ISSN: 0975-3583,0976-2833 VOL13, ISSUE5, 2022

Original Research Article

To study the relationship between concha bullosa deviated nasal septum & sinusitis.

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Abstract:
Background & Method: The aim of present study is to study the relationship between concha bullosa deviated nasal septum & sinusitis. The study included those patients who were clinically and/or radiologically diagnosed as having chronic rhino sinusitis and were refractory to optimal medical therapy for a minimum of 3 months prior to undergoing nasal endoscopy and CT imaging. Chronic rhino sinusitis was defined as representing a state of persistent sinus disease associated with at least one of the following; nasal congestion, hyposmia, facial pain, or nasal discharge.
Result: With respect to the type of concha bullosa; the true and bulbous type contributed mostly to pathogenesis of the sinus disease resulting in increased ostiomeatal complex disease in such cases.
Conclusion: Chronic rhino sinusitis is fairly a common disease condition affecting most commonly the age group between 21-40 years. The chief symptoms of all patients were nasal obstruction, nasal discharge and headache. It was seen in this study that when a unilateral concha bullosa is present, there is no statistical relationship with any sinus disease. There is however, a strong relationship between the presence of unilateral concha & contra-lateral nasal septal deviation while the air channel between concha & nasal septum is preserved thus disproving that concha bullosa by mass effect causes deviations on nasal septum.

Keywords: concha bullosa, nasal septum & sinusitis.

Study Designed: Observational Study.

1. INTRODUCTION

Over the years, an increasing appreciation of the complexity of the anatomy and physiology of the nose and paranasal sinuses has evolved. Surgeon's knowledge of lateral nasal wall anatomy, its relation to surrounding vital structures and knowledge of plethora of sinonasal anatomic variations with their surgical implications is the cornerstone for both, the interpretation of CT scan PNS and safe and successful performance of intranasal endoscopic sinus surgery[1].
In recent years, functional endoscopic sinus surgery (FESS) has gained wide spread acceptance among Otorhinolaryngologists. It removes localized nasal disease that obstructs critical passages and thereby restores normal mucociliary drainage and ventilation. Preoperative planning for FESS requires high resolution computed tomography (CT) to provide detailed maps, which are used for navigation and the visualization of the anatomical

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variants that result in sinus disease [83]. As a result it has become imperative for radiologists and clinicians to improve understanding and communication concerning this area[2&3].
Experience with CT as a proportion of symptomatic methodology has collected quickly since its clinical presentation in 1973. In examination with traditional tomography, Modernized Tomography has given better delicate tissue separation while at the same time picturing the bone[4]. Supported the convenience of coronal CT check PNS to assess the geological relations of bounds of ethmoidal maze as coronal segment CT filter PNS successively presents the life structures along the antero-back (AP) hub as experienced by the endoscopists. All the more significantly coronal segment gives data about different anatomic variations and relationship of these designs and sinuses to neighboring fundamental designs as they are seen from the specialist's view point in this manner decreasing the possibilities fostering any complications[5&6].

2. MATERIAL & METHOD

The present study, carried out in the Department of otorhinolaryngology, M.M.C.H & R.I. Kanchipuram, patients with clinical evidence of chronic rhino sinusitis was evaluated with Nasal endoscopy and CT scan PNS coronal view from Sept 2018 to June 2020.
The study included those patients who were clinically and/or radiologically diagnosed as having chronic rhino sinusitis and were refractory to optimal medical therapy for a minimum of 3 months prior to undergoing nasal endoscopy and CT imaging. Chronic rhino sinusitis was defined as representing a state of persistent sinus disease associated with at least one of the following; nasal congestion, hyposmia, facial pain, or nasal discharge.

Inclusion Criteria:
Patients with acute sinusitis or malignant disease or those who had previously undergone nasal or sinus surgery, either open or endoscopic, excluded from the study. All patients with identifiable disease were subjected to detailed clinical examination, diagnostic endoscopy & CT scan PNS coronal section (axial section when required)

3. RESULTS

TABLE 2: AGE AND SEX DISTRIBUTION

AGE	NO OF PATIENTS	MALE	FEMALE
10-20	32	22	10
21-35	42	24	18
36-50	28	08	20
>50	02	-	02
TOTAL	104	54	50

As revealed by the above table ,the various cases in % of the groups are ; group 21-35 (40.38%) ; 26.9% cases in age group 36-50; 30.7% cases in group 10-20 years age.

TABLE 2: CLINICAL FINDINGS

CLINICAL FINDINGS		UNILATERAL	BILATERAL
DNS	RIGHT LEFT	56 32	04
NASAL DISCHARGE	WATERY MUCOID	- -	64 12

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	MUCOPURULENT	-	02
INFERIOR TURBINATE	NORMAL HYPERTROPHY	- 24	60 20
MIDDLE TURBINATE	NORMAL HYPERTROPHY	- 56	- 40
POSTERIOR RHINOSCOPY-PND		-	34
POYLPS		-	06

Deviated nasal septum was found more on right side (53.8%). Nasal discharge was watery most commonly of all the patients presenting with it (82.5%). 06 patients had clinical evidence of polyps in nasal cavity.

TABLE 3: RELATIONSHIP OF TYPE OF CONCHA BULLOSA TO OSTIOMEATAL SINUSITIS

TYPE OF OSTIOMEATAL DISEASE	CONCHA BULLOSA (+)	CONCHA BULLOSA (-)	TOTAL
LAMELLAR	04	10	14
BULBOUS	62	08	70
TRUE	52	04	56
TOTAL			140

With respect to the type of concha bullosa; the true and bulbous type contributed mostly to pathogenesis of the sinus disease resulting in increased ostiomeatal complex disease in such cases.

4. DISCUSSION

Stammberger H and Wolf G[7] play recorded the transcendent part of the ostiomeatal mind boggling as an entryway to sinus sickness. As a result of different anatomic and utilitarian connections quickly contiguous the OMC, expansion of infection into the foremost sinuses is the normal end product.

The writing relating to the subject of the different morphologic elements that incline toward OMC block and ongoing sinusitis is packed with concentrates on that depict paranasal sinus factors. In any case, scarcely any agents play analyzed the part of the concha bullosa and veered off septum and its definitive impact on the sinus disease[8].

Stammberger H and Wolf G[7] recognized plenty of anatomic varieties like nasal septal deviation, prods, concha bullosa, agger nasi cells, confusing center turbinate, uncinate bulla, medially of along the side bowed uncinate process, curiously large ethmoidal bulla and so on. These anatomic variations encroach on the patency of currently slender many-sided ostiomeatal channels, in this manner, inclining toward sinusitis by impeding mucociliary leeway of ostiomeatal area[9].

In this study the patient gathering contained those going to outside facilities of ENT and those conceded in M.Y Medical clinic, Indore. These cases were then inspected clinically and temporary finding was made and afterward first assessed by nasal endoscopy and afterward CT examine PNS was finished and fitting surgery was embraced. CT examine was assessed

ISSN: 0975-3583,0976-2833 VOL13, ISSUE5, 2022

to concentrate on the impact of concha bullosa and nasal septal deviation on horizontal nasal wall and different ostiomeatal perplexing and other anatomic variations were additionally assessed.

5. CONCLUSION

Chronic rhino sinusitis is fairly a common disease condition affecting most commonly the age group between 21-40 years. The chief symptoms of all patients were nasal obstruction, nasal discharge and headache. It was seen in this study that when a unilateral concha bullosa is present, there is no statistical relationship with any sinus disease. There is however, a strong relationship between the presence of unilateral concha & contra-lateral nasal septal deviation while the air channel between concha & nasal septum is preserved thus disproving that concha bullosa by mass effect causes deviations on nasal septum.

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