

Nasopalatine Cyst: A Rare Case Report

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Abstract

Nasopalatine duct cyst (NPDC) is of uncertain origin and show a peak incidence between the fourth and sixth decades of life. In the absence of over infection, NPDCs are asymptomatic. The tentative diagnosis is based on the clinical history, the clinical exploration, and radiological. The definitive diagnosis is established by histological study of the lesion. In the present case, early surgical removal is done in order to avoid possible recurrence. Surgical excision of lesion should be done as in early stage as possible to reduce the malignancy potential and follow up at least for one year.

Keywords : Nasopalatine cyst, Elevator shaft cyst, Malignancy potential, Lesion.

Introduction

Nasopalatine duct cyst (NPDC) or elevator shaft cyst¹ arises from embryologic remnants of nasopalatine duct, first described by Meyer^{1,2,3} in 1914 and has been classified by the World Health Organization (WHO) as developmental, epithelial, non odontogenic cyst.^{2,4} NPDC occurs in approximately 1% of the population.^{2,5} It is one of the most common nonodontogenic cysts comprising 10% of jaw cysts¹ with slight male predilection^{1,2,6,7}, the maximum incidence is between 40 and 60 years of age.²

Presentation may be asymptomatic^{6,7,8} or include swelling, pain and drainage from the hard palate.^{1,5} A well-circumscribed, round, ovoid due to superposition of the nasal spine, heart-shaped radiolucency is discovered incidentally during routine radiological examination.^{8,9,10} In addition NPDC may also be at a risk for malignant transformation^{11,12} reinforcing the need for its detection and accurate diagnosis⁴. The treatment is enucleation.^{11,13} Long-term follow-up is essential.¹³ We reported

case of NPDC with a possible history of trauma with histopathological findings.

Case Report

A 44-year-old man came to the department of oral and maxillofacial surgery complaining of a swelling in the palate. About 3 months earlier the patient noticed a soft swelling in the palate that gradually become larger but was painless. Clinical examination revealed a fluctuant swelling 1 cm in diameter in the midline of the anterior part of the palate (Fig. 1). The overlying mucosa appeared normal. A periapical radiograph showed a well-circumscribed ovoid radiolucent area between the roots of the vital maxillary central incisors. The palatal lesion was provisionally diagnosed as a nasopalatine duct cyst by the department of endodontics and the patient was scheduled for surgery to excise the lesion. Fearing the surgery, the patient went to a general dental practitioner and had endodontic treatment for both incisors. A month later when the patient experienced dull pain around the root canal-treated teeth, he returned to our department for seeking treatment. On examination, the patient had the same fluctuant swelling in the palate, but now

there was also a draining sinus tract in the incisive papilla. Periodontal probing of the maxillary incisors was within normal limits. The root canal fillings in both the central incisors were found to be adequate (Fig. 2). The cyst-like lesion was exposed (Fig. 3) and enucleated (Fig. 4) and the perforation near the gingival margin on the left central incisor was sealed with glass ionomer filling material as retrograde material.

During the surgery, it was clearly observed that the cyst had no communication with the apexes of the incisors. The sample obtained (excision biopsy) was sent to the pathology laboratory in 10% formalin solution for histological study after staining with hematoxylin-eosin. Histopathologic examination of the excised tissue revealed fibrous tissue lined focally by stratified squamous and pseudostratified columnar epithelium with chronic inflammation and hemosidrin deposits (Fig. 5). This was consistent with a nasopalatine duct cyst diagnosis.

The patient was recalled for postoperative evaluation every month during the first 6 months after surgery. The postoperative period was uneventful



and was followed by good healing (Fig. 6). Twelve months after surgery, complete bone fill of the cyst cavity was evident radiographically (Fig. 7).

Discussion

Nasopalatine duct cyst (NPDC) is almost three times more common in males than in females.^{1,3} This lesion mainly manifests between the fourth and sixth decades of life. The etiology of these lesions is not clear; in addition to the hypothesis of spontaneous proliferation from embryonic tissue remains. In our patient the presentation was idiopathic, together with a history of chronic infection of the permanent upper central incisor. Most of these cysts are asymptomatic but swelling, pain and drainage from the hard palate.^{1,4,8}

Radiologically, the lesion manifests as a well delimited radiotransparency measuring 1-2 cm in diameter and located on or close to the midline of the upper maxilla. The X-ray image is predominantly rounded or ovoid, with a lesser prevalence of heart-shaped images.^{3,10}

A correct tentative diagnosis should be based on positive vitality testing and negative percussion findings of the permanent upper central incisors, provided these teeth do not have pulp or periodontal problems. The differential diagnosis² may include an enlarged nasopalatine duct (less than 6 mm in diameter), central giant cell granuloma, a radicular cyst associated to the upper

central incisors, follicular cyst associated with mesiodens, primordially cyst, nasoalveolar cyst, osteitis with palatal fistulization and bucconasal and/or buccosinus communication. odontogenic origin.

The treatment of choice is surgical excision of the cyst^{1,2,3}, although some authors propose marsupialization of large NPDC.¹⁴ The nasopalatine neurovascular bundle is a delicate and highly vascularized structure giving rise to profuse bleeding if inadvertently sectioned during surgery. Squamous cell carcinomas originating in maxillary bone are mainly due to the metaplasia experienced by the epithelial wall of a cyst or of the epithelial remains that participated in odontogenesis.²

Therefore, there are cases in which NPDC gives rise to squamous cell carcinoma in the anterior zone of the upper maxilla¹² so the treatment in this case is of course less conservative, with greater morbidity and a poorer prognosis in advanced cases, compared with those lesions identified in early stages² to obtain disease free oral cavity.

Conclusion

Dentist must distinguished nasopalatine duct cyst from an apical periodontal cyst and a wide but normal incisive canal. Surgical excision of lesion should be done as in early stage as possible to reduce the malignancy potential and follow up at least for one year.

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Fig. 1- Pre operative palatal swelling



Fig. 2- Pre operative IOPA after endodontic treatment



Fig. 3- Intra operative exposed lesion



Fig. 4- Intra operative surgical curettage done

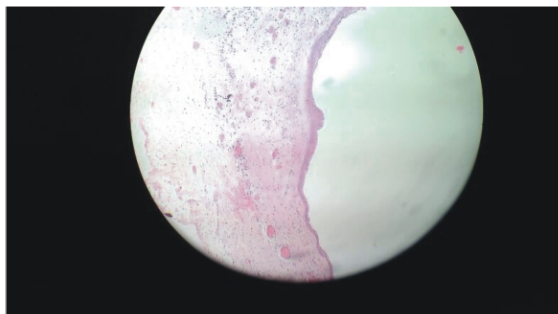


Fig. 5- Histopathologically proven nasopalatine cyst



Fig. 6- Post operative healed wound after 6 months.

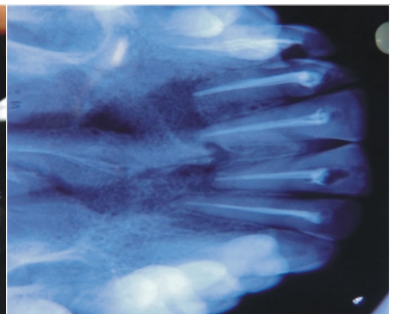


Fig. 7- Post operative healing shown in IOPA after 12 months.