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Nasolabial Cyst – A Clinicopathological Case Report

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Abstract

Nasolabial cysts, also known as Klestadt's cysts are non-odontogenic cysts of nasal alar region. They are usually located between upper lip and vestibule. They are rare with an overall incidence of 0.7% out of all maxillofacial cysts and are mostly unilateral (90%). There is a female preponderance with a 3:1 ratio and mostly occurs in 4th-5th decade of life. Treatment is mainly excision or enucleation. Herein, we present a case of 40-year-old female with nasolabial cyst along with its clinical features, differential diagnosis, histopathological evaluation and management.

Keywords: Nasolabial cyst, Maxillo-facial, Klestadt's cyst, Enucleation

Introduction

Nasolabial cysts are rare, non-odontogenic, soft tissue cyst.[1-2] These are located in close proximity to the alar cartilage of nose with extensions into lower nasal meatus,upper gingivolabial sulcus and floor of the nasal vestibule.[2-3]This entity was described by Zuckerkandl in 1882.[1-3]Nasolabial cysts were initially known by different names like nasal vestibular cyst, nasal wing cyst and Klestadt's cyst (after the name of Klestadt who studied this cyst in depth).[2-3]

Initially nasolabial and nasoalveolar cysts were taken as same but nasoalveolar cysts may cause erosion of the nasal floor or premaxilla whereas nasolabial cysts are purely soft tissue cysts with no erosion of adjoining structures.[2-4]

Etiopathology of nasolabial cyst is not very clear. Two main theories have been postulated for its origin.[2-4] Embryonic fissural cyst theory as described by Klestadt, which says cysts develop from sequestration of embryological epithelial tissue in facial fissures resulting from fusion of maxillary and lateral nasal processes. Second theory or Seed theory talks about trapped nasolacrimal duct epithelial remnants located between nasal and maxillary processes giving rise to its origin.[2-5]

The patients present with aymptomatic, painless, gradually progressive soft tissue swelling that obliterates the nasolabial fold, elevates the ala and floor of the nose. They are mostly unilateral and seen in females with peak prevalence mostly in $4^{th}/5^{th}$ decade.[2-4] However bilateral cases have been

reported.[4-6] Greater prevalence among blacks have been noted.

Histopathology of the cyst is mainly pseudostratified ciliated or non-ciliated columnar epithelium with goblet cells.Diagnosis is mainly by CT scan or MRI scan.[2-5] Treatment is surgical, enucleation of the cyst or marsupialisation. The recurrence rate is low. We present a case of nasolabial cyst in a 40-year-old female patient.

Case Report:

A 40-year-old female presented in the ENT department with a painless swelling in the left nasal alar region and nasal asymmetry for last 2 months. The swelling was initially small in size, had been evident for approximately 4 years, and gradually progressed to its present size. The patient also complained of nasal obstruction on the left side for last 2 months. The past history of the patient was not significant.

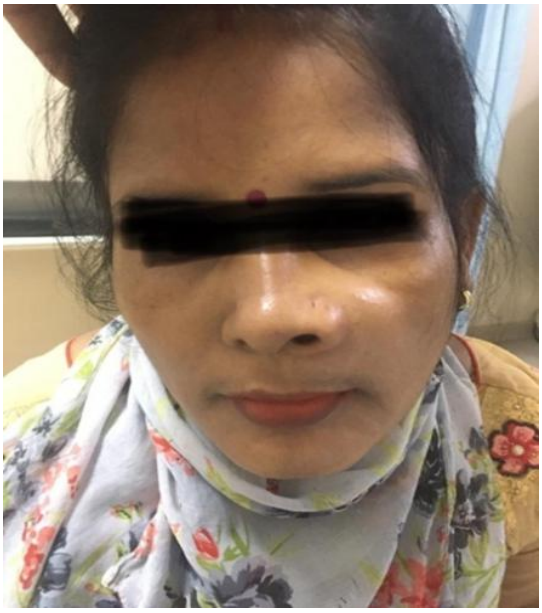

Figure 1: Clinical image showing swelling in left nasal alar region

On clinical examination, an ovoid swelling in the nasolabial region on the left side giving rise to nasal asymmetry was evident. The lesion was around 3x3 cm in size. On intraoral palpation, it was soft, non-tender, fluctuant and mobile. No localized rise of temperature was present. There was fullness of labial maxillary vestibule, however labial mucosa was normal in colour. The dentition was normal. On intranasal examination, there was obliteration of nasal vestibule on left side. The floor of the nose was swollen, and lateral wall of the nose pushed medially.

Non-contrast computed tomography (NCCT) scan of Para-nasal sinus (PNS) revealed well defined isoechoic mass measuring 2.9x2.7 cm noted in left inframaxillary region. Smooth indentation of the anteroinferior margin of the maxilla was noted. The left anterior and inferior nasal cavity was also compressed and partially obliterated by this mass.

Volume 5, Issue 2; March-April 2022; Page No 287-291

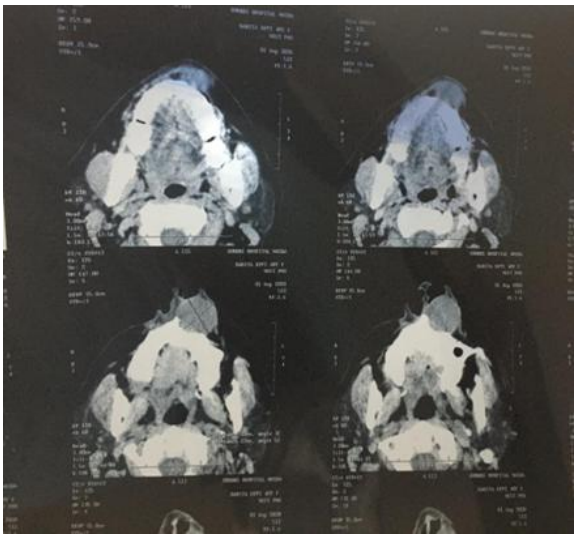

Figure 2: NCCT image showing a well-defined isoechoic mass measuring 2.9x2.7 cms in left infra-maxillary region

Fine needle aspiration (FNAC) of the lesion suggested of cystic lesion in left paranasal region.All the routine investigations and pre-anaesthetic check-up of the patient was done. The patient was posted for excision under general anaesthesia. Sublabial intraoral incision was given, and the cyst was completely excised. Surgery was uneventful. Wound was closed in layers with 3 – 0 vicryl. The excised specimen was sent for histopathological examination where the diagnosis was confirmed.

Figure 3: Gross image of excised left paranasal mass, measuring approx. 2.8x2.5 cms

The histopathological examination revealed respiratory epithelium lined by ciliated pseudo-stratified columnar epithelium with goblet cells. The findings were consistent with the diagnosis of nasolabial cyst. On follow up examination, the patient was doing well with disappearance of edema and no recurrence of swelling

Volume 5, Issue 2; March-April 2022; Page No 287-291

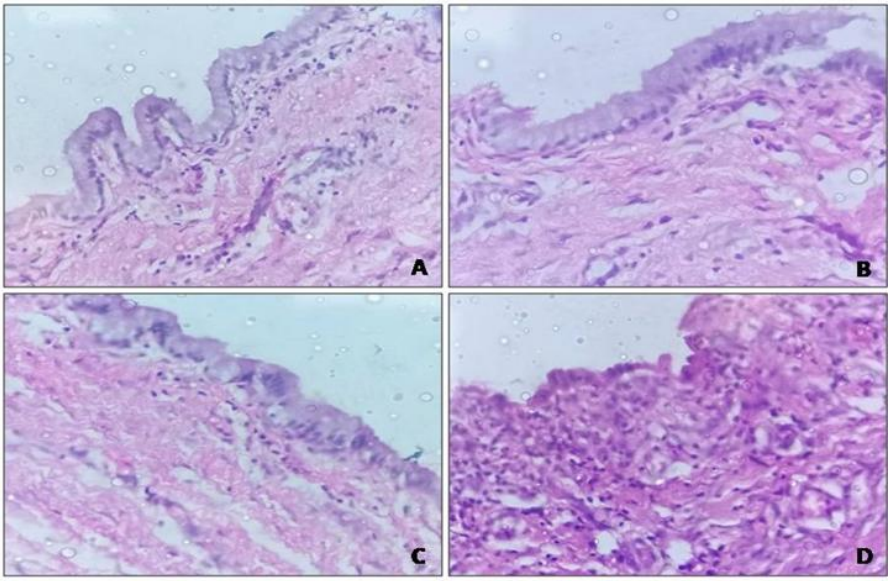

Figure 4: Histological images showing pseudo-stratified columnar epithelium along with mucus type cells & stroma showing moderate chronic inflammatory cells [H&E, A-B: 40X]

Discussion

Nasolabial cysts present as asymptomatic, painless, non-odontogenic soft tissue masses in the nasolabial area.[2-4] These are mostly seen in females with peak prevalence in fourth to fifth decade of life.[1-4] Nasolabial cysts are mostly unilateral.[3-5] Nasolabial cysts due to their gradually progressive nature and slow growth tend to be detected in older patients.

The presenting features are mostly nasal obstruction and swelling in nasal vestibule. A well-defined fluctuant swelling with cystic consistency in nasolabial sulcus is a definitive sign of a nasolabial cyst. Examination shows swelling in the hard palate and normal dentition.

Regarding its pathogenesis, two main theories have been postulated in its origin.[2-5]Embryonal fissural cyst theory which states that the cyst develops from sequestration of embryological epithelial tissue in facial fissures. This results from fusion of maxillary and lateral nasal processes. This theory was given by Klestadt. The second is seed theory which says that these are basically trapped nasolacrimal duct epithelial cell remnants owing to similar location and histological appearance.

Various lesions are to be considered in the differential diagnosis of nasolabial cysts.[4-7] They include oronasal cysts, particularly the nasopalatine cyst which is the most common non odontogenic cystic lesion in the maxillary area. However, this cyst is intraosseous in location and is found in anterior midpalatine region. Nasopalatine cysts present as homogenous high intensity T1 and T2 signals. Odontogenic cysts such as odontogenic keratocyst and dentigerous cyst may mimic nasolabial cyst. Odontogenic keratocyst may perforate labial cortex. They are both radiolucent on radiographs.

Radicular cyst, periapical abscess arise from maxillary anterior dentition can be considered as differentials.[5-7] In periapical abscess clinical signs and symptoms of inflammation will be present. Dermoid and epidermoid cysts arise mid-nasally. However, these are diagnosed early in childhood.

Volume 5, Issue 2; March-April 2022; Page No 287-291

Computed tomography (CT) scan / Magnetic resonance imaging (MRI) scan is the diagnostic modality of choice to diagnose nasolabial cysts.[6-8] They reveal the soft tissue origin of cysts. CT scan shows homogenous, non-contrast enhancing cystic lesions in deep lateral nasal areas. Histopathology confirms the diagnosis with presence of respiratory epithelium.

Various treatments like needle aspiration, injection sclerosants, incision and drainage, marsupialisation were done before but they were associated with high recurrence rates. Surgical enucleation is the preferred mode of management.[5-8] Sublabial intraoral approach was preferred in this patient and cyst was completely excised.

Conclusion:

To conclude, nasolabial cysts are rare soft-tissue non-odontogenic cysts. The diagnosis is based on clinical examination and further confirmed on histopathological evaluation. Complete surgical excision is the treatment of choice with a rare recurrence rate.

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Volume 5, Issue 2; March-April 2022; Page No 287-291