

CHRONIC MAXILLARY SINUSITIS, AN UNCOMMON AETIOLOGICAL FACTOR OF HEADACHE

Zafar ullah Khan, Kamran Zamurrad Malik

Combined Military Hospital, Mangla Cantt

ABSTRACT

Objective: To emphasize that headache due to chronic sinusitis must be differentiated from all other forms of headache clearing the misconception of relating almost every headache with sinusitis.

Design: This is a descriptive study.

Place and Duration of Study: The study was carried out at the department of ENT, PNS SHIFA Naval hospital Karachi from March 2002 to March 2004.

Patients and Methods: This study was carried out on 100 patients who were selected from the OPD as convenient sampling. It included patients referred to otolaryngology department who were having radiological evidence of maxillary sinusitis on plain x-ray PNS and were being investigated for headache of more than one-month duration. All the patients underwent a detailed history, clinical and E.N.T. examinations. Bilateral antral washouts were performed. Patients were compared on the bases of various parameters for instance age, gender, duration, severity, type and location of headache, effects of treatment for chronic sinusitis in ameliorating headache. A follow up for a period of three months were carried out. After the study the collected data was processed, analyzed and the final results were made.

Results: Majority of the cases belonged to the age group of 21 to 35 years (70%). A large majority of the patients were not sure about any aggravating conditions. 28% cases were unable to recognize any pain-relieving factor. Only 9% patients were severely affected. 23% patients were having structured problems e.g., deviated nasal septum, nasal polypi and enlarged turbinates. In 39% cases antral wash on one or both sides revealed mucoid discharge. 17% patients expressed that they were markedly improved with the treatment. 83% did not improve remarkably, revealing that chronic maxillary sinusitis was not the main cause of headache in those patients.

Conclusion: It was concluded that although sinusitis is associated with headache in majority of the cases but headache is not a major symptom in chronic maxillary sinusitis. Patients primarily presenting with headache have chronic sinusitis in a few cases only. It is recommended that not all the patients of headache with hazy X-ray PNS should be subjected to only the treatment of chronic sinusitis to relieve headache.

Keywords: Headache, sinusitis

INTRODUCTION

Patients with headache present a diagnostic challenge. The Otolaryngologist is often obliged to consider chronic headache attacks because it is probable that patients

afflicted with chronic headache are considered to have sinusitis more than any other related disease. While only a small percentage of these patients actually have headache of sinus etiology [1]. Difficulties arise because of the frequency of referred pain and the overlap in symptoms between different conditions. Sinusitis-related pain has

Correspondence: Maj Zafar ullah Khan, ENT Specialist, Combined Military Hospital, Mangla.

distinctive features that set it apart from primary headache disorders and other causes of facial pain[2]. Sinusitis can be differentiated from all other forms of headache by taking a detailed structured history in order to reach the correct diagnosis and to avoid misguided treatments especially surgical. This required consultation with physician, ophthalmologist, neurologist and oral-maxillofacial surgeon. This study was aimed at emphasizing the fact that sinusitis is not to be blamed for every headache and a judicious approach should be taken in elucidating the etiology while treating patients with headache.

PATIENTS AND METHODS

This was a descriptive study on a sample size of one hundred cases collected from PNS SHIFA Naval hospital Karachi as convenient sampling.

Those patients referred to otolaryngology department who were being investigated for headache of more than one-month duration and with radiological findings like mucosal thickening or haziness of maxillary sinusitis were included in the study. Cases not taken for study included patients under 12 and over 60 years of age, those patients in which antral wash could not be performed (due to any reason like refusal, any technical difficulties) and in those cases where headache had known aetiology other than chronic maxillary sinusitis (migraine, space occupying lesion of brain, tumours, ophthalmologic causes etc.).

A Performa was prepared including information regarding personal data, symptomatology and management offered. All the patients underwent a complete history, clinical as well as E.N.T. examination and a detailed anamnesis. Investigations were divided into two categories laboratory and radiological. Bilateral antral washout aspirations were performed and repeated after seven days of the initial one. Laboratory Investigations asked in every case included Blood complete picture, sedimentation rate, blood sugar, serum urea and electrolytes,

coagulation profile (pre-antral lavage) and urine examination.

Occipitomenal (waters) view X-ray in every case under study was performed for a better assessment of the maxillary sinuses. CT scan was not used (due to financial constraints).

Patients were compared on the bases of various parameters which included age and sex of the patients, severity, type, location, aggravating or relieving factors of headache.

All the patients were treated with oral antibiotics (Augmentin), sympathomimetic nasal spray (Xynosine spray) and oral analgesic (Ponstan) and were followed up for a period of three months. At the completion of study all the individual data was collected, processed and analyzed and conclusion drawn.

RESULTS AND DATA

Age Distribution

Patients were between 16 and 51 years of age. Majority of the cases belonged to the age group of 21 to 35 years (70%). 10 (10%) were below 21 years while 20 (20%) were above 35.

Sex Distribution

61(61%) were male and 39(39%) were female. Male to female ratio was about 1.5: 1.

Aggravating Factors

40(40%) were not sure about any aggravating conditions. 25(25%) of them mentioned that cold environments increased their headache. 12(12%) patients blamed lack of sleep as their main aggravating factor. 15(15%) named dusty atmosphere, 5(5%) said it to be traveling and 3(3%) with stress.

Relieving Factors

26 (26%) of the total patients, used to get relief with some rest and sleep. 13(13%) preferred warm environments. 31(31%) were relieved with medications. 28(28%) cases were unable to recognize any pain relieving factor. 2(2%) people used to get some soothing effect with scalp massage.

Site of Headache

Forty-four (44%) cases had headache confined to the frontal region. 20(20%) had there headache localized to the forehead, nose and paranasal area known as facial region. 14(14%) spotted the vertex area. 11(11%) had diffuse headache. 6(6%) patients had an occipital and 5(5%) had temporal headaches.

Severity or Affects on Daily Life

Headache affected majority of patients some way or the other. 30(30%) cases were moderately affected in a way that they used to do their job but with great discomfort. 61(61%) had mild influence on their daily routine. 9(9%) patients were severely affected to the extent that they used to take sick leave for rest frequently.

Type of Headache

69(69%) patients described their headache as deep inside the head. 25(25%) patients described it as superficial while 6 (6%) could not explain their type of headache.

ENT Examination

After Ear Nose Throat examinations 13 (13%) of the patients were having a deviated nasal septum. 3(3%) had bilateral nasal polypi. 7(7%) showed enlarged turbinates. Nasal discharge of mucopurulent type was found in 24(24%) patients on anterior rhinoscopy. In 10(10%) cases retracted eardrums were noticed. Atrophic rhinitis was seen in one (1%) and no abnormality could be found in rest of the 42(42%) patients.

X-Ray PNS (occipitontal view) (table).

Antral Washout

In 39(39%) cases antral wash on one or both sides revealed mucoid discharge. Purulent discharge was found in 9(9%) cases, they were having repeated antral washes weekly until the aspirate became clear. 8 (8%) patients had 'straw coloured washouts. In 3(3%) cases antral wash could not be performed due to bleeding obscuring accurate

results hence these three cases were not considered for antral wash studies.

Improvement in Headache

Regarding improvement, only 17% were improved. 45% were not improved at all while 39% of the patients were not fully satisfied and were partially improved. Figure shows the improvement in symptomatology of patients.

DISCUSSION

Headache associated with acute sinusitis is a well-recognized entity; the diagnosis is easily made due to the associated nasal and sinus symptoms. However, the phenomenon of referred headache from chronic sinusitis without upper respiratory symptoms is not well understood [3].

Sinusitis-related pain has distinctive features that set it apart from primary headache disorders and other causes of facial pain [4]. Other causes such as refractive errors, migraine, trigeminal neuralgia, toothache and cervical spondylosis have to be excluded.

Mainly the patients were between 21 to 35 years, with majority of the patients were male which is a contrasting fact to studies in vogue [5]. This fact is attributable to the dominance of males in armed forces due to which incidence in male is about 1.5 times more than female.

In our study antral washout revealed a positive aspirate in 56% patients [6]; this figure is almost in accordance with other studies [7].

Long neglected as a clinical entity, sinus headache has become a common complaint of patients with facial pain [8]. Headache due to sinusitis gradually becomes apparent during the morning and then wears off during the remaining period of the day. This has been said to be due to secretions accumulating in the sinuses during the night and then draining away as the patient takes up an erect posture in the morning. The cause of sinus

headaches is not entirely clear. A possibility is that if a drainage opening such as the fronto-nasal duct or maxillary ostium is blocked, a partial vacuum is produced, even in the uninfected sinus, and causes pain. In our study headache was completely relieved in only 17% patients while 45 % had no improvement with the rest of patients in between. This on one hand establishes the fact that headache may not be due to sinusitis or may point towards failure to relieve specific pressure points which is done in a much better way by endoscopic sinus surgery. Majority of patients had headache of moderate intensity and was felt deep inside the head, this conforms to existent literature [9].

Headache interpreted as treatment failure may be encountered after surgical or pharmacological treatment for chronic sinusitis. This persistent symptom may lead, even in the presence of minimal sinus disease, to frequent office visits, medical treatment, primary surgery, and revision procedures [10].

There are two types of headache, which should wake immediate suspicion that the source of headache is a sinus.

The first is headache in the region of the forehead caused by a loculated infection in frontal or maxillary sinus. This is characteristically brought on or made much worse by any attempt to do work. Such patients are frequently diagnosed as having conversion hysteria.

The second type of headache carries many of the characteristics of histaminic cephalgia. It is episodic, rapid in onset, of great severity but of short duration. It tends to excite the patient to useless effort and occur frequently in the morning, is associated with conjunctival congestion of the homolateral eye with tearing. The vessel involved usually is supra-orbital artery. Pressure over the supraorbital foramen of the involved side gives amelioration of pain, as does the pressure over the homolateral carotid artery.

Table: The radiological findings.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Fluid Levels	8	8	8	8
Hazy	20	20	20	28
Opaque	5	5	5	33
Mucosal Thickening	67	67	67	100
Total	100			

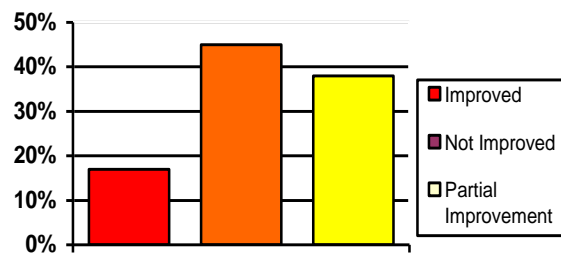


Fig: The improvement in symptomatology of patients.

Sinusitis may also trigger or aggravate vascular headaches [11].

Atypical facial pain is an unrecognized and unhelpful diagnosis. Due to the site of the pain, patients may seek and, indeed, receive treatment from dental practitioners and specialists, but the pain is often unresponsive and may have more in common with unexplained medical symptoms affecting other areas of the body [12], than with other dental symptoms [13].

CONCLUSION

Headache is one of the most frequent human discomforts. It may signal serious disease or represent only a minor ailment. Sinusitis is associated with headache in majority of the cases but headache is not a major symptom in chronic maxillary sinusitis as compared to that of acute sinusitis. Patients primarily presenting with headache have chronic sinusitis in few cases only.

It is recommended that not all the patients with headache and hazy X-ray PNS should be subjected to treatment of chronic sinusitis to relieve headache. It not only puts extra burden on the Otolaryngologist but it also subjects the patient to unnecessary

treatment. A good history and clinical examination can unravel the various types of headache in most of the cases because of the specific features it characterizes.

Need of time is to develop much easy and affordable investigating tools that can help to diagnose all the cases of headache due to sinusitis at preliminary stage with perfection. So that treatment could be offered to them depending upon the etiology.

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