CASE REPORT

Nasolabial cyst mimicking inflammatory cyst

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SUMMARY

The nasolabial cyst is an uncommon non-odontogenic soft tissue cyst. It arises as an ectodermal developmental swelling and is classified as a fissural cyst, found outside the bone, in the region corresponding to the nasolabial furrow and alar nose. A case of nasolabial cyst with classic clinical and histopathological features, along with few features mimicking those of an inflammatory cyst in a 32-year-old woman is reported.

BACKGROUND

Nasolabial cyst is an uncommon non-odontogenic soft tissue cyst. It arises as an ectodermal developmental swelling in the lateral half of the floor of the nasal vestibule at the base of the alae of the nose.¹ Nasolabial cyst was first described by Zuckerkandl in 1882 and were also known as nasoalveolar cysts. The term 'nasolabial' was coined by Rao and is a more accurate description than 'nasoalveolar'.² The histological structure was first described by Brown Kelly in 1898. 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

There has been a variety of names used to describe this rare cyst. In the past the term 'nasoalveolar cyst' was used, but due to the fact that there is never any bone involvement this term was considered inappropriate. Nowadays the term 'nasolabial cyst' is commonly used.³

Three theories are there for its aetiology, the accepted one being raised by Bruggeman is that it arises from the remnants of the lower anterior part of the nasolacrimal duct.¹

Nasolabial cysts account for only 0.7% cysts of jaws in the oral and maxillofacial regions and 2.5% of all non-odontogenic cysts. It is more common in African-Americans. Commonly seen in adults, peak prevalence is in the fourth and fifth decades of life. A greater incidence is seen in women (4:1).⁴ Clinically these cysts present smooth, fluctuant soft tissue masses between the upper lip and nasal aperture, with obliteration of the nasolabial fold.

CASE PRESENTATION

A 32-year-old woman visited the outpatient department of Kothiwal Dental College & Research centre Moradabad, with swelling in her upper front teeth region for 7 months. Swelling had increased in size gradually over the previous 2 weeks.

She had no history of trauma, tooth extraction, nasal discharge or bleeding. She had a history of endodontic treatment of right maxillary central incisor.

Upon extraoral examination, a diffuse swelling was evident in the right paranasal region. Extending mediolaterally from the right alae of the nose to 1 cm lateral to it and superoinferiorly from the infraorbital margin to 1 cm superior to the corner of the mouth and the right nasolabial fold was obliterated. The swelling was tender, soft in consistency, fluctuant and mobile.

Intraoral examination revealed a swelling that distended the right maxillary labial sulcus. Swelling was fluctuant, well localised, well demarcated, 4×2 cm in size, obliterating the labial vestibule (figure 1). Tooth 11 in the vicinity of the swelling was non-vital; 12,21 were vital. Based on the history and clinical findings, a provisional diagnosis of nasolabial cyst/radicular cyst was given.

INVESTIGATIONS

Intraoral periapical radiograph (figure 2) and occlusal radiograph (figure 3) showed a radiolucent area in the periapical region of the right maxillary central incisor which had been previously treated endodontically, suggesting the odontogenic origin of the lesion. The patient's medical history did not reveal any pathological condition, therefore, a surgery was advised.

Figure 1 Extraoral view.

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Figure 2 Intraoral view.

An excisional biopsy specimen, three tissue pieces brownish black in colour fixed in 10% buffer formalin was received (figure 4) and routine H&E stained sections were prepared. Microscopically, the sections revealed (figure 5A,B) the presence of a cystic cavity lined by non-ciliated psuedostartified columnar to cuboidal epithelium, which was 2–3 cell layer thick. The cyst wall consisted of condensed fibrous connective tissue containing scattered chronic inflammatory cells and also showed abundance of cholesterol cleft formation. Based on the clinical, radiographic and histopathological findings a final diagnosis of nasolabial cyst was arrived at.

DIFFERENTIAL DIAGNOSIS

The clinical differential diagnosis included an epidermoid cyst, an inflammatory cyst. The patient was subjected to radiographic and histopathological investigations.

Figure 3 Intra-oral periapical radiograph view

Figure 4 Occlusal view.

TREATMENT

The cyst was excised under local anaesthesia by infraorbital block injection and infiltration with 2% lidocaine containing 1:1 00 000 epinephrine. Through an intraoral approach, the mucosa was separated from the cyst wall with blunt dissection and cyst was enucleated.

OUTCOME AND FOLLOW-UP

The patient was followed up for a period of 6 months post-operatively. No signs of recurrence of the lesion were observed.

DISCUSSION

Nasolabial cysts are thought to be developmental, arising from non-odontogenic epithelium. Although both are controversial, three theories have been put forward about their pathogenesis. The first theory suggests that the cysts arise from inflamed mucous glands.¹ The second proposes that cysts arise as inclusion cysts derived from epithelial cells that are retained in the

Figure 5 Gross specimen.

Figure 6 Photomicrograph at ×10.

Figure 7 Photomicrograph at ×10.

mesenchyme after the fusion of the medial and lateral nasal processes and the maxillary prominence in the developing facial skeleton.² The third one suggested by Bruggemann, claims it arises from the epithelial remnants of the lower anterior part of the nasolacrimal duct. The last one is the most accepted one.¹

The clinical presentation of the cyst is typical with an asymptomatic spherical swelling beneath the alae of the nose causing its elevation and obliteration of nasolabial fold. Lesion distends the mucolabial sulcus intraorally.⁴

This patient mainly complained about upper lip swelling, diminished nasolabial sulcus and a greater volume in the maxillary labial sulcus. The latter was felt to be soft and fluctuant during intraoral palpation. Owing to similar signs and symptoms, this lesion may be misdiagnosed as a dental abscess, an odontogenic cyst. In the present case the patient reported endodontic treatment in the right maxillary central incisor. This could cause a false diagnosis, as the swelling was present in the concerned tooth region.

Nasolabial cysts are not obvious on plain radiograph, but radiographs may show bony rare fraction and deformity of the lateral and anterior edges of the nasal floor (figures 6 and 7). Features of this cyst are non-specific to radiological imaging, and do not aid in making clinical diagnosis and subsequent management.⁵

Diagnosis of a nasolabial cyst is established by correlation of the clinical findings with the histological examination. Cystic cavity is commonly lined by pseudostratified columnar epithelium. The cyst wall is either of dense mature fibrous nature or may be made up of loose connective tissue. Chronic inflammatory cell infiltration are often present that correlate with the clinical symptom of pain that patients experience. In the present case, the cystic cavity presented both pseudostratified columnar epithelial lining. The connective tissue was fibrous and contained chronic inflammatory cells mainly lymphocytes and abundant formation of cholesterol clefts.

Nasolabial cyst is a benign cyst and very few cases have been documented. Although uncommon in occurrence, it is

imperative for the clinician to make correct diagnosis and provide appropriate treatment. In the present case the diagnosis was based upon the correlation of clinical, radiological and histopathological features.

As nasolabial cyst is a soft tissue cyst, plain radiography does not provide any characteristic finding; therefore contrast radiography will play an important role to know the extent of the cyst, which will further be helpful in its diagnosis and management.

Learning points

- ▶ Nasolabial cyst is a soft tissue cyst, histological examination is a must.
- ▶ Contrast radiography will play an important role to know the extent of the cyst.
- ▶ Cystic cavity is commonly lined by pseudostratified columnar epithelium.

Competing interests None.

Patient consent Obtained.

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