Nasolabial Cyst: A Diagnostic Clarity or Conundrum?

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ABSTRACT
Nasolabial cyst is a unique, rare, non odontogenic cyst occurring in nasal alar region. It has a predilection for females with the left side being more affected than the right. Patients generally present with a painless slow growing swelling in the alar region without significant radiographic abnormality. This paper discusses a case of nasolabial cyst in a 45 year old female patient.

KEY WORDS: cyst, klestadt's cyst, nasolabial cyst

INTRODUCTION:
Nasolabial cyst is a rare, nonodontogenic, developmental, soft tissue cyst which accounts for 0.7% of all maxillary and mandibular cysts [1]. This entity was first reported by Emil Zuckerkandl an anatomist, in 1982 [2] and has also been referred to as nasal vestibule cyst, nasal wing cyst, Klestadt cyst and the now defunct term"nasoalveolar cyst"( as the cyst does not involve the alveolar process). The term 'nasolabial cyst' was given by Rao [3].

This lesion was first thought to be a retention cyst arising from mucous glands, but in 1913 Klestadt emphasized its developmental origin. It is believed to arise either from the epithelial remnants of nasolacrimal duct extending in between lateral nasal process and maxillary process, or the epithelial residues retained during the fusion of maxillary, medial and lateral nasal processes in intra uterine life [1].

The cyst typically presents as a painless swelling adjacent to ala of nose causing facial asymmetry, more often on the left side and has a four times more frequent occurrence in women. It is generally not manifested before fourth or fifth decade and is invariably painless unless infected. [4]

CASE REPORT:
A 45-year-old woman presented with a painless, gradually progressive upper lip swelling and nasal asymmetry of one year duration (Figure 1). During this period she had two intercurrent episodes of a boil formation and pus discharge in the right nostril which subsided with antibiotic therapy. She was examined by an ENT surgeon for these complaints who then sought opinion from the maxillofacial surgery department.

Examination revealed facial asymmetry and a para alar bulge with partial obliteration of the nasolabial crease on the right side of the face. The right nasal vestibule was distended, pushed superiorly, and showed a partially healed sinus at this site. On palpation, the swelling was approximately 2 × 2 cm, fluctuant, mobile and nontender. Intraoral examination revealed a pale mucosal swelling causing distension of right superior labial vestibule, that extended from the canine to the central incisor ipsilaterally (Figure 2). The upper right lateral incisor was noted to have a deep carious lesion, but was neither tender to percussion, nor had any associated sinus.

The clinical differentials considered at this point were a Radicular cyst and a Nasolabial cyst. No periradicular changes were noted on Intra oral and

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Figure 1: Picture demonstrating asymmetry, alar deformation and swelling on right side.

Figure 2: Intraoral picture showing distension of superior labial vestibule on the right side.

Figure 3: ORTHOPANTOMOGRAM showing lack of any significant radiographic anomaly around the carious maxillary lateral incisor.

Figure 4: Showing intraoperative exposure of the cystic mass.

Figure 5: Excised specimen

Figure 6: Showing a lining of pseudostratified columnar epithelium with goblet cells. H&E section (40X)

panoramic radiographs (Figure 3). A diagnostic aspiration revealed straw coloured fluid admixed with pus. Microscopy and cultures were negative.
A Clinical diagnosis of Nasolabial cyst therefore seemed most probable.

Cyst was enucleated under local anaesthesia using a sublabial vestibular approach. A one inch incision was made in the upper labial vestibule, and a layered dissection exposed the smooth well-circumscribed cystic swelling (Figure 4). The cyst was cleaved circumferentially off the surrounding structures with blunt dissection. Adherence to the nasal mucosa was evident at the site of the partially healed sinus, and surgical cleavage at this site caused a small linear tear in the nasal mucosa, which was repaired at the time of wound closure with absorbable sutures. The enucleated specimen (Figure 5) was sent for histopathological examination which showed a cystic lining consisting of pseudostratified columnar epithelium with goblet cells and the connective tissue showing numerous fibroblasts and lymphocytes in a collagenous stroma (Figure 6); consistent with the diagnosis of a nasolabial cyst. Patient has been under follow up for two years without any indication of recurrence.

DISCUSSION:

The nasolabial cyst is an uncommon manifestation and Patil et al (2007) in their review reported 267 cases documented in the English literature. It is usually unilateral but approximately 10% bilateral cases have also been reported.

The presentation and location of this cyst are fairly constant, i.e., is submucosal position in anterior nasal floor, protrusion of upper lip, and elevation of ala of nose. Cysts may be present for years without any significant discomfort to the patients. The cyst may grow in three possible directions; towards the oral vestibule, towards the nasal vestibule and towards the nasolabial fold. The cyst is palpated best by one finger in oral vestibule and another in nasal vestibule, which generally confirms its nontender, fluctuant fluid-filled character. Due to the proximity of these cysts to teeth and nasal cavity, secondary infection is a likely possibility which may lead to this entity being confused with other lesions or liable to be misdiagnosed as a periapical granuloma, odontogenic cyst or abscess. These mimers may be ruled out by vitality testing and radiographs. It can also be confused with mucous extravasation cyst because of the pink or bluish colored distension of the mucosa of oral vestibule. Other differentials include dermoid or sebaceous cysts in the region. In the case presented herein, although a tooth in proximity (maxillary lateral incisor # 12) was carious and non vital, it was non tender and not associated with any detectable radiographic abnormality.

Imaging is important not for establishment of diagnosis but to rule out the more frequent odontogenic swellings in this region. Occasionally though, a small bony pressure erosion can be seen but that too in the cases where cyst has grown to a very large size. This is however difficult to visualize in plain radiographs. Katao et al (2007) studied the CT and MRI finding of nasolabial cyst and reported variable density and signals affected by density of fluid in the cyst and presence of bony erosion.

Surgical excision and endoscopic marsupialization are the two most commonly used techniques. Though the nasal endoscopic marsupialization is stated to be simple, easy and effective, technical limitations favor the use of transoral excision, as the procedure is easily executed with minimal morbidity. The benefits of the two techniques are however comparable, as suggested by a recent systematic review.

Histologically the Nasolabial cyst presents squamous, cuboidal and pseudostratified columnar epithelium often with goblet cells. Supporting connective tissue is fibrous. These histopathological features appear to support the hypothesis regarding its development from the entrapped remnants of the nasolacrimal duct, because the mature nasolacrimal duct is also lined by pseudostratified columnar epithelium. Immunohistochemical analysis for markers has shown evidence of low proliferative activity (<5%), a nuclear positivity for p63 in basaloid cells and increased podoplanin expression in epithelium adjacent to areas of inflammation.

CONCLUSION:

The nasolabial cyst though infrequently encountered is important in the clinical scheme of
differential diagnosis of swellings in this area. An inappropriately clinical diagnosis may lead to the surgeon ending up dissecting in the wrong tissue plane, and it is sentinel that the surgeon clearly differentiates this cyst from the odontogenic pathologies encountered in the anterior maxillary region of the jaws.

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