ORIGINAL RESEARCH PAPER

Otolaryngology

KEY WORDS:

SYMPTOMATIC MAXILLARY RETENTION CYST TREATMENT- ENDOSCOPIC VERSUS SUB LABIAL(CALDWELL-LUCS) - OUR EXPERIENCE AT A TERTIARY CARE HOSPITAL

Baba Aijaz Khaliq Senior Resident Department of ENT and HNS government medical college Srinagar

Owais Makhdoomi* Post Graduate Scholar Department of ENT and HNS Government Medical College Srinagar*Corresponding Author

Faheem Khalid Post Graduate Scholar Department of ENT and HNS Government Medical College Srinagar

ABSTRACT

Maxillary retention cysts are benign cystic lesions of the maxillary sinus which occur as a result of obstruction of the seromucinous glands. They are usually an incidental finding on radiographs with very few clinical presentations. Cystic lesions in the nasal cavity or in the paranasal cavities are frequently encountered by the Otolaryngologist. Of the Paranasal sinuses, the Maxillary sinuses are the most commonly found to harbor the retention cysts. Retention cysts are mostly asymptomatic with non-erosive properties, and usually an incidental finding in the paranasal sinuses. They are described as rounded, Dome shaped soft tissue masses on radiological examination.

INTRODUCTION

Benign mucosal cysts of the maxillary sinus result from the accumulation of mucus within the soft tissuethat lines the sinuses. It usually occurs as a result of obstruction of the duct orgland within the epithelial layer. The reported incidence is 1.4–9% (1-3 ,and it is usually discovered incidentally on plain radiograph , Computed Tomogram (CT) of the sinuses or Panoramic radiography.1,3,6 About 6–23% of maxillary sinus cysts rupture spontaneously. Symptomatic cysts have been traditionally treated by various methods like puncture and aspiration through the inferior meatus or excision through an intranasal antrostomy or by a Caldwell–Luc operation.10-12 With the development of the rigid nasal endoscopy and the introduction of functional endoscopic intranasal sinus surgery,13-the management of sinus disease has changed.17-18. Sub-labial approach (Caldwell–Luc operation) is an old time tested procedure and is rarely done nowadays. It has been used in cases who had recurrence using endoscopic intra nasal approach.

AIMS AND OBJECTIVES

The main aim of our study was

1- To decide whether Maxillary retention cyst needed intervention or not.

2- Weather endoscopic approach is better than sub labial conventional approach for treatment of symptomatic maxillary retention cysts.

MATERIAL AND METHODS

This study was conducted in the department of Otorhinolaryngology Govt Medical College Srinagar from Jan 2016 till Dec 2018.Total of 75 patients who were diagnosed with Maxillary retention in our OPD or had the same as an incidental finding on CT done for some other reason were included in the study. All these patients included in thie study were given proper information regarding the disease and the treatment methods available. Patients were divided broadly into 2 categories. The First Category was based on the Method of treatment done and was subdivided into 3 subgroups. Group A – Where Endoscopic approach was done, Group B- Where sub labial approach was done and Group C (Control group) where Non Surgical method was used. The Second Category was based on of Involvement of Maxillary Antrum and was subdivided into 2 subgroups. Group 1- where the cyst involved >50% of Maxillary Antrum and Group 2- where cst involved < 50% of Maxillary Antrum.

We had group C patients as control group with maxillary retention cyst who didn't underwent any surgical procedure, in our study main symptoms in patients was headache and facial pain as described in table 5.

Inclusion criteria

Patients with Maxillary retention cyst on CT (Nose-PNS) or Plain radiography.
Age more than 10 years
Patient who gave consent for surgical procedure

Exclusion criteria

Patients with Pan sinusitis with or without polyposis
Patients who were Immunocompromised
Age less than 10 years.
Patients who refused for surgery.
Patients with Fungal sinusitis.
Patients with other medical co-morbidities.

Table1- Showing group of patients randomly divided as A and B with procedures as shown above and group C with no procedure as control group

Total no of patients 75		
group A	Endoscopic procedure(intra-nasal)	25
group B	Sub labial(Caldwell luc)	25
group c	Control group	25

(Tabe2- Only Operated Cases) Showing category 1 and 2 depending on C.T scan findings whether cyst involves less than 50% or more than 50% of Maxillary Antrum area.

Total no of patients =50		
Category 1	Cyst involving >50% of maxillary antrum	18(36%)
Category 2	Cyst involving <50% of maxillary antrum	32(64%)

Table 3- Only operated cases (Shows male and female distribution in both groups)

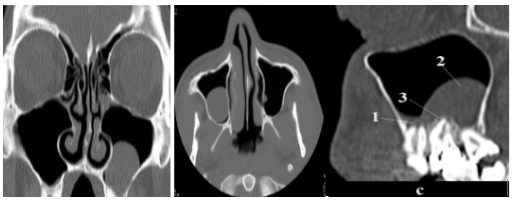
Total=25	Group A	Group B	total 25
Male	15	Male	17
Female	10	Female	8

(Table 4-Only operated cases) Shows type of surgery patients underwent in this study

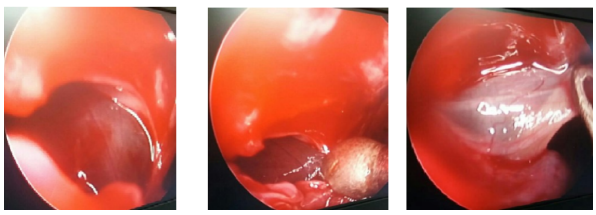
Type of surgery	No of patients	
Cat 1	18	9 underwent Sublabial and 9 Endoscopic approach
Cat 2	32	16 underwen Sub labial and 16 underwent Endoscopic approach.

Table 5– Sites of pain in 75 patients with mucus retention cysts of the maxillary sinus

Site of Pain	%age of Patient
Frontal	27 (36%)
Orbital	18(24%)
Nasal	13(17%)
Cheek	17(22%)



Coronal, Axial and sagittal view of CT with Maxillary retention cysts.



Intraoperation Pictures of Endoscopic Maxillary Retention cyst

RESULTS

In this study we found relief of symptoms in most of patients who underwent surgical procedure than control group. Endoscopic procedure was cosmetically much better and was helpful in preserving nasal integrity, anatomy and mucosal function. On the other hand Caldwell- lucs procedure needed much post-operative care and many patients also developed edema of lip and face following the procedure which however subsided in few days. Sub labial (Caldwell luc) approach was however better for small cysts, those on the floor, anterior and lateral wall of maxillary sinuses where Recurrence chances were less compared to endoscopic approach.

Table 6- Surgical approach and recurrence in Category 1 and 2

Surgical approach	Approach	Recurrence
Endoscopic	Cat 1 Endoscopic (9)	Nil
	Cat 2 Endoscopic(16)	4
Sub-labial(Caldwell luc)	Cat 1 Sub-labial(9)	Nil
	Cat 2 Sub-labial(16)	1

Table 7- surgical approach and recurrence group 1 ans 2

Surgical approach	Approach	Recurrence
Endoscopic	GROUP 1	
	Endoscopic(25)	4
Sub-labial(Caldwell luc)	GROUP 2	
	Sub-labial(25)	1

Table 8, symptom improvement in group A and B only operated cases

Symptoms Headache No of Patients	Present	Group A (25) Endoscopic Improv	Present	Group B (25) Sub labia Improved	
Frontal	14	5	4	4	4
Orbital	11	3	3	7	5
Facial pain:					
Nasal	13	7	5	6	3
Cheek	12	10	9	8	4

In our study we found most of symptomatic patients with Maxillary retention cyst present with Headache as the main symptom (mostly frontal and orbital area) followed by Facial pain as the second most important complaint. Patients in both groups showed symptomatic improvement over period of more than a year of follow up. Endoscopic group showed better improvement than non-endoscopic group. Patients who were in control group were treated with oral or nasal medications. Most of them had improvement in symptoms like headache and facial pain, where as few did not respond to the treatment .Many patients among the control group returned with similar complaints 5 to 6 months after they were successfully treated by medication. Most of patients in control group were treated with nasal saline drops, few of them with local Steroid sprays (Fluticasone) and oral Nortryptaline when needed. All the patients in control group had prior medical and surgical consultation to rule out other causes for their symptoms.

CONCLUSION

From our study we concluded that endoscopic approach is a better approach for Maxillary retention cyst removal with much improvement in symptoms besides preserving sinus functions. However Sub labial approach compared to Endoscopic approach has better results for small cysts and in recurrent cases. Small cysts on anterior wall and floor of the sinuses are difficult to treat endoscopically and chances of recurrence remain high. Moreover it's better to operate on symptomatic than asymptomatic patients with maxillary retention cyst as symptomatic improvement on following both group A and B patients over period of more than a year was remarkable. Most common complication after endoscopic approach was synechea formation while after sub labial approach, facial pain, and numbness over cheek and tooth area was common. Patients in control group although showed initial improvement in symptoms, most of them reported to our OPD with similar symptoms which indirectly suggested that patients with symptomatic sinus cysts should be treated by surgical approach if conservative approach fails.

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