



CASE REPORT

BILATERAL NASOALVEOLAR CYST: CASE REPORT AND THERAPEUTIC APPROACH

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SUMMARY

Nasoalveolar cysts are rare, developmental, non-odontogenic structures. They are usually diagnosed early since they result in cosmetic problems. These lesions are usually unilateral. Asymmetrical bilateral alar flare in the absence of a history of trauma, surgery, or congenital clefting followed by a thorough examination and imaging studies confirmed the diagnosis of bilateral nasoalveolar cyst in a 30-year-old female patient. Surgical excision was performed by sublabial approach. The patient had an uneventful postoperative period and no recurrence has been encountered in the follow-up during the past 12 months. In this report, the aetiology, clinical features and treatment of the condition is discussed.

Keywords: Nasoalveolar cyst, bilateral, treatment

BİLATERAL NAZOALVEOLAR KİST: OLGU SUNUMU VE TERAPÖTİK YAKLAŞIM

ÖZET

Nazoalveolar kistler, nadir görülen, gelişimsel yapılarıdır ve odontojenik kökenli değildirler. Genellikle sebep oldukları kozmetik sorunlar nedeniyle erken dönemde teşhis edilirler. Daha çok tek taraflı olarak ortaya çıkarlar. Otuz yaşında kadın hastada asimetrik ve iki taraflı olarak görülen alar dolgunluk nedeniyle yapılan inceleme sonucunda bilateral nazoalveolar kist olduğu saptandı. Hastanın öz geçmişinde travma, cerrahi müdahale veya doğumsal herhangi bir anomali yoktu. Sublabial yaklaşımla cerrahi girişim sonrası kistler her iki tarafta komplet olarak eksize edildi. Hasta, sorunsuz bir postoperatif dönem sonrası şu an 12.ay itibarıyla takip edilmektedir. Bu olgu sunumunda, nazoalveolar kistlerin etiyojisi, klinik özellikleri ve tedavisi tartışılmıştır.

Anahtar Sözcükler: Nazoalveolar kist, bilateral, tedavi

INTRODUCTION

Nasoalveolar cysts (NAC) are rare, non-odontogenic, soft tissue lesions that constitute about 0.7% of all jaw cysts^{1,2}. It was first described by Zuckerkandl in 1882³. These cysts, unless infected, cause painless swelling around the nasal vestibule and upper lip, and infrequently lead to nasal stuffiness^{3,4}. Typically, they appear as a swelling at canine fossa, upper lip, gingivolabial sulcus, nasal alae and nasal vestibule³. With increasing size, nasoalveolar cyst may impinge on the anteroinferior turbinate and push against the septum⁵. Long-standing pressure may cause erosion of the nasal floor or premaxilla⁵.

NAC is mostly unilateral and is more commonly located on left side³. Although figures differ, there are reports stating that NACs are more frequent in women³. Bilaterality is reported in about 10% of patients^{3,6}.

Despite the fact that they are soft tissue cysts and are situated extraosseously they may sometimes cause bone destruction⁶. In this report, a bilateral NAC case is presented and its clinical features as well as surgical treatment methods are discussed.

CASE PRESENTATION

30-year-old female patient complaining of bilateral nasal obstruction and fullness around the upper lip and nasal alae was admitted to our clinic. The lesions were painless and had increased gradually in size in about 2 years. Otorhinolaryngologic examination revealed mobile, fluctuant, bilateral masses partially blocking both nostrils and displacing both gingivobuccal sulci. Anterior rhinoscopy exhibited bilateral masses elevating the nasal vestibule floor and inferiorly occluding nasal passage on both sides. Magnetic resonance imaging (MRI) of paranasal sinuses revealed bilateral cystic masses of 2x2 cm size on left and of 1x1 size on right. The masses had displaced anterior maxillary wall posteriorly and extended to the nasal cavity resulting in defective appearances of surrounding bony wall (Figure 1). The rest of the patient's medical history was unremarkable. She was hospitalized and bilateral NACs were planned to be excised through a sublabial approach. Complete

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Received: 12 February 2006, revised for: 11 Jun 2006, accepted for publication: 12 Jun 2006



excision of the cysts was achieved via a 5 cm sublabial incision extending to both sides from the midline which was followed by blunt and sharp dissection to free the lesions from surrounding tissues. Histopathologic examination showed a cystic mass located in a connective tissue consistent with mucous glands and cartilage. The cyst wall was lined with a double layer squamous epithelium (Figure 2). No recurrence has been reported on MRI 12 months after surgery (Figure 3).

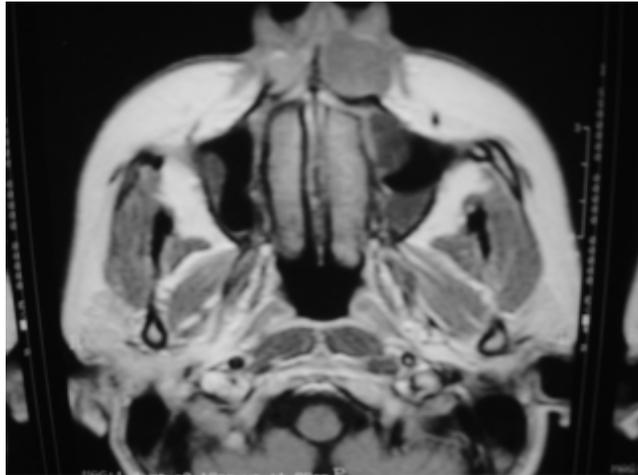


Figure 1. Preoperative MR image of bilateral nasoalveolar cyst.

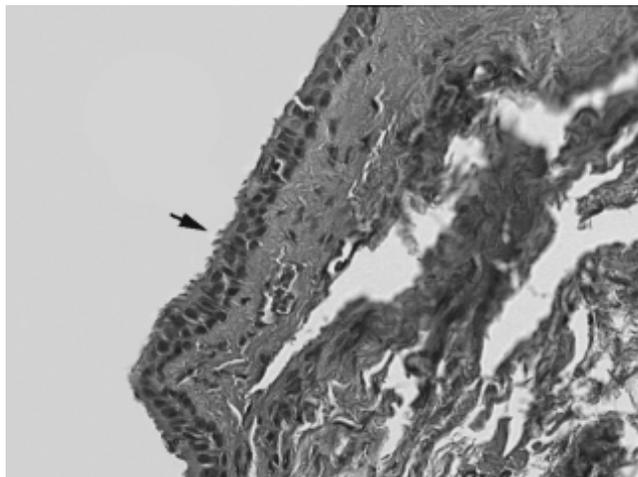


Figure 2. Histopathologic section of nasoalveolar cyst showing a double layer squamous epithelium lining the cyst (HEX100).

DISCUSSION

Nasoalveolar cysts present as swelling in the soft tissue beneath the alae of the nose⁷. The diagnosis is confirmed by histopathologic examination of the tissue as well as the clinical features. They constitute 0.7% of all jaw cysts and are more frequently seen in women, black race and at 4.-5. decades^{3,4}. Even though they are developmental in origin, clinical manifestations do not exist until adulthood⁸. They tend to be unilateral and are mostly located on the left. Bilaterality of NACs was reported to be 11.2%².

Histologically, they are commonly made up of mature and condensed connective tissue that is most frequently lined by pseudostratified columnar epithelium^{3,8}. In our case, the cyst was lined by squamous epithelium, possibly owing to the fact that pluripotent embryonic epithelial nests have the capacity of transformation from respiratory to squamous epithelium⁸.

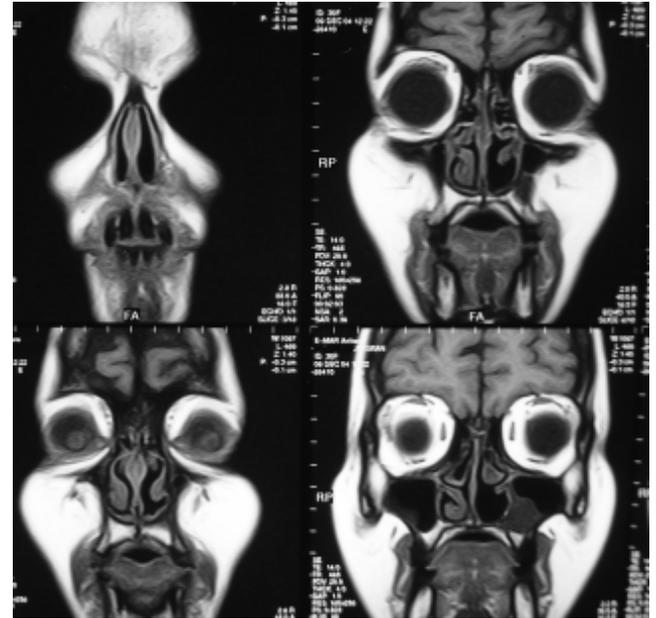


Figure 3. Postoperative MR images of bilateral nasoalveolar cyst.

Regarding the pathogenesis of NAC, there are various theories of origin. The most widely accepted assumption is suggested by Klestadt^{1,6}. According to this, cysts are derived from trapped epithelium in the line of fusion between lateral nasal, medial nasal and maxillary processes; so they may be termed as 'fissural cysts'⁶. According to Klestadt, fissural cysts may be of midline or lateral type⁶. Lateral fissural cysts are a group of three cysts, the most medial of which is the globulomaxillary cyst while the nasolabial cyst is the most lateral and anterior just below the alae. In between these two, NAC can develop. On the other hand, Wesley stated that NAC developed from inferior remnant of the nasolacrimal canal². Another theory involves entrapment of ectoderm within nasolacrimal duct⁵. Differentiation between a nasolabial and nasoalveolar cyst may be difficult. It is accepted that a cyst eroding the cortex of maxillary bone, as in the case presented, should be considered a nasoalveolar, as opposed to a nasolabial cyst⁶.

The diagnosis can be established by correlating clinical and histopathological findings⁹. The presence of a fluctuating rounded mass in the region beside the ala nasi should raise the suspicion of a nasoalveolar cyst⁶. It occupies a submucosal



position in the anterior nasal floor, and may elevate and displace inferior turbinate¹⁰. The lesion is usually not painful, unless it is secondarily infected¹¹. The lesion may spontaneously rupture and drain nasally, orally or even though rarely, via a cutaneous fistula¹¹. Bimanual palpation with one hand on nasal floor and the other on gingivobuccal sulcus provides a good method of examination⁷. Most of the authors agree that plain radiographs would not demonstrate any abnormal findings, as in our case^{1,6}. The localization and structure of the cyst can be demonstrated with CT scans¹², especially the relation of the cyst to the surrounding tissues and in assessment of bony erosion can be imaged¹³. These types of cystic lesions should be differentiated from infections and odontogenic cystic lesions. Infections such as large furuncles in the vestibule of the nose may present with similar findings. Odontogenic cystic lesions include primordial, radicular and dentigerous cysts^{3,5}.

Treatment of choice for these cysts is surgical resection via sublabial approach which can even be performed under local anesthesia, as in our case⁹. The incision should be made in the gingivobuccal fold over the convexity of the swelling, rather than through the mucoperiosteum. During the excision of larger cysts extending to the nasal floor, dissection should be made carefully in order to avoid perforation⁸. Recurrence after treatment has not been reported up to now, and malignant degeneration had been determined in one case only⁹. Alternatively, endoscopic cyst marsupialization via transnasal approach can be considered for treatment¹⁴. Aspiration of the cyst and injection of sclerosing agents constitute other methods of treatment and are rarely used¹⁵.

Consequently, nasoalveolar cysts should be considered in the differential diagnosis in patients who have a cystic mass in the nasal vestibular area that is accompanied by swelling and nasal obstruction.

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