Nasolabial cysts: Clinical features and CT findings

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Aims and objectives

Nasolabial cyst is an uncommonly diagnosed and rare non-odontogenic, soft tissue cyst characterized by its extra osseous location in the nasal alar region. The aim of this study is to examine different clinical and radiological (CT scan) aspects of this rare entity.
Methods and materials

This is a retrospective study that included 54 patients with nasolabial cyst, explored over a period of 9 years. The diagnosis was made on clinical and radiological findings and confirmed by histological examination after surgery. Clinical data, functional signs, clinical features, localization, CT findings, treatment, anatomopathological results, and outcome were analysed for each case.
Results

A male predominance was found (55.6%) with a mean age of 38 years (range 24-53). Swelling of the anterior nasal floor was observed in every case and a nasal obstruction in 33 cases. The mean time between initial swelling and consultation was 18 months. Swelling was unilateral for 52 patients (96.3%) and bilateral in 2 cases (3.7%). In one case the cyst was fistulized at the hard palate.

Computed Tomography revealed a well-defined expansive mass of the nasal vestibule with homogeneous density, similar to soft tissue with a diameter ranging from 14 to 30 mm (mean diameter was 23 mm) (Fig 1, 2). The cyst was bilateral in two cases (Fig 1). Bone was eroded in 2 cases.

Most of the patients were operated via a vestibular approach (96.3%) (Fig 3) and endonasal marsupialization was performed in 2 cases (3.7%). Histopathological examination confirmed the diagnosis of nasolabial cyst in every case.

Nasolabial cysts were first described by Zuchercandl in 1892 [1]. They are nonodontogenic masses that can be seen in the maxillofacial area.

Nasolabial cysts arise in the nasal alar region. Although they are generally considered rare. The cysts are more common in female than in male subjects (3:1). Usually the cysts are seen in the 4th-5th decade of lifetime. The incidence of bilateral cyst is 10% in the literature [2]. This incidence was lower in our study (4%).

A nasolabial cyst presents as a smooth, mobile, soft-tissue mass between the upper lip and nasal aperture, producing protrusion of the upper lip, elevation of the nasal ala and inferior turbinate, and effacement of the nasolabial fold.

Nasolabial cysts are sometimes asymptomatic unless they become infected or are associated with facial deformity [2]. It is manifested by swelling and nasal obstruction base implantation of nasal wing. Pain is an unusual sign signing infection [3, 4, 5].

Because of their proximity with the nasal cavity and teeth, nasolabial cysts may easily become infected, and infection is the initial presentation in almost 30% of patients [6]. When it is infected, a cyst enlarges rapidly, becomes tender, and may be mistaken for an abscess of the nasal floor. Intense surrounding inflammation and formation of an abscess may initially masquerade as facial cellulitis associated with acute maxillary sinusitis or a periodontal apical abscess. Purulent nasal discharge and pain may be present, and infected cysts may drain spontaneously into the nose or mouth [6].

The cysts may produce pressure erosion of the underlying bone, as in 2 cases of our series, and may grow quite large and erode the maxillary alveolus [2]. The cystic contents are typically mucoid or serous unless infected or hemorrhagic [6].
Computerized tomography or MRI can clearly define the margins of the nasopalatine cyst, because they provide an image of the soft tissues [7]. Because the nasolabial cyst appears as a soft tissue mass, it is not always obvious on plain radiographs but radiographs may show bony rarefaction and deformity of the lateral and anterior edges of the nasal floor [6].

Computerized tomography has a high contrast resolution and provides both good bone detail and good soft tissue definition. Because of its lower cost, CT is preferable to MRI in the evaluation of a suspected nasolabial cyst. The CT image of nasolabial cyst has previously been described as a well demarcated low-density cystic lesion lateral to the pyriform aperture without invasion of the adjacent bone [7]. The CT findings in that report were similar to those of the present case in demonstrating a well defined cystic lesion. However, bone erosion was found in 2 cases in CT exams. These results confirm that cyst may at times erode the bone surface of the maxilla [1].

MRI provides direct axial, sagittal, and coronal images with excellent soft tissue resolution. In a number of studies, MRI findings of nasolabial cyst has been documented, and it is reported that T1-weighted images show hypointensity to intermediate intensity and that T2-weighted images show hyperintensity [8, 9]. Kato et al [10] reported that MR images of nasolabial cyst showed various signal intensities, especially T1-weighted images, owing to different viscosities of intracystic fluid. The lesion could be diagnosed as nasolabial cyst based on its location and appearances on MR images rather than on the MR appearance of the cyst contents. No MRI was performed in our series.

The treatment can be made by surgical excision, injection of sclerozing materials in the cyst, and endonasal marsupialization methods [11]. Excision of the cyst via the sublabial incision is the most preferred treatment modality with very low recurrence rate and aesthetic reasons. Recurrence not happen if the wall of the sac is competely removed. Malignant transformation has not been reported in the literature [12].
Fig. 1: Fig 1. Axial CT Scan (soft tissue window) showing a low-density lesions related to bilateral nasolabial cyst (arrow).

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**Fig. 2:** Fig 2. CT image (axial section) showing a nasolabial cyst in the left nasal fossa (arrow).

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Fig. 3: Intraoperative view of nasolabial cyst after vestibular approach.

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Conclusion

Nasolabial cysts are rare, and the diagnosis must be kept in mind. Diagnosis is suspected by clinical features. Computed tomography is revealed to be a method of choice in the preoperative investigations.
References