A case report - maxillary sinus cholesteatoma mimicking as sinus malignancy

Swaroop Dev M¹, Sanjana Pradeep²

¹Associate Professor, ²Post Graduate Student,
Department of ENT, Sri Siddhartha Medical Collge, SSAHE, Tumkur.

DOI -10.46319/RJMAHS.2020.v03i01.008

Abstract

Background: Paranasal sinuses are lined by the respiratory mucosa which is psuedostratified ciliated columnar epithelium. Cholesteatoma of maxillary sinus is characterized by alteration in the normal respiratory epithelium which gets replaced by the hyperkeratotic squamous epithelium leading to the formation of sheets of keratin and this is known as nasal cholesteatoma which has the property to erode the adjacent bony structures and should be considered as differential diagnosis of other nasal conditions of gradual expanding masses of the maxillary sinus. We are reporting one such case of 44yrs old female patient who presented with unilateral nasal obstruction diagnosed as maxillary sinus cholesteatoma with aid of CT scan nose & PNS and successfully corrected surgically.

Keywords: Maxillary sinus, Sinus cholesteatoma, Sinus malignancy, CT plain Nose, PNS

Introduction

Nasal cholesteatoma is a chronic inflammatory condition of nose which is considered to be secondary condition which can be consequent to any primary pathology causing obstruction of nasal passages and sinuses because of stenosis or adhesions or synechia, which leads to impaired ciliary function of sinuses, stagnation of secretions and continuous desquamation of nasal mucosa which gets collected together to undergo chemical changes and putrefaction resulting in formation of caseous material and nasal polyp in nasal cavity and sometimes mimics as nasal malignancy. The most common site of origin of cholesteatoma is frontal and ethmoid sinuses. Maxillary sinus cholesteatoma is exceedingly rare and is known by other synonyms as keratoma, primary epidermoid tumor, epidermoid cyst, and keratocyst. It is usually associated with sinusitis, foreign body, fungal infection of nose and paranasal sinuses, syphilis, tuberculosis etc. Common manifestation of this condition is nasal obstruction, fetor, headache, anosmia.¹

Case description

A 44 year old woman presented to the outpatient department of Sri Siddhartha Medical College, Tumkur with history of chronic nasal obstruction since 3years duration and nasal discharge which was foul smelling from the left nasal cavity since one and half years and swelling of the left cheek since one month. (Figure 1). Nasal obstruction gradually progressed from partial to total obstruction. Prior treatment before presentation was given with sprays and oral medications for one week. Patient also complained of intermittent headache which temporarily relieved on oral medications. No history of bleeding from nose, visual disturbances, throat pain, ear ache or ear discharge, no history of other co-morbidities like diabetes mellitus, hypertension and previous nose surgery.

Address for Correspondence:
Dr. Sanjana Pradeep, MBBS, Post Graduate Student,
Department of ENT, Sri Siddhartha Medical Collge, Sri Siddhartha Academy of Higher Institution, Tumkur
E-mail: sanjana.pradeep92@gmail.com

¹Attribution-NonCommercial-ShareAlike 4.0 International Licence
On external examination of nose: swelling was present over the left cheek, with obliteration of naso-maxillary groove and left maxillary sinus was tender on palpation. Anterior rhinoscopy revealed a smooth pinkish mass covered with cheesy material in the left nasal cavity. The mass was non tender, bleeds on touch, can be probed all around except laterally. Right nasal cavity appeared to be normal. Posterior rhinoscopy examination was normal. Right maxillary, bilateral frontal and ethmoid sinuses were non tender.

Differential diagnosis of nasal malignancy, granulomatous disease of nose and rhinitis caseosa was made as all of these patients can present with similar symptoms. Computed tomographic scan of nose and paranasal sinuses displayed soft tissue density lesion which was homogenous in the left maxillary sinus extending into the left nasal cavity with expansion of left maxillary ostium and remodelling of medial wall of the maxillary sinus. The left nasal turbinates were compressed and remodelled (Figure 2). Patient was taken up for functional endoscopic sinus surgery and was operated under general anaesthesia.

Removal of the mass was achieved endoscopically. Soft tissue mass was removed along with cheesy pultaceous material (Figure 3) which was later sent for histopathological examination which showed hyperplastic squamous epithelium with hyperkeratosis, focal hypergranulosis, chronic inflammation consistent with cholesteatoma of maxillary sinus (Figure 4). Widening of the left maxillary ostium was done by the disease itself and all the pultaceous material was removed from the left maxillary sinus (Figure 3 and 4). Hemostasis achieved and left nasal cavity was packed with merocele and the merocele pack was removed on 3rd post operative day. Post operative period was unremarkable.
Discussion

Rhinitis caseosa or Nasal Cholesteatoma was first described by Cruveilhier as pearly tumor\(^{(2)}\). Cholesteatoma of paranasal sinuses occurs when the normal respiratory epithelium gets replaced by hyperkeratotic squamous epithelium. Cholesteatoma, although benign have uncontrolled growth and have the capacity to erode the adjacent bones. Factors responsible for clinical presentation and the radiological characteristics are bone eroding property, secondary infections, and anatomical relations of nose and paranasal sinuses.\(^{(3)}\) Expansion of nasal cholesteatoma can cause symptoms. As the cholesteatoma expands pain aggrevates. Expansion of cholesteatoma towards osteomeatal complex causes rhinorrhoea which can be foul smelling, and features of sinusitis (as did our case)\(^{(4)}\). The bone remodelling due to cholesteatoma is characteristics of its enzymes such as peptidase, non specific esterase and metalloproteinase\(^{(5)}\). The clinical symptoms and radiological features of nasal cholesteatoma are difficult to differentiate from that of nasal malignancy. Radiologically nasal cholesteatoma is seen as a non enhancing, expanding and homogenous mass. Differential diagnosis for nasal cholesteatoma includes both neoplastic and non neoplastic masses.\(^{(6)}\)

Conclusion

Nasal cholesteatoma though rare must be considered as the differential diagnosis of other nasal masses. Since clinical and radiological findings may be similar to other benign or malignant nasal lesions, knowledge of this clinical entity and high degree of suspicion are necessary in order to accurately diagnose and treat the condition. Maxillary sinus cholesteatoma can at times mimic nasal malignancy\(^{(7)}\). The cholesteatoma sac must be removed completely to prevent further recurrence.\(^{(7)}\)

Financial support and sponsorship: Nil

Conflict of interest: Nil

References