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THE ROLE AND INCIDENCE OF CONCHA BULLOSA IN CHRONIC RHINOSINUSITIS IN A TERTIARY CARE CENTRE

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Abstract

Background: Chronic rhino sinusitis is defined as an infection of the paranasal sinuses that has persisted for more than twelve consecutive weeks and characterized by inflammation of the mucosa and the underlying periosteum of the nose and paranasal sinuses. Concha bullosa is one of the most common anatomical variants found in the patients of chronic rhinosinusitis. concha bullosa is the presence of pneumatisation in the middle turbinate of the nose. Our aim of the study is to find the incidence of concha bullosa in chronic rhinosinusitis. **Materials and Methods:** It is a cross sectional observational study. Clinically and radiologically diagnosed as having chronic rhino sinusitis, were evaluated with the help of CT scan paranasal sinuses and by diagnostic nasal endoscopy. A total of 60 cases were taken over a period of one year and 3 months from April 2022 to March 2023. **Result:** Out of 60 patients, 40 were females and 20 were males with female male ratio being 2:1. The most common age group was 26-35 which included 27 cases (45%) followed by the age group 36-45 with 12 cases (20%). The most common symptom is headache in 52 cases (86%) followed by nasal obstruction in 49 cases (82%). Regarding the incidence of concha bullosa in chronic rhinosinusitis, most common involved sinus was maxillary sinus 82%, followed by ethmoid 68%. **Conclusion:** The most common clinical presentation was headache in 52 patients (86%) followed by nasal obstruction in 42 cases (82%). Nasal discharge (72%) and halitosis (18%) is other common complaints. The most common involved sinus was maxillary sinus (82%) followed by ethmoid (68%) and frontal sinuses (51.6%).

INTRODUCTION

Chronic rhino sinusitis is defined as an infection of the paranasal sinuses that has persisted for more than twelve consecutive weeks and characterized by inflammation of the mucosa and the underlying periosteum of the nose and paranasal sinuses.[1] It is considered as one of the major causes of morbidity among patients.[2-3] Headache is one of the common symptom of chronic rhinosinusitis followed by nasal discharge, nasal obstruction, halitosis.[3]

The diagnosis is based on physical complaints and with the help of anterior and posterior rhinoscopic examination.[4,5] CT scan is considered as the most important imaging technique in assessment of paranasal sinuses and their anatomical variations.[6,7] The range of anatomic variants that can interfere with the mucociliary drainage of osteo-meatal complex includes concha bullosa, deviated nasal septum, uncinate process variations, ethmoid bulla, paradoxical middle turbinate, agger nasi and haller cells.[4-6]

Concha bullosa is one of the most common anatomical variants found in the patients of chronic rhinosinusitis3. concha bullosa is the presence of pneumatisation in the middle turbinate of the nose. Concha bullosa can be seen either unilaterally or bilaterally1. The air space within the concha bullosa is susceptible to the same pathologies as other sinuses may thus become infected, obstructed (mucocele, pyocele) or formation of polyp in concha bullosa.[5] The pneumatisation of the middle concha is of three types: lamellar type is the pneumatisation of the vertical lamella of the concha; bulbous type is the pneumatisation of the bulbous segment; pneumatisation of both the lamellar and bulbous parts is called extensive concha bullosa.[3]

MATERIALS AND METHODS

This cross-sectional observational study carried out at the Department of ENT in Sree Mookambika Institute of Medical Science, Kanyakumari for a

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period of one year and 3 months from April 2022 to June 2023.This series include 60 subjects.

Objective: To determine the incidence of concha bullosa in chronic rhinosinusitis.

Mode of selection: 60 patients who were clinically and radiologically diagnosed as having chronic rhino sinusitis, were evaluated with the help of CT scan paranasal sinuses and by diagnostic nasal endoscopy.

Inclusion Criteria

Inclusion criteria were those patients with nasal symptoms. patients above the age of 15 years.

Exclusion Criteria

Age below 15 years and patients with a history of previous nasal surgeries. patients with tumours of the nose and paranasal sinuses, pregnant women and patients not fit for CT scan.

RESULTS

A total of 60 cases were taken over a period of one year and 3 months from April 2022 to March 2023.Out of 60 patients, 40 were females and 20 were males with female male ratio being 2:1. The most common age group was 26-35 which included 27 cases (45%) followed by the age group 36-45 with 12 cases (20%). The most common symptom is headache in 52 cases (86%) followed by nasal obstruction in 49 cases (82%).

Regarding the incidence of concha bullosa in chronic rhinosinusitis, most common involved sinus was maxillary sinus 82%, followed by ethmoid 68%

Table 1: Age distribution of patients with concha bullosa.

AGE	No. Of patients
15-25	10
26-35	27
36-45	12
46-55	7
>55	4
TOTAL	60

Table 2: Association between concha bullosa and chronic maxillary sinusitis

Variables	Chronic maxillary sinusitis present	Chronic maxillary sinusitis absent	Total
Concha bullosa present	40	8	48
Concha bullosa absent	9	3	12
Total	49	11	60

Table 3: Association between concha bullosa and chronic ethmoid sinusitis

Variables	Chronicethmoid sinusitis present	Chronicethmoid sinusitis absent	Total
Concha bullosa present	26	20	46
Concha bullosa absent	2	12	14
Total	28	32	60

Table 4: Association between concha bullosa and chronic frontal sinusitis.

Variables	Chronic frontal sinusitis present	Chronic frontal sinusitis absent	Total
Concha bullosa present	12	35	47
Concha bullosa absent	19	7	13
Total	31	29	60

Table 5: Symptomatology of patients

Symptoms	No. of patients
headache	52
Nasal obstruction	49
Nasal discharge	43
halitosis	11

DISCUSSION

Our study was to find out the incidence of concha bullosa in chronic rhinosinusitis. The incidence of concha bullosa was more in females (67%) than males. A similar pattern was reported in several other studies. Although a similar pattern of gender distribution has been noted in these studies, no specific reason has been reported for the same. The most common age group was 26-35 which included 27 cases (45%) followed by the age group 36-45 with 12 cases (20%).

The most common clinical presentation was headache in 52 patients (86%) followed by nasal obstruction in 42 cases (82%). Nasal discharge (72%) and halitosis (18%) is other common complaints.

The most common involved sinus was maxillary sinus (82%) followed by ethmoid (68%) and frontal sinuses (51.6%).

CONCLUSION

Combination of CT scan PNS and diagnostic nasal endoscopy is excellent for precise evaluation of nasal cavity. Concha bullosa is the most common

anatomical variant seen in patients with chronic rhinosinusitis. Majority of concha bullosa are asymptomatic, only which is large and big enough to block the osteomeatal complex resulting in sinusitis mostly confining to anterior group of sinuses should undergo treatment. Asymptomatic concha bullosa doesn't require any treatment. Definitive treatment of concha bullosa is surgical-conchoplasty, resection of lateral lamella of concha bullosa which is an effective procedure and most commonly used technique. Crushing of concha bullosa can also be done. In my study we have found a statistically significant relation between the presence of concha bullosa and occurrence of CRS.

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