache and chronic paroxysmal hemicrania. Duration of attack e"4 hours per day encompassed the differential diagnosis of migraine, tension-type headache or chronic daily headache (CDH) associated with the overuse or abuse of many common OTC drugs.

Diagnosis of sinus headache was done by the history of headache started with the attack of nasal cold associated with nasal blockage, purulent rhinorrhoea, repeated attempt to clear the throat, foul smell from the nose or oral cavity, heavy feelings of head worsened by bending forward and on examination thick purulent discharge in nasal cavity, DNS or Nasal Polyp, hypertrophied inferior turbinate, tenderness over the affected sinus and thick postnasal drip in the throat. This type of

headache is never disabling or associated with nausea or sensitivity to light or sound. And obviously will subside with a course of antibiotic. A simple X-ray paranasal sinus was done to confirm the presence sinus infection.^{15,16,17}

Tension type of headache or TTH was diagnosed by its gradual development, mild to moderate in intensity; starting from the nuchal & occipital region of head affecting the whole head (sometimes described as a tight band squeezing the head), dull ache, bilateral, more or less persisting in nature and lasting almost unremittingly for weeks or months; associated with nausea, photophobia or phonophobia or vomiting once or twice when the pain is very severe. But it was not incapacitating and not relieved completely by sleep.^{11,18,19}

Cluster headache also called paroxysmal nocturnal cephalgia was diagnosed from its very characteristic pattern. It comes in clusters; each time lasting for few days to weeks followed by a complete freedom from attack for months to years. During each cluster headache is felt at least once a day at about the same hour lasting in the same intensity for 20 minutes to 1-2 hours. Pain is severe to excruciating in intensity; always unilateral; felt behind the supra orbital ridge or eyeball; stabbing, piercing or burning in nature often unbearable & makes the patient restless. The Eyes may become red & swollen with increased lacrimation on the affected side. The nose may get blocked & runny on the affected side; not preceded by aura or premonitory symptoms ; not associated with nausea, vomiting, photophobia or phonophobia. It often starts after falling asleep and makes the patient awake. Sometimes starts in the early morning in the same time of the day. The pain is triggered by alcohol & cigarette smoking.^{20,21,22}

Chronic paroxysmal hemicranias is a type of headache where pain & vasomotor symptoms are similar to cluster headache. But the attacks are shorter; lasting for 10-30 minutes & occurs more frequently 10-20 times a day for several years. It mainly affects the young women & may be triggered by neck movement or local pressure, responds absolutely to indomethacin.^{1,23,24}

Aims and Objectives:

- (i) To find out the common age and gender distribution of headache.
- (ii) To find out the triggering and relieving factors of headache.
- (iii) To categorize different types of headache cases coming to an ENT specialist.
- (v) To find out the frequency of sinus disease causing headache.

Methods:

Total 120 patients were selected randomly attending the ENT outpatient department (OPD) of Banga Bandhu Medical Hospital (BBMH), University of Science and Technology Chittagong (USTC) and our private chambers in Chittagong town from June 2006 - June 2007. A Patient approaching with the first and foremost complaint of headache with a history of recurrent episode was included within the study. Patients approaching with different forms of neuralgic pain in head neck region diagnostic of TM joint neuralgia, trigeminal neuralgia, glossopharyngeal neuralgia or atypical facial pain were excluded from the study.

A ready questionnaire sheet was supplied to every patient which was ticked out after a thorough conversation over a period of 15-20 minutes with the patient. For every case the characteristics of headache, symptoms associated with it, triggering factors (Table-II), relieving factors (Table -III), complaints

related to ENT Head-Neck region or Eye or CNS were noted very carefully. Any previous history of Head injury, past or present medical disorder were also documented in the ready sheet. Inquiry was made as to the regular use of drugs particularly OTC analgesics, oral contraceptives and herbal medicines. Every patient went through complete ENT Head-Neck and neurological examinations. Since the main purpose of majority of the patients

to see an ENT specialist was the fear of having sinus disease responsible for headache all the patients were advised to do an X-ray PNS occipitontal view either to exclude the sinus disease or to prove sinus disease when history was suggestive.

Results:

For this study a total of 120 cases of headache were selected randomly.

Table-I
Age and gender distribution (n-120)

Age in years	Male patient	Female patient	No of patients	Percentage
11-20	12(10.00%)	26(21.67%)	38	31.67%
21-30	12(10.00%)	35(29.16%)	47	39.16%
31-40	08(06.67%)	18(15.00%)	26	21.67%
41-50	02(01.66%)	06(05.00%)	08	06.66%
51-60	—	01(00.84%)	01	00.84%

Table-II
Factors triggering headache

Triggering factors	Times mentioned	Percentage
Stress	20	16.66%
Nasal cold	16	13.33%
Insomnia	15	12.50%
Nasal blockage	10	08.33%
Sunlight	09	07.50%
Long Journey	06	05.00%
Excessive talking	04	03.33%
Excessive sound	03	02.50%
Looking downwards	03	02.50%
Looking upwards	01	00.84%
Miscellaneous	11	09.16%
Not realized	25	20.83%

Table-III
Factors relieving headache

Relieving factors	Times mentioned	Percentage
Medication	45	37.50%
good sleep	30	25.00%
Vomiting	09	07.50%
Relieved spontaneously	08	06.66%
Not relieved by anything	02	01.66%
Not recognized	33	27.50%

Table -IV
Single clinical Diagnosis (n-120)

Headache type	No of patients	Percentage
TTH	59	49.16%
Migraine	47	39.16%
Cluster headache	08	06.67%
Paroxysmal hemicrania	02	01.67%
Sinusities	02	01.67%
H/O Head injury	02	01.67%

Table –V
ENT problem along with Primary headache(n-120)

Cause of headache	No of patients	Percentage
TTH+ DNS	18	15.00%
Migraine+ DNS	13	10.83%
Migraine + Sinusities	05	04.16%
TTH+ Sinusities	09	07.50%
TTH+ Nasal polyp	01	00.84%
TTH + Nasal allergy	03	02.50%
Migraine+ Nasal allergy	07	05.83%

Table –VI
Significant ENT problem in headache patients(n-120)

ENT problem	Present	Absent
No of patients	56(46.67%)	64(53.33%)

Table-VII
Referral required for further management (n-120)

Name of discipline	No of patients	Percentage
Neuromedicine	02	01.67%
Ophthalmology	04	03.33%
Psychiatry	01	00.84%
Physical medicine	01	00.84%
ENT surgery	15	12.50%

Discussions:

The purpose of this study was to find out the principal age and sexual criteria of headache cases reached to an ENT specialist. The age range scrutinized was 11-60 years; dividing into 5 (five) groups. The prevalence of headache increased with age reaching maximum in age group 21-30 years (39.16%) and declined thereafter. An epidemiological study carried out by M. Sillanpaa, M. Aromaa & H. Aro with the child resident of a finnish

city collecting data in four stages shows rise of prevalence of headache from preschool level of 27.1% to 63.6% at age 14 years to 66.2% at age 22years.²⁴ The occurrence of headache is seen to be very few after the age of 40 which is supported by different studies in different regions of the world with different types of primary headache.^{25,26,27}

Females are seen sufferer of headache more than males in every age group as well as in general proved by other literature studied with the epidemiology of headache cases.^{28,29} In this study male female ratio was 1: 2.52.

Out of a very big list of triggering factors stress 20 (16.66%) was found highest identified factor giving rise to headache followed by nasal cold 16 (13.33%) and insomnia 15 (12.50%). Stress is also mentioned as the principal factor triggering headache in different studies on headache.^{28,29,30} Though the most frequent causal attributions of headache remained unrealized 25 (20.83%). An epidemiological survey on headache carried out among the inhabitants of the region of Great Vitoria AS Brazil also mentioned Unknown in 304 (23%) as principal etiological factor followed by stress 253(19.1%).³¹ A good number 27(22.5%) of patients mentioned more than one factor triggering headache. Other factors which were discovered in the present study precipitating headache were nasal blockage 10(8.33%), sunlight 9(7.50%), long journey 6(5%), excessive sound 3(2.5%), excessive talking 4(3.33%), looking upwards 1(0.84%), looking downwards 3(2.5%) and miscellaneous 11(9.16%).

Medication 45(37.5%) was found highest in relieving headache followed by a good sleep 30(25%) and vomiting 9(7.5%). Medication was also noted as the main relieving factor of headache in the review of literature^{27,31,32}. Still a large group of patient was not very happy with the way they were using medication to

get relief from headache particularly when the attacks were happening repeatedly. This induced them to seek the help of an ENT specialist.

Though sinusitis is a pretty common ailment afflicting millions of individuals worldwide only 2(1.67%) cases of headache were seen truly diagnostic of sinus headache following the criteria of IHS. Other 2 (1.67%) cases of headache were secondary to head injury. In the rest of the cases headache was strongly suggestive of primary in origin. Review of literature on headache is in favor of this fact worldwide though sinus infection is claimed to be the cause of headache by a large group of sufferers of headache.³³ Among the primary headaches commonest was TTH 59(49.16%) followed by Migraine 47(39.16%). However a small percentage of headache cases were seen suffering from Migrainous neuralgia 8(6.67%) and Idiopathic paroxysmal hemicrania 2(1.67%).

In this study the headache patients approaching to the ENT specialists diagnosed as having Migraine is seen surprisingly and unexpectedly quite high in comparison to the several surveys on headache carried out at home and abroad. First reason behind this is non-response to different type of abortive and preventive therapy practiced by self and by different medical practitioners and persistence of repeated attack of disabling headache.

Surprisingly a good number of cases 56(46.67%) revealed a co existing significant ENT problem along with a primary headache disorder explaining the reason why headache is thought to be sinus in origin. Since in medical practice it's been seen that the presence of an ENT diseases can trigger or increase the frequency of primary headache disorder treatment of the ENT problem was also considered sincerely to help fast recovery from the primary headache disorder.

For further evaluation we had to refer 2(1.67%) cases to neurophysician, 4 (3.33%) cases to ophthalmologist, 1(0.84%) case to psychiatry and 1(0.84%) case to physical medicine. 15(12.5%) cases however required surgical treatment in the nose and paranasal sinus region.

Conclusion:

Headache is one of the most common and difficult clinical problem in medicine. It has been estimated that every one in three person suffers from severe headache at some stages of life. More than 1300 tons of aspirin are consumed annually worldwide for the relief of headache. Most patients are in fact suffering from either vascular or muscular headache though diagnosed by a medical person or by self as having "sinus headache. Thus vast majority of cases can be treated effectively by a primary care physician or generalist with a correct clinical diagnosis without any special investigation. However any suspicious secondary etiology should always be excluded first before being diagnosed as a case of primary headache. Till then a group approach consisting of ENT specialist, neurologist, ophthalmologist, psychiatrist & psychologist can bring much benefit to remove or cut short the sufferings of these victims.

References:

1. Jel Oleson. International classification of Headache disorder: 2nd edition. Cephalgia, May 2004; 24 (Suppl 1): 23-136
2. Fayyaz Ahmed. Headache disorders: differentiating and managing the common subtypes. British Journal of Pain, August 2012 ; 6(3) :124-132
3. Ann christine Lynberg et al. Has the prevalence of Migraine and TTH changed over 12 years period? A danish

- population survey. *European Journal of Epidemiology* 2005;(20):243-249
4. Steiner TJ, Scher AI, Stewart WF et al. The prevalence and disability burden of adult migraine in England and their relationships to age, gender and ethnicity. *Cephalalgia*, 2003; 23: 519–527.
 5. Ekblom K, Svensson DA, Pederson NL, et al. Lifetime prevalence and concordance risk of cluster headache in the Swedish twin population. *Neurology* 2006; 67: 798–803.
 6. Katsarava Z, Dzagnidze A, Kukara M, et al. Prevalence of cluster headache in the republic of Georgia: results of a population-based study and methodological considerations. *Cephalalgia* 2009; 29: 949–952
 7. Bahra A, Goadsby PJ. Diagnostic delays and mis-management in cluster headache. *Acta Neurol Scand* 2004; 109: 175–179.
 8. Schreiber CP, Hutchinson S, Webster CJ, et al. Prevalence of migraine in patients with a history of self-reported or physician-diagnosed “sinus” headache. *Arch Intern Med* 2004 Sep 13;164(16):1769-72.
 9. Cady RK, Schreiber CP. Sinus headache: a clinical conundrum. *Otolaryngol Clin North Am* 004 Apr;37(2):267-88.
 10. Tepper SJ. New thoughts on sinus headache; *Allergy Asthma Proc.* 2004, Mar-Apr; 25(2):95-6.
 11. Headache. Dr. Fauci’s and Dr. Longos. *Harrisons Principles of Internal Medicine*, 17th Edition, USA: The McGraw-Hill Companies, Inc, 2008; Chapter-15.
 12. G Sandrini, L Friberg, W Jänig, R Jensen et al. Neurophysiological tests and neuroimaging procedures in non-acute headache: guidelines and recommendations. *European Journal of Neurology*, 05/2004; 11(4):217
 13. Duncan CW. Neuroimaging and other investigations in patients presenting with headache; *Ann Indian Acad Neurol.* 2012 Aug; 15(Suppl 1):S23-32.
 14. C S Mitchell, R E Osborn, S R Grosskreutz. Computed tomography in the headache patient: is routine evaluation really necessary? *Headache The Journal of Head and Face Pain*, 03/1993; 33(2):82-6.
 15. Roger K. Cady, David W. Dodick et al. Sinus Headache: A Neurology, Otolaryngology, Allergy, and Primary Care Consensus on Diagnosis and Treatment. *Mayo Clinic Proceedings*, July 2005; 80 (7) : 908-916.
 16. Harvey J. Blumenthal MD. Headaches and Sinus Disease, *Headache: The Journal of Head and Face Pain*, October 2001; 41(9); 883–888,
 17. J. David Osguthorpe, *Adult Rhinosinusitis: Diagnosis and Management Am Fam Physician*, 2001 Jan 1;63(1):69-77.
 18. Kaniecki RG. Migraine and tension-type headache: an assessment of challenges in diagnosis. *Neurology*, 2002 May 14; 58(9 Suppl 6):S15-20
 19. Carolyn J. Hildreth, Writer; Cassio Lynn, Richard M. Glass. *Migraine Headache JAMA*, June, 2009; 301(24): 2608.
 20. Henry p, Anray JP, Gaudin AF et al. Prevalence and clinical Characteristics of Migraine in France. *Neurology* 2002;59(2) :232-237.

21. Lipton RB, Stewart WF, Diamond S, Diamond ML, Reed M. Prevalence and Burden of Migraine in the United States: Data from the American Migraine Study – II; *Headache* 2001;41:646-657.
22. Ryszard M. Pluta, Writer; Cassio Lynn, Robert M. Golub. Tension-Type Headache *JAMA*. 2011;306(4):45
23. Sait Ashina, Ann Lyngberg, Rigmor Jensen. Headache characteristics and chronification of migraine and tension-type headache: A population-based study *Cephalalgia* August 2010, 30: 943-954.
24. Rozen TD. Cluster Headache, *Neurology* Continuum 2006;12:170-193
25. Tepper S.T., Rapport AM., Sheftell FD. Ethical considerations in Cluster Headache Research. *Curr pain Headache Rep*, 2002;6:47-51
26. Alberca R., Ochoa JJ. Cluster Tic Syndrome. *Neurology* 1994;44:996-999.
27. Bahra A, Mau A, Goadsby PJ. Cluster Headache: A prospective clinical study in 230 patients with diagnostic implications. *Neurology* 2002;58: 354-361.
28. Bahra A, Mau A, Goadsby PJ. Diagnostic pattern in Cluster Headache In : Olesen J. Goadsby PJ, Editors. *Cluster Headache and related conditions*: Oxford University press 1999: 61-65.
29. Manzoni GC, G. Tarzano M, Bonon G, Micieli G et al. Cluster Headache - Clinical finding in 180 patients. *Cephalalgia* 1983: 3:21-30.
30. Sarlani E., Schwartz AH, Greenspan JD, Grace EG. Chronic Paroxysmal Hemicrania, a case report and review of the literature, *J Orofac Pain*. 2003 winter: 17(1): 74-8.
31. Goadsby PJ., Lipton RB. A review of Paroxysmal Hemicrania, SUNCT Syndrome and other short lasting headache with autonomic features including new cases. *Brain*. 1997 Jan ; 120(Pt-1) : 193-209.
32. Minna Aromaa, Matti Sillanpää, Hillevi Aro. A population-based follow-up study of headache from age 7 to 22 years. *J Headache Pain*., Jul 2000; 1(1): 11–15.