ORIGINAL ARTICLE

Types of Headache Seen in Outpatients in A Tertiary Care Hospital

NAZEEFA BARLAS, ATIQ-UR-REHMAN KHAN

ABSTRACT

Objective: To study the types of headaches encountered in neurology outpatients in a tertiary care hospital.
Design of study: Observational study
Place and duration of study: It was conducted on 100 consecutive patients, at outpatient clinic at Fatima Memorial Hospital, which is a tertiary care hospital.
Patients and methods: A total of 100 patients were included in the study, who were seen at Neurology outpatient clinic over a span of one year and two months. A questionnaire regarding the severity of headache, precipitating causes, character of headache and associated symptoms was made and patients were assessed regarding these parameters. A neurological and general physical examination was done and a workup including imaging studies like CT scan brain, MRI brain were ordered as indicated. Out of 100 patients 79 patients were females and 21 were males. Majority of the patients (79) had a diagnosis of *Tension-type headache* (TTH), 20 patients had a diagnosis of *Migraine*, three had *post-stroke headache*, 2 had *post traumatic headache*, the remaining had a diagnosis of *post-Lumbar puncture headache, benign intracranial hypertension, medication overuse headache and headache due to uncontrolled hypertension.*
Conclusion: It was seen in our observational study that tension type headache was the most common variety of headache seen in outpatient clinic .The next common type was migraine of nonclassical variety ,followed by other types of headaches like post stroke, post-traumatic, benign intracranial hypertension and headache due to raised blood pressure .It was also seen that majority of patients with TTH [70%] and migraine[18%] were females.Fischer"s exact test was applied and exact sig 1sided was found to be 301.
Key words: tension type headache, migraine, aura, photophobia, phonophobia, benign intracranial hypertension, post-traumatic headache

INTRODUCTION

Headache is a common presentation in outpatient settings and clinics of general practitioners as well as neurologists. It is important to differentiate a serious or benign cause of headache. In this study, an effort is made to differentiate various types of headaches presenting in a tertiary care hospital.

PATIENTS AND METHODS

A total of 100 patients were questioned about their chief complaint of headache according to a pre-designed questionnaire. The duration onset, character of headache and its association with insomnia cervical muscle spasm photophobia, phonophobia were asked .The routine use of over the counter medications and history of head trauma was also asked. The general physical examination and neurological examination was done on each patient. The neuroimaging studies like CT brain or MRI if already done were noted and if not done then the patients were asked for in appropriate case.

Department of Medicine, Fatima Memorial Hospital / College of Medicine & Dentistry
Correspondence to Dr. Nazeefa Barlas, Assistant Professor Medicine, Email: nazeefajaved@yahoo.com

RESULTS

There were total 100 patients out of which 79 were females and 21 were male patients. The tension type headache was diagnosed in 70 patients ;among them majority(57) were female patients and 13 were male patients.A total of 20 patients had migraine ,and female preponderance (18) was noted in this variety of headache.The pressure like character of pain was noticed in 59% and 33% had throbbing pain

DISCUSSION

Tension type headache is the most common type of headache 30-80 % of US population[1]. Women are twice as likely to suffer as males. The international headache society defines clinical characteristics of TTH as a] bilateral location b]pressing or tightening, non pulsating type. C] mild or moderate intensity

d]not aggravated by routine physical activity such as walking or climbing stairs[2]. There is no associated nausea or vomiting however nausea may occur and no more than one symptom of photophobia or phonophobia should be present. It is not an inherited trait. It is accompanied by tightened muscles at the back of neck and scalp. Causes include inadequate rest, poor posture, emotional and mental stress, anxiety, fatigue, hunger ,over exertion. The stressful situations include having problems at home, difficult family life, having a new child, having no close friends, returning to school or training, preparing for tests and exams, going on vacation, losing or starting a new job, being overweight, deadliness at work, competing at sports, being a perfectionist, not getting enough sleep. The symptoms include mild to moderate pain or pressure and headache later .

Chronic fatigue, irritability disturbed concentration mild sensitivity to light and noise .Recent studies have shown that nitric oxide (NO) may play a key role in pathophisiology of chronic tension headache[3]. Dysfunction of pain inhibitory symptoms may also play role in pathophysiology of chronic tension type headache . To diagnose the frequent episodic tension type headache variety at least 10 episodes occurring on one or more but less than 15 days per month for at least 3 months should occur, whereas the infrequent variety the of TTH is less than one per month .Chronic TTH is attributed to more than 15 days per month on an average of more than 3 months. The treatment includes antidepressants muscle relaxant and anti anxiety medication[4].

Post traumatic headache syndrome occurs following injuries to head and neck. These headaches are self limited, resolve quickly within days to several weeks but headaches may be a problem for months, years or lifetime. Severity of trauma may aid in predicting outcome but many patients have months or years of headaches after trivial head trauma. Many patients have associated neck and posterior occipital pain which can be secondary to soft tissue damage or ligaments muscles or disc damage and nerve root compression. Concussion is a trauma induced alteration in mental status that may or may not involve loss of conscious ness.

Symptoms accompanying post-traumatic headache include poor concentration, uncontrollable anger, sensitivity to noise and bright lights, depression, dizziness, vertigo, tinnitus, memory problems, fatigue, insomnia, lack of motivation, irritability[5]. Medical workup included CT or MRI scan to rule out hemorrhage. Treatment of post-traumatic headache includes NSAIDs, amitryptyline etc. Reassurance also helps the patient.

Migraine: This type of headache is triggered by physical, chemical, psychologic factors causing release of serotonin and norepinephrine. This leads to vasodilatation and vomiting. Trigeminal system is stimulated which in turn activates hypothalamus causing symptoms of photophobia and phonophobia. Signals go to upper part of spinal cord creating tightness, and spasms of muscles[6].

Migraine can be divided into two major subtypes; migraine without aura which is headache with specific features and symptoms and migraine with aura which is characterized by focal neurological symptoms accompanying headache.

Classification of migraine:

1. migrainewithout aura
2. migraine with aura
3. childhood periodic migraines
4. retinal migraine
5. complicated migraine
6. probable migraine

Diagnostic criteria of migraine without aura;

A) at least 5 attacks fulfilling criteria B-D
B) headache attacks lasting 4-74 hours
C) headache at least 2 0f the following ;
   a) unilateral location
   b) pulsating quality
   c) moderate or severe pain intensity
   d) aggravation by or causing avoidance of routine physical activity
D) during headache at least one of the following

1) nausea and or vomiting
2) photophobia and phonophobia

E) not attributed to any other disorder.

Phases of migraine: There are 4 phases of migraine; prodrome , aura, headache and recovery or resolution phase. Prodrome includes the premonitory symptoms in the 24 hr period before the headache which can be irritability excitability hyperactivity or depression or on the other hand hypoactivity ,craving for certain foods repetitive yawning neck tightness. Aura this can be Visual aura which includes zig zag figures and scintillating scotomas. Sensory disturbances like numbness and paresthesias may occur.

Headache phase is characterized by pulsating headache and is unilateral in 60% cases. It can be bilateral .it is moderate to severe in intensity. It is also aggravated by activity that increases intracranial pressure like coughing and sneezing. The location does not help in diagnosis. It can be bifrontal and around the eye and can be mistaken for sinus headache and when in occipital region it is mistaken for TTH. There is increased sensory perception manifested by photophobia and phonophobia.

The resolution phase includes irritability washed out period tiredness impaired concentration scalp tenderness or mood changes. some feel euphoria after the attack while others experience depression and malaise. Complications of migraine include chronic migraine, status migrainosus, persistent migraine aura without infarction, migraine triggered seizure.

Medications: Acute care medications of migraine include specific and nonspecific medications. Nonspecific acute care medications include analgesics, antinauseants and sedatives. Specific medicines include Dihydroergotamine (DHE), triptans (Sumatriptans and Zolmitriptans) which inhibit vasodilatations. Aspirin and ibuprofen are more effective than acetaminophen. Overuse of analgesics can cause renal impairment and gastrointestinal ulcers. Sedative therapy is no longer in use for migraine. Midrin, a combination of sedative isometheptene, acetaminophen, dichloralphenazone is commonly prescribed in the world except the U.S. Butalbital, a barbiturate, works better than acetaminophen and codeine. Migraine specific medicines include triptans, the most effective oral drug is rizatriptan followed by Zolmitriptan, oral sumatriptan and nasal spray sumatriptan. Newer agents include eletriptan and frovatriptan[7].

Post lumbar puncture headache: It is a bilateral frontal, occipital or generalized pressure or throbbing headache occurring in the upright posture and resolving when supine[8]. It is worse with head movement coughing straining, sneezing and jugular venous compression. It begins in 48 hours in 80%and within 72 hours in 90% of patients. Onset can be immediately after the lumbar puncture or can be delayed upto 14 days .Dysfunction of cranial nerves can occur but is transient usually. Treatment includes bed rest caffine 300 mg orally, theophylline 300 mg orally 8 hourly for mild cases. Moderate to severe headache present for more than 24 hours include bed rest, caffine sodium benzoate 500 mg iv slowly and epidural blood patch ,which is the most effective treatment. It is done by slowly injecting 10 -20ml of patients blood into epidural space . patient should stay in decubitus position for at least one hour to obtain maximum benefit[9].

Post stroke headache: Headaches can occur before or after stroke.Transient ischemic attacks also labeled as ministrokes are almost always painless .headaches after a stroke are uncommon but might occur due to the following reasons:

A redirection of blood flow when healthy arteries stretch and grow to supply blood to the part of the brain that has lost its normal supply.

Stretching of the brains covering from scarring, swelling or atrophy of the brain

Small amounts of bleeding into the area of old stroke

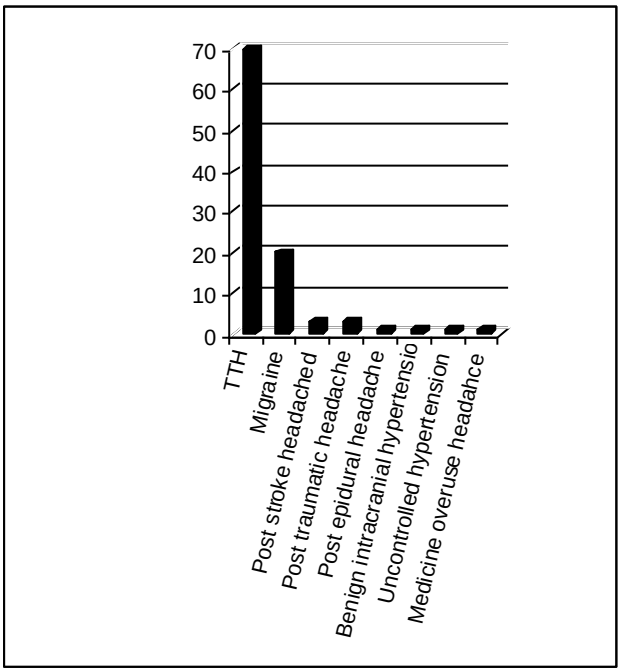
A small tear in an artery[10].

Vestergaard et al carried out a study in 280 consecutive patients younger than 81 years of age with acute stroke and found that 65 patients had headache from 3 days before to 3 days after stroke .Headache occurred in 50 % of patients with intracerebral bleed, 26% with infarction and in 15%with lacunar infarction. headache was more common with stroke involving posterior circulation than the anterior one. He concluded that headache was TTH followed by migraine like headaches and unilateral headache is ipsilateral to stroke lesion and headache occurs in one fourth of acute stroke patients however headache is not related to size of ischemic stroke lesion[11].

Medication overuse headache: Excessive daily use of immediate relief medications can cause chronic daily headaches. medication misuse headache is called as medication overuse headache, analgesic rebound headache, ergotamine rebound headache, and drug induced headache. The following are the clinical features of analgesic rebound[12];

1. the headaches are refractory daily near daily.
2. it occurs in patients who use analgesics frequently and in excessive quantities.
3. headache is variable in severity and location.
4. threshold of headache is low.
5. headaches are accompanied by asthenia nausea and other GI symptoms restlessness, irritability, impaired concentration and depression.
6. there is drug dependent rhytmicity of headaches ,between 2 a.m and 5a.m headaches are common in patients who use large quantities of analgesics sedatives.
7. tolerance to analgesics occurs over time.
8. withdrawl symptoms are seen when off the medications abruptly
9. spontaneous improvement occurs on discontinuation.
10. prophylactic medications are ineffective when patients taking large quantities of immediate relief medications. Various studies have been conducted in the past regarding headache types ,prevalence of headache among elderly ,children and adolescents. To study the two most common varieties of headaches migraine and tension type headache a study was carried out in low income group of Brazil. The population sample included males and females of 65 yrs of age and the patients were asked to answer a questionnaire to determine prevalence of headache over past one year. Out of 1615 people in study 45.6% referred headache over last one year, 71.2% were females. Prevalence of any type of headache in last one year was 33.7% for men and 53.1% for

women. Prevalence of headache was higher in women than in men p<0.001. Franceshi et al. in 1997 evaluated the prevalence of headache in 312 subjects >65 years old. The prevalence of migraine was 2.0% in women with no case in men; and tension type headache 4.0% in women and 1.2% in men. Wang et al in a population sample of elderly Chinese demonstrated a one year prevalence of migraine in men and women respectively of 0.7% and 4.7% and of tension type headache of 20 and 46%. In 2005 Prencipe et al found one year prevalence of migraine to be 13.8% for women and 7.4% for men; for tension type headache one year prevalence was 55.1% for women and 30.9% for women.



Our study was carried out in a tertiary care hospital, Fatima Memorial Hospital which is a private hospital at Shadman Lahore. This is a large metropolitan city of our country and happens to be the second largest city of Pakistan. A total of 100, 79 (79%) females and 21(21%) male patients with complaint of headache were seen in outpatients of neurology clinic at Fatima Memorial Hospital. Upon asking the character of headache 97(97%) throbbing character of headache was seen in 33(34.0%) of patients out of which 30(40.0%) were females and 3(13.6 %) were males .The pressure like headache was found in 59 (60.8%) individuals, 41(54.7%) were females and 18 (81.8%) patients were male. Both of these characters were dominantly found in females. The photosensitivity and phonosensitivity were the two specifically asked features for migraine and the photosensitivity found to be in 5 male (23.8%) patients and 18(22.8%) female patients. The phonophobia was present in 4(19.0%) males and 15(19.0%) females. Insomnia and cervical muscle spasm which are two important features of TTH, insomnia was present in 8(38.1%) males and 38(48.1%) of females patients. However, cervical muscle spasm was present in 13(61.9%) males and 55(69.9%) females). The above mentioned four characteristics for migraine and TTH were predominantly found in females. The prevalence of different varieties of headache in our patients is shown in the following bar chart.

The cumulative frequency and percentage of different varieties of headaches is shown in the table below.

Category	Frequency	%age
TTH	70	70
Migraine	20	20
Post stroke headache	3	3
Post traumatic headache	3	3
Post epidural headache	1	1
BIH	1	1
Hypertension	1	1
MOH	1	1
Total	100	100

CONCLUSION

We concluded in our observational study that the most common types of headaches presenting in outpatients are TTH and migraine. Among these two varieties of headaches there was female preponderance among both the varieties of headaches. This study also verifies that TTH and migraine are common headaches encountered in outpatients setting in contrast to more serious nature of headaches like subarachnoid hemorrhage meningitis and headache due to raised intracranial pressure. The less common but not rare types included post stroke, post lumbar puncture and post traumatic headaches.

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