SMGroup

SM Dentistry Journal

Case Report

Nasopalatine Duct Cyst: A Rare Case Report

Nagaraja A, Govind Raj kumar N and Arif M*

Department of Oral Pathology, NTR University of Health Sciences, India

Article Information

Received date: Oct 31, 2016
Accepted date: Dec 14, 2016
Published date: Dec 28, 2016

***Corresponding authors**

Cobo-Vazquez C, Department of Medicine and Oral Surgery, School of Dentistry, Universidad Complutense de Madrid, Pza. Ramón y Cajal, 3, 28040, Madrid, Spain, Email: carloscobov@hotmail.com

Keywords Nasopalatine duct cysts; Maxilla; Developmental cyst

Article DOI 10.36876/smd.1009

Abstract

There are several developmental cysts derived from embryonic structures or faults in their remnants located in oro-facial region. Nasopalatine Duct Cyst (NPDC) is the most common of all the developmental, epithelial and non-odontogenic cysts of the maxilla. This cyst originates from epithelial remnants from the nasopalatine duct. The cells could be activated spontaneously during life, or are eventually stimulated by the irritating action of various agents (infection, etc.). Generally, the patients present without clinical signs and symptoms. Therefore, the tentative diagnosis "nasopalatine duct cyst" is often based on a coincidental radiological finding on a routine panoramic view or occlusal radiograph. Although NPDC is not rare, it is mostly misdiagnosed. The definite diagnosis should be based on clinical, radiological and histopathologic findings. We report a case of a nasopalatine duct cyst in a 21-yearoldmale patient. The typical radiologic and histologic findings are presented.

Introduction

There are several developmental cysts derived from embryonic structures or faults in their remnants located in oro-facial region. Nasopalatine Duct Cyst (NPDC) is the most common of all the developmental, epithelial and non-odontogenic cysts of the maxilla. This cyst originates from epithelial remnants from the nasopalatine duct.

Case Report

History

A 21-year old male patient complains of pain and swelling in the upper front tooth region since 2 months and the swelling was gradual in onset. On examination the swelling is pale pink in colour, 3x3 cm extending from mesial aspect of 12 to distal aspect of 22. Radiographs showed a lesion of the anterior maxilla. The associated teeth tested non-vital. History of trauma to 11&21 during childhood (Figure 1A).

Radiographic features

Periapical radiographs showed a well circumscribed radiolucency in the midline of the anterior maxilla. The lesion was apical to the central incisors and appears to abut the mesial surfaces of both associated lateral incisors. The radiolucency has a heart shape, due to the superimposition of the nasal spine. Root resorption is observed (Figures 1b & 1C).

Diagnosis

Histological examination of Haematoxylin and eosin stained soft tissue section show a cystic

Figure 1A: Surgical Picture of Patient showing area of involvement.

OPEN ACCESS

ISSN: 2575-7776

Figure 1B: Pre-operative.

Figure 1C: Post-operative.

Figure 1D: Pseudo stratified ciliated columnar Epithelium.

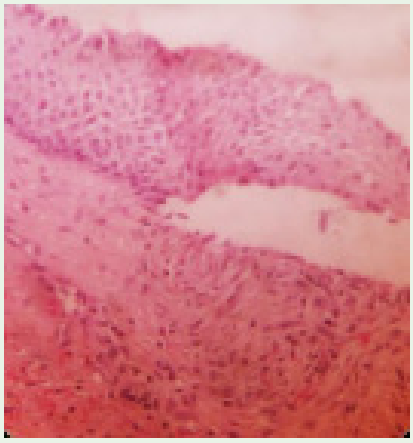

Figure 1E: Stratified squamous epithelium.

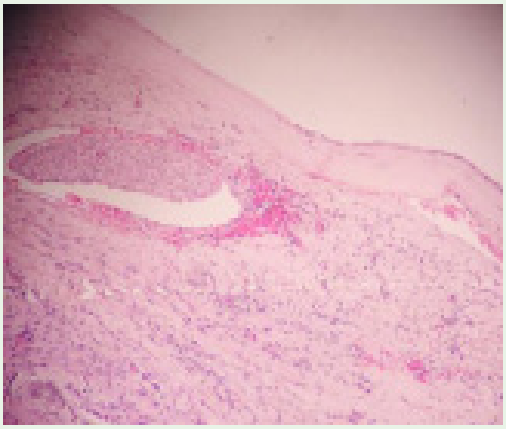

Figure 1F: Neural elements and inflammatory cells.

Figure 2: Received formalin fixed soft tissue bits of large bit size measuring about 1.5 x 0.7 x 0.4 cm, soft in consistency, irregular surface with gray and white in colour.

lining of variable thickness and type. Stratified squalors epithelium as well as pseudo stratified ciliated columnar epithelium [respiratory] with flat epithelial and connective tissue interface are observed at areas. Mucous cells [goblet] are evident in pseudo stratified ciliated columnar epithelium. Prominent hyalinization is seen beneath the epithelium. The underlying connective tissue is fibro cellular with dense infiltrate predominantly consisting of lymphocytes and plasma cells, neural elements, thick walled vascular channels, adipose tissue; mucous acini are evident in the sub mucosa (Figures 1D-1F and Figure 2).

Discussion

Nasopalatine duct cysts, also known as incisive canal cysts/

Citation: Nagaraja A, Govind Raj kumar N and Arif M. Nasopalatine Duct Cyst: A Rare Case Report. SM J Dent. 2016; 2(1): 1009. https://dx.doi.org/10.36876/smd.1009

nasopalatal canal cyst, are the most common non-odontogenic cyst. The cyst is so common, in fact, that it will affect approximately one out of every one hundred persons. A developmental cyst, the nasopalatine duct cyst is believed to arise from epithelial remnants of the nasopalatine duct, the Communication between the nasal cavity and anterior maxilla in the developing Fetus. As fetal development continues, this connection gradually narrows as the bones of the anterior palate fuse. The result is the formation of the incisive canals that carry nerves and vessels, as well as epithelial rest from the degenerated nasopalatine ducts [1,2]. Nasopalatine duct cysts affect a wide age range, however, most present in the 4th to 6th decades of life. Patients may be without pain; with the lesion being can be identifiable routine radiographs. Complaints are often found to be associated with swelling and pain [2,3]. The vitality of surrounded teeth should not be affected; however, it is not uncommon to see evidence of endodontic therapy because the nasopalatine duct cyst was previously clinically misdiagnosed as a periapical cyst or granuloma. Radio graphically, nasopalatine ducts cysts are usually well-circumscribed radio lucencies of the anterior maxilla. The cysts are apical to the roots of the maxillary incisors and rarely cause root resorption. Cysts are round, ovoid or heart shaped due to the superimposition of the nasal spine. Cysts range in size, with an average diameter of approximately1.5 cm. The incisive foreman, by convention, is not expected to exceed 6 mm in diameter, making the detection of a small nasopalatine duct cyst difficult. Histological, the nasopalatine duct cyst is lined by stratified squalors epithelium alone or in combination with: Pseudo stratified columnar epithelium (with or without cilia and/or goblet cells), Simple columnar epithelium, and simple cuboidal epithelium. The fibrous wall generally contains nerves, arteries and veins. Additionally, minor salivary gland tissue and small islands of cartilage may be found. Finally, if the cyst was infected, acute and chronic inflammatory cells will be seen throughout the specimen.

Treatment for a nasopalatine duct cyst is complete removal of the lesion, generally by palatal approach. Frequently the biopsy procedure results in adequate treatment. Recurrence is rare.

Conclusion

Nasopalatine duct cysts are the most common non-odontogenic cyst of the oral cavity seen in the general population. NPDCs must be distinguished from other maxillary anterior radio lucencies. In establishing a diagnosis of NPDC and for avoiding irrational endodontic treatment, it is important to attempt to exclude the possibility of a periapical lesion by performing the pulp vitality tests of the incisor teeth. The final diagnosis could only be performed after histological analysis.

References

1. Francolı´ JE, Marque´s NA, Ayte´s LB, Escoda CG. Nasopalatine duct cyst: report of 22 cases and review of the literature. Med Oral Patol Oral Cir Bucal. 2008; 13: E438-443.

2. Swanson KS, Kaugars GE, Gunsolley JC. Nasopalatine duct cyst: an analysis of 334 cases. J Oral Maxillofacial Surg. 1991; 49: 268-271.

3. Vasconcelos R, de Aguiar MF, Castro W, de Arau´jo VC, Mesquita R. Retrospective analysis of 31 cases of nasopalatine duct cyst. Oral Dis. 1999; 5: 325-328.

Citation: Nagaraja A, Govind Raj kumar N and Arif M. Nasopalatine Duct Cyst: A Rare Case Report. SM J Dent. 2016; 2(1): 1009. https://dx.doi.org/10.36876/smd.1009