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Nasolabial cyst: a case report

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Abstract: **The nasolabial cyst is an uncommon non-odontogenic cyst arising in the maxillofacial tissues.[1] Nasolabial cysts are uncommon lesions located close to the alar cartilage of the nose, extending into the lower nasal meatus, the upper gingivolabial sulcus and the floor of the nasal vestibule.[3] This lesion grows slowly and measures between 1.5 and 3 cm; it is characterized clinically by a floating tumefaction in the nasolabial sulcus, which elevates the upper lip.[4] The aim of this paper was to assess a nasolabial cyst to describe the clinical presentation, the diagnosis and the appropriate surgical techniques used in this disease.**

Keywords: **nasoalveolar cyst, diagnosis, nasolabial, non-odontogenic.**

1. INTRODUCTION

The nasolabial cyst (NC) is a rare non-odontogenic cyst originating in the maxillofacial soft tissues [(1).] Since its original description by Zukerkandl in 1882, nasolabial cyst has been known by other names such as nasovestibular cyst, nasoglobular cyst and nasoalveolar cyst . In 1953, Klestadt studied about nasolabial cysts in depth after which lesion became named Klestadt's cyst. Thoma suggested the term nasoalveolar cyst, but it was Rao in 1951 that used the term nasolabial cyst.[(2).]

The pathogenesis of nasolabial cysts is not fully understood. Two hypothesis are currently accepted, they originate from facial fissure cysts or from remnants of the nasolacrimal ducts. The former hypothesis suggests that these cysts are derived from sequestering of embryological epithelial tissue in facial fissures resulting from fusion of the maxillary and nasal processes (lateral and medial). The latter hypothesis suggests that persisting nasolacrimal duct epithelial remnants located between the maxillary and nasal processes gives rise to nasolabial cysts.[(3)]

These cysts are usually unilateral (90%); they are bilateral in 10% of cases. They are more common in the black females in the 4th and 5th decades of life.[(4)] Signs and symptoms may include local pain, nasal block, and infection, which may cause significant inflammation and infection[(4)]

This paper documents the presentation of nasolabial cyst in a 42 year old woman and discusses considerations related to the diagnosis.

2. CASE REPORT

A 42 year old woman came to the department of oral and maxillofacial surgery for the evaluation of a swelling present lateral to left ala of the nose that had appeared one month earlier with gradual evolution. Medical history was non-contributory to the present complaint. Extra-oral examination revealed a diffuse swelling lateral to left ala of the nose resulting in elevation of ala and obliteration of the nasolabial fold [Figure 1a and 1 b]. On palpation, the swelling was soft in consistency, fluctuant and non-tender. On intra-oral examination, swelling distending the right maxillary labial sulcus was evident that was soft, fluctuant and non-tender on palpation approximately 2x2 cm.

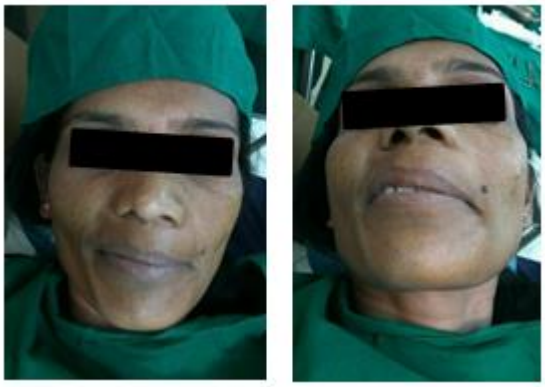

Fig 1a) & 1b) shows swelling lateral to left ala

A history of extraction with respect to maxillary first premolar of the left side 6 months back. The associated teeth tested vital on electric pulp testing.

CT or MRI reveal the soft-tissue origin of nasolabial cysts, which avoids unnecessary dental surgery or needle aspiration, so we requested CT which revealed(fig 2a & 2b) of small subcutaneous soft tissue density lesion of size 1.6x1.4 cm noted along lateral wall of nose on left side. It caused scalloping of maxilla at nasal aperture.

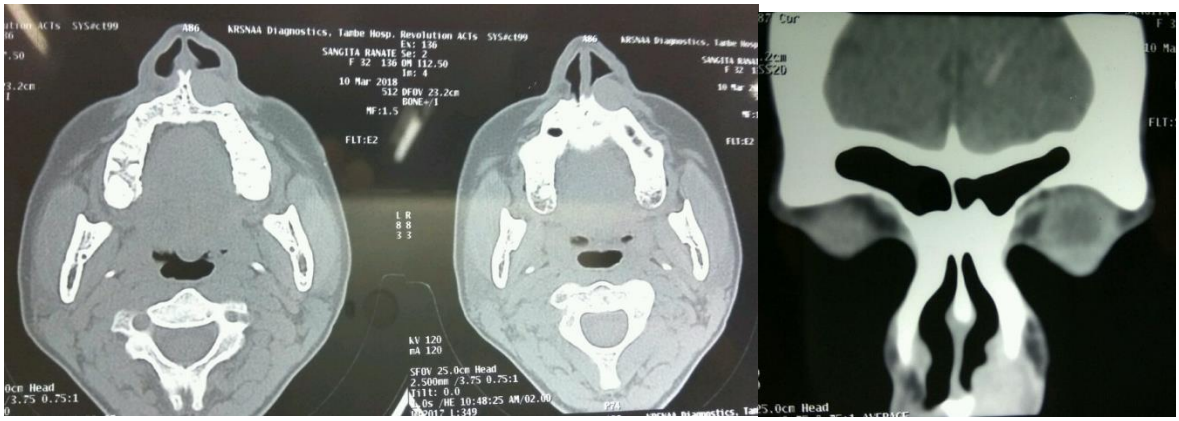

Fig 2a & 2b) scalloping of maxilla at nasal aperture on left side with soft tissue density lesion

Based on clinical and radiographic diagnosis, a working diagnosis of nasolabial cyst was made. The clinical differential diagnosis included epidermoid inclusion cyst, salivary gland cyst.

Under local anesthesia, using a vestibular incision through labial mucosa was given and the lesion carefully dissected and separated from labial mucosa, underlying maxillary bone, overlying skin and nasal mucosa and removed (Fig.3a, 3b,3c). A wound was closed primarily. Postoperative healing phase remained uneventful., and submitted for histopathological examination. Microscopic evaluation revealed a cystic lumen lined predominantly by pseudo - stratified columnar epithelium with varying number of goblet cells with part of lining composed of cuboidal epithelium The fibrous cystic wall was relatively acellular, densely collegenous and exceedingly hemorrhagic. The features were consistent with the diagnosis of nasolabial cyst.

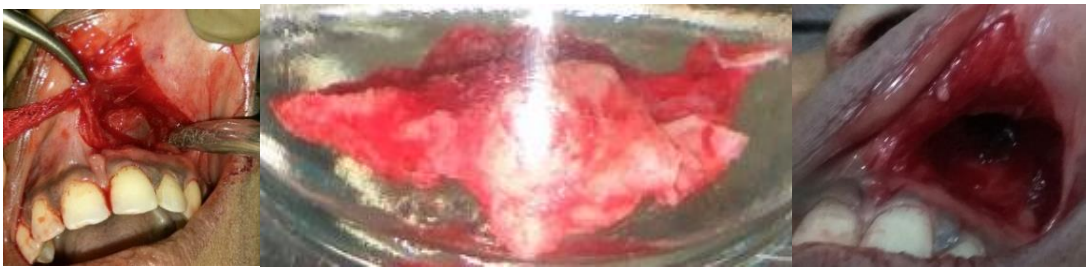

Fig 3a) Exposure of cystic lesion 3b)cystic mass 3c)Empty cavity

3. DISCUSSION

The nasolabial cyst is a developmental, non-odontogenic cyst that most commonly involves the nasal furrow region.[1] According to Allard, the first description of this entity is recorded by Zukerkandl in 1882.[2] It has been given many names such as Klestadt's cyst, nasoalveolar cyst, nasal vestibular cyst, mucoid cyst of the nose, and nasal wing cyst.(1)

Nasolabial cysts are rare, comprising about 0.3% of maxillary cysts.6,8 The study sample included females aged above the third decade of life (mostly fourth and fifth decades). Cysts were unilateral in 85% of cases. A (3.5:1) female to male ratio in the incidence of nasolabial cysts has been noted in the literature; most of these cysts occur between the fourth and fifth decades of life, and are unilateral in 90% of cases.(3)

The nasoalveolar cyst is not found within bone,but is usually described as a rare fissural cyst that may involve bone secondarily.It has been thought to arise at the junction of the globular process,the lateral nasal process,and the maxillary process as a result of the proliferation of entrapped epithelium along the fusion line.(6)

Regarding the pathogenesis, various theories of origin have been proposed. The first suggested that it is a retention cyst arising from inflamed mucus glands.[7] Klestadt first postulated an embryologic origin for these cysts and considered that these lesions must originate from embryonic epithelium, entrapped in the developmental fissures between the lateral nasal and maxillary processes.Since then,many authors have classified this entity based on Klestadt's embryologic theory as a fissural cyst.(3) The third theory and the most accepted one raised by Bruggemann is that it arises from the remnants of the lower anterior part of the nasolacrimal duct.[1]

Various lesions that should be considered in differential diagnosis of nasolabial cyst include odontogenic and nonodontogenic lesions that can occur in anterior maxilla or in soft tissues of alar labial region.(2) Radicular cyst arising from maxillary anterior teeth may extend into adjacent soft tissues, vitality test and presence of radiolucency in relation to apices of involved teeth can rule out this diagnosis.(6) Periapical abscess arising from maxillary anterior dentition is an inflammatory lesion. The classic signs and symptoms of inflammation and presence of a nonvital tooth make it different from nasolabial cyst.(2)

Nasopalatine duct cyst should also be considered in differential diagnosis of nasolabial cyst. This cyst is intraosseous in location where as nasolabial cyst is exclusively found in soft tissues. Another difference is that nasopalatine duct cyst is found in anterior midpalatine region.(6) Odontogenic cyst such as dentigerous cyst and rarely odontogenic keratocyst may perforate the labial cortex and their presence in the soft tissue may mimic nasolabial cyst. Presence of radiolucency on the radiograph and their intraosseous location make them different from nasolabial cyst.(2) Benign soft tissue neoplasms such as schwannomas or neurofibromas and minor salivary gland tumors should also be considered in the differential diagnosis of nasolabial cyst. These lesions are distinguished from nasolabial cyst on the basis of their solid consistency and lack of enhancement. Presence of fluid level would be atypical in these lesions(6).

The clinical presentation is typical with an asymptomatic spherical swelling beneath the nasal ala causing its elevation and obliterating the nasolabial fold. Lesion distends the mucolabial sulcus intra-orally and can cause discomfort in denture users.(1)

CT or MRI reveal the soft-tissue origin of nasolabial cysts, which avoids unnecessary dental surgery or needle aspiration (3) CT usually shows a homogeneous, non-contrast enhancing cystic lesion11,14 anterior to the pirifom opening; remodeling of the underlying maxillary bone may be seen in larger cysts. CT was done in all of our sample patients, demonstrating well defined cystic lesions in deep lateral nasal areas; in some cases there was maxillary bone remodelling (4) The teeth in the area of lesion are vital unless affected by the pathosis unrelated to the cyst.[1] In the present case, there was no focus of dental infection in the lesional area and the teeth tested vital.

Various treatment modalities have been considered for NC including injection of sclerosing agents,marsupalization and surgical enucleation.(2) However, surgical enucleation through sublabial approach is the most accepted treatment modality(3). Recurrence have never been reported. Malignant transformation is rare and has been documented in only one case(1).

4. CONCLUSION

This case presentation has presented classic clinical features and histological findings of nasolabial cyst. This lesion should always be kept considered in the differential diagnosis of soft tissue swelling in nasal alar region. After surgical excision, recurrence is rare.

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