



## REVIEW ARTICLE

### CLINICAL STUDY OF HEADACHE IN RELATION TO SINUSITIS AND ITS MANAGEMENT

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#### ABSTRACT

**Aim:** To study relation of headache with sinusitis and its management.

**Methodology:** Patients clinically presenting with headache were selected. Only patients with headache due to rhinogenic causes were subjected to X-ray paranasal sinuses and diagnostic nasal endoscopy and followed-up to evaluate management.

**Results:** Majority of the patients were of age group 21-30 years and it is more predominant in males. Majority of the patients of headache were having DNS (56.5%), acute sinusitis (34.5%) and few number of patients had nasal polyp (10%). Majority of the patients who underwent antral washout were not relieved, so they underwent functional endoscopic sinus surgery, which gave dramatic results in improving symptoms of patients including headache.

**Conclusion:** To know whether the headache is sinogenic or not; firstly the patient is clinically assessed, then radiological investigations (X-ray PNS) are done. Role of FESS is huge and ultimately it is the cure for the headache due to rhinogenic causes.

**Abbreviations:** DNE - Diagnostic nasal endoscopy, FESS- Functional endoscopic sinus surgery, PNS - Paranasal sinuses

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## INTRODUCTION

Headache is nearly a universal human experience. Causes include metabolic, infectious, inflammatory, traumatic, neoplastic, immunologic, endocrinologic and vascular entities (Roger and Curtis). Our aim is to study the relation of headache in sinusitis. The term "sinusitis" refers to a group of disorders characterized by inflammation of the mucosa of the paranasal sinuses. Patients with chronic headache pain often present to a variety of specialists, including their primary care physician, neurologist, dentist, otolaryngologist and even psychiatrist. They present to otolaryngologist because they or their physician believe the headache to be related to underlying sinus pathology. The primary focus of the otolaryngologist is to exclude this possibility. The diagnosis of headache secondary to acute sinusitis can be relatively straightforward. Diagnosing headache related to chronic sinus disease can be much more difficult depending on patients' presentation (Allen and Vincent). Endoscopic techniques are now well established. In combination with modern imaging techniques particularly CT; these techniques provide diagnostic possibilities unimagined a few decades ago (Fess, 1991).

## MATERIALS AND METHODS

The present study "clinical study of headache in relation to sinusitis and its management" was conducted in the

Department of Otorhinolaryngology in JSS Medical College and Hospital, Mysore, Karnataka from October 2012 to July 2014.

**Source of Data:** Patients for the study were collected from the Department of Otorhinolaryngology, JSS Medical College and Hospital, Mysore, Karnataka.

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

**Inclusion Criteria:** Patients presenting with clinical features of sinusitis of all age groups and sexes.

**Exclusion Criteria:** All patients presenting with clinical features other than sinusitis. 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.
- Patients were asked about history of headache.
  1. Mode of onset
  2. Duration of complaint
  3. Continuous or intermittent
  4. Progressive or not
  5. Site of pain and radiation

6. Type of pain
7. Associated symptoms.
8. Aggravating and relieving factors
9. Duration of each attack.
10. Frequency of attack
11. Time of onset of attack.
12. Treatment taken for the same.

Then if the headache was suspected of rhinogenic or sinogenic origin, the patients underwent detailed otorhinolaryngological examination.

- Routine blood investigations like Hb, TC, DC, ESR, BT, CT, urine for albumin, sugar and microscopy.
- Radiological investigations i.e., X-ray paranasal sinuses (waters view) was advised in all patients of headache due to rhinogenic or sinogenic origin.
- DNE was advised to the same group of patients.
- Acute infections were first treated with medicines.
- Patients with maxillary haziness were underwent antral wash
- Patients who were having haziness of frontal sinuses and the patients who were not relieved of headache after antral washout were advised FESS.

**Observations:** A total of 100 patients with headache were studied for a period of about 2 years i.e., from October 2009 to July 2011, of which only 69 patients had headache due to rhinogenic causes. The highest age incidence is present in the age group of 21-30 years (59.42%), followed by 11-20 years (36.23%). 56.4% of the patients with headache had DNS and 34.6% of the patients had acute sinusitis and 10% of patients had nasal polyp 35.08% of patients who underwent antral washout for headache and facial pain were relieved, whereas 64.92% were not relieved. Out of 30 patients diagnosed as having mucosal contact points, 25 underwent FESS. 80% of the patients who underwent FESS for headache due to mucosal contact points were relieved totally from headache and 20% had significant relief.

## DISCUSSION

According to our study the majority of the cases of headache due to rhinogenic causes were males (54%) in the age group of 11-30 years. The same findings are present in the literature in the study conducted by Pramod Kumar et al 2000 showing majority of patients of headache belonging to age group 10-30 years and 53% were males (Pramod Kumar *et al.*, 2000). Similarly in a different study by Wenig *et al.* and Lebovics *et al.* demonstrated a male predominance of headache due to acute frontal sinusitis in both adults and adolescents (Wenig *et al.*, 1983). While the majority of our patients with headache due to rhinogenic causes were having either D.N.S or Acute sinusitis, we also encountered patients having nasal polyps presenting with headache. We also did antral washouts in our patients of headache but only 35% of the patients were relieved. We also did D.N.E on 69 patients out of which 30 patients had mucosal contact points present (43%). Patients due to mucosal contact points were advised to undergo functional endoscopic sinus surgery. Out of 30 patients, 25 patients underwent surgery. Post-operatively, 20 patients (80%) had total relief from headache, 5 patients (20%) had significant relief. Various other studies are present in literature, which show the same results. In a study conducted by Behin F,

Behin B, 23 patients underwent surgical intervention to relieve the contact points. 83% of patients no longer complained of headache. 8% had significant relief (Behin *et al.*, 2005). In a study conducted by Parsons DS, Batra PS on 34 patients who underwent surgery for contact points reported a reduction in intensity in 91% of patients and reduction in frequency of headache in 85% of patients postoperatively (Parsons *et al.*, 1998). Thus, from our study and the above mentioned studies, it is clear that majority of the patients who underwent FESS for mucosal contact points are totally relieved of the symptoms.

## Conclusion

Sinusitis refers to a group of disorders characterized by inflammation of the mucosa of the paranasal sinuses. Now-a-days rhinosinusitis is the preferred term to describe the inflammation of the nose and paranasal sinuses. Headache is nearly a universal human experience. The lifetime incidence of headache is estimated to be at least 90%. Before treating the headache it should be known that whether the headache is primary (when no clear pathologic condition can be identified) or secondary (metabolic, infectious, inflammatory, traumatic, neoplastic, immunologic, endocrine, vascular). Knowing whether the headache is sinogenic or not, firstly the patient is assessed clinically, then radiological investigations (CT-PNS) are done. Patients also undergo diagnostic nasal endoscopy. Medical line of treatment with antibiotics, antihistaminics, anti-inflammatory, nasal decongestant will be beneficial only in acute cases of sinusitis without any anatomical variation. Most cases of sinusitis presenting with headache are acute cases or acute or chronic sinusitis. Antral lavage can be a relief from headache for some patients. The role of FESS is huge when no obvious clinical abnormality is made out and ultimately it is FESS that is the cure for headache due to rhinogenic causes.

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