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Incidence of chronic rhinosinusitis in chronic headache: diagnostic criteria

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ABSTRACT

Background: Chronic rhinosinusitis and vascular headache share similar signs and symptoms, which includes nasal symptoms, facial pain and headache. The aim of the study was to evaluate incidence of chronic rhinosinusitis in patient with vascular headache.

Methods: A group of 100 patients aged between 25-45 who presented to our OPD with complaint of headache were included in our study. Patients were assessed with rhinosinusitis disability index (RSDI) for major and minor criteria of rhinosinusitis.

Results: The criteria of the American Academy of Otolaryngology—Head and Neck Surgery were applied to diagnose 82 cases of headache attributed to chronic rhinosinusitis. Out of 100 subjects who were asked to fill the rhinosinusitis disability index 70 subjects (34 men and 36 female) had functional score (F) of 0-45, physical score (P) of 0-35 and emotional score (E) of 0-25 and total score of 0-105, whereas 12 subjects (5 men and 7 female) had functional score (F) of 0-22, physical score (P) of 0-30 and emotional score (E) of 0-20 and a total score of 0-72.

Conclusions: Out of total 100 patients with headache (62 men and 38 female), 82 subjects (54 male and 28 female) had chronic rhinosinusitis and 18 (10 men and 8 female) had vascular headache.

Keywords: Chronic rhinosinusitis, Vascular headache, Chronic headache

INTRODUCTION

Sinusitis refers to inflammation of mucosa of paranasal sinuses, and because inflammation mostly involves the nose and paranasal sinus it is termed as rhinosinusitis. A patient with headache and facial pain presents with a diagnostic challenge. Rhinitis, rhinosinusitis and migraines affect common locations; have overlapping symptoms (nasal congestion, rhinorrhea, facial pressure-pain-fullness, headache) and precipitating triggers (weather changes, inhaled irritants, allergies) creating diagnostic challenges.¹ Confusion is common as migraine can cause irritation of the trigeminal or fifth cranial nerve (with branches in the forehead, cheeks and jaw). This may produce pain at the lower-end branches of the nerve, in or near the sinus cavity. So it becomes important to classify headache which is associated with chronic

rhinosinusitis. Both the classification of the American Academy of Otolaryngology—Head and Neck Surgery (AAOHN) classification and the rhinosinusitis disability index (RSDI) can be used to identify people having chronic rhinosinusitis presenting with vascular headache.

METHODS

A descriptive study of headache patients was conducted on 100 patients aged between 25-45 at Department of ENT, JSS Medical College and Hospital, Mysore from March 2015 to June 2015. Data was collected from patients who had symptoms of headache. Inclusion criteria were patients presenting with chronic headache for at least 12 weeks, in age group of 25-45 years, who gave informed consent for the study. Detailed history about duration, frequency and site of headache, diurnal

variation, aggravating/relieving factors and associated symptoms of nausea/vomiting, photophobia, facial pain, facial congestion/fullness, nasal obstruction/blockage, nasal discharge, post nasal discharge, hyposmia/anosmia, halitosis, fatigue, dental pain, cough and ear pain/fullness and disturbances of vision with detailed otolaryngologic examination was undertaken, and patient were asked to fill the rhinosinusitis disability index (RSDI).

RESULTS

Of the total 100 subjects with headache (62 men and 38 female), 47 subjects (32 male and 15 female) had 2 major criteria (nasal obstruction/facial pain) and had headache with fatigue or dental pain, whereas 35 subjects (21 male and 14 female) were having 1 major criteria (nasal

obstruction) and 3 minor criteria (headache, halitosis, dental pain or fatigue). The criteria of the AAOHNS were applied to diagnose 82 cases of headache attributed to chronic rhinosinusitis as given in Table 1.

Table 1: Diagnostic criteria for chronic rhinosinusitis and headache attributed to rhinosinusitis.

Major criteria	Minor criteria
Facial pain/pressure	Headache
Nasal obstruction	Fever
Nasal discharge	Halitosis
Hyposmia/anosmia	Fatigue, dental pain
Purulence / fever	Cough , ear pain

Two major factors or one major and two minor factors are required for at least 12 weeks.

Table 1: Rhinosinusitis disability index.

	Never	Almost never	Some times	Almost always	Always
F1. Because of my problem I feel handicapped.	0	1	2	3	4
F2. Because of my problem I feel restricted in performance of my routine daily activities.	0	1	2	3	4
F3. Because of my problem I restrict my recreational activities.	0	1	2	3	4
F4. Because of my problem I feel frustrated.	0	1	2	3	4
F5. Because of my problem I feel fatigued.	0	1	2	3	4
F6. Because of my problem I don't sleep well.	0	1	2	3	4
F7. I have difficulty with exertion due to my nasal obstruction.	0	1	2	3	4
P8. I am inconvenienced by my chronic runny nose.	0	1	2	3	4
P9. The pain or pressure in my face makes it difficult to me to concentrate.	0	1	2	3	4
P10. The pain in my eyes makes it difficult for me to read.	0	1	2	3	4
P11. I have difficulty stooping over to lift objects due to face pressure	0	1	2	3	4
E12. Because of my problem I feel stressed in relationships with friends and family.	0	1	2	3	4
F13. Because of my problem I avoid traveling	0	1	2	3	4
E14. Because of my problem I feel confused.	0	1	2	3	4
E15. Because of my problem I have difficulty paying attention.	0	1	2	3	4
E16. Because of my problem I avoid being around people.	0	1	2	3	4
E17. Because of my problem I am frequently angry.	0	1	2	3	4
E18. Because of my problem I do not like to socialize.	0	1	2	3	4
E19. Because of my problem I frequently feel tense.	0	1	2	3	4
P20. Food does not taste good because of my change in smell.	0	1	2	3	4
E21. Because of my problem I frequently feel irritable.	0	1	2	3	4
P22. Because of my problem I have difficulty with strenuous yardwork and housework	0	1	2	3	4
F23. Because of my problem I miss work or social activities.	0	1	2	3	4
P24. My frequent sniffing is irritating to my friends and family.	0	1	2	3	4
P25. Straining increases or worsens my problem.	0	1	2	3	4
E26. Because of my problem I am depressed.	0	1	2	3	4
E27. My problem places stress on my relationships with members of my family or friends.	0	1	2	3	4
F28. My outlook on the world is affected by my problem.	0	1	2	3	4
F29. Because of my problem I find it difficult to focus my attention away from my problem and on other things.	0	1	2	3	4
P30. My sexual activity is affected by my problem.	0	1	2	3	4

Out of 100 subjects who were asked to fill the RSDI 70 subjects (34 men and 36 female) had functional score (F) of 0-45, physical score (P) of 0-35 and emotional score (E) of 0-25 and total score of 0-105, whereas 12 subjects (5 men and 7 female) had functional score (F) of 0-22, physical score of 0-30 (P) and emotional score (E) of 0-20 and a total score of 0-72. Remaining 18 subjects who did not fulfill the AAOHNS classification had a functional score (F) was 0-2, physical score (P) 0-1 and emotional score (E) 0-2 and a total score of 0-5. Based on the above data, out of 100 subjects presenting with headache 82 subjects were diagnosed as CRS. The above data shows that the 82 subjects with chronic rhinosinusitis, 70 subjects had a severe functional, personal and emotional score and 12 subjects had a moderate score, while the remaining 18 showed a low score according to RSDI as in Figure 1.

Figure 1: Result of rhinosinusitis disability index score.

DISCUSSION

Vascular headache and CRS are prevalent diseases that share similar symptoms and patient demographics.^{2,3} both can be associated with headache, facial pain, nasal symptoms, and changes in environment.⁴⁻⁶

Diagnosing headache is not an easy task, especially among those with chronic headache or those with co-occurrence of several headaches. The gold standard is an interview and a physical and neurological examination. A major challenge to studying headaches attributed to sinus disease is the lack of uniform diagnostic criteria. Both the classification of the AAOHNS and the International Classification of Headache Disorders (ICHD-II) provide diagnostic criteria for rhinosinusitis related to headache.^{7,8} The AAO-HNS classification includes headache as one of several criteria for the diagnosis, whereas the ICHD-II requires the existence of specific pathophysiological conditions that explain the headache. The ICHD-II does not accept chronic rhinosinusitis as a cause of headache or facial pain unless relapsing into an

acute state-associated morbidity and increase migraine frequency nine-fold through irritation of trigeminal nerve receptors.^{9,10} Symptom-based criteria is sensitive in diagnosing sinusitis.¹¹ and may therefore be used for sinus pressure-pain-headache patients, ignoring culpable neurogenic factors.

CONCLUSION

Vascular headache and CRS are common diseases with similar patient demographics and symptom profiles. Symptom based criteria is sensitive in diagnosing sinusitis. The AAOHNS classification and RSDI help us in diagnosing headache caused due to CRS. RSDI provides the data which will help in establishing CRS.

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