

Nasopalatine Duct Cyst in A Patient with Oral Submucous Fibrosis

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ABSTRACT

The Nasopalatine Duct Cyst is a non-odontogenic cyst which occurs in the anterior maxilla. It is usually asymptomatic but may occasionally show symptoms like swelling and pain. On radiographic examination, it appears as an oval or heart-shaped radiolucency, which may resemble a periapical lesion in many cases. This paper reports a case of nasopalatine duct cyst which was diagnosed as an incidental finding in a 28-year old male patient with oral submucous fibrosis.

Keywords: Maxilla, Nasopalatine Duct Cyst, Oral Submucous Fibrosis, Radiolucent

Introduction

The Nasopalatine Duct Cyst (NPDC) is a developmental cyst, which is lined by epithelium and is non-odontogenic in origin. It is thought to arise from the proliferation of epithelial remnants of the nasopalatine duct.[1] Although the exact etiology of this lesion remains unknown, agents like trauma, infection and spontaneous proliferation have been implicated as trigger factors.[2]

Oral Submucous Fibrosis (OSMF) is a potentially malignant condition, which is mainly associated with chewing of areca nut (an ingredient of betel quid).[3] Patients initially complain of a burning sensation in the oral cavity on having spicy food. Intra-oral examination reveals blanching or marble-like pallor of the oral mucosa. In later stages, there is formation of vertical fibrotic bands, which result in restricted mouth opening.

This case report describes a case of nasopalatine duct cyst which was diagnosed as an incidental finding in a patient with oral submucous fibrosis.

Case Report

A 28-year-old male patient reported to our out-patient department with a chief complaint of pain in the upper left back tooth (28) since 15 days with difficulty in opening the mouth for the last 2 months. The patient gave a history of ghutka chewing since the last 10 years. On intra-oral examination, the inter-incisal opening was 1.2 cms. There was generalized mild attrition and staining of the entire dentition, with generalized gingival inflammation. Blanching was noted over the bilateral buccal mucosa, labial mucosa and soft palate. (Figs 1, 2) Tongue movements were normal. Vertical fibrotic bands were palpable over the posterior buccal mucosa bilaterally and labial mucosa. The

28 could not be seen clinically due to the severely restricted mouth opening.

The patient was advised an orthopantomogram, for evaluate the dentition. The panoramic radiograph showed caries and buccal tilting of 18 and 28. There was a well-defined, roughly oval shaped radiolucent lesion in relation to 12, 11, 21 and 22, with corticated margins, and a radiolucent internal structure. There was distal displacement of the roots of 11 and 21. The shadows of the hard palate and nasal septum were superimposed over the lesion. (Fig 3) Hence, an intra-oral periapical and a maxillary true occlusal radiograph were advised to obtain a clearer view.

Intra-oral periapical radiograph of the region showed a heart shaped radiolucent lesion in relation to 12, 11, 21 and 22, with well-defined, corticated margins, and a radiolucent internal structure, which extended superiorly upto the floor of nasal fossa and inferiorly into the inter-radicular region in between 11 and 21, upto the middle one-third of the roots. There was distal displacement of the roots of 11 and 21. (Fig 4) The radiographic features and extent of the lesion was confirmed on the maxillary occlusal radiograph. (Fig 5) There was no clinical or radiographic evidence of caries on the 12, 11, 21 and 22. Electric pulp vitality testing revealed all the teeth in the involved area to be vital.

Based on the history, clinical and radiographic findings, we gave a provisional diagnosis of Oral Submucous Fibrosis, with an incidental finding of a Nasopalatine Duct Cyst. Routine hematological investigations advised were within normal limits. The patient was advised to undergo enucleation and curettage of the cystic lesion, and was to be started on intra-lesional steroid injections for oral submucous fibrosis. However, we were unable to

carry out the treatment, as he informed us that he had been transferred outside our state by his company and hence would not be able to undertake the advised treatment. The

patient was advised to get his treatment done at the place of his new posting but despite a number of efforts being made to contact him, was lost for follow-up.



Fig. 1: Intra-Oral view showing blanching over right buccal mucosa.



Fig. 2: Intra-oral view of palate.



Fig. 3: Panoramic radiograph showing a lesion in the maxillary central incisor region.

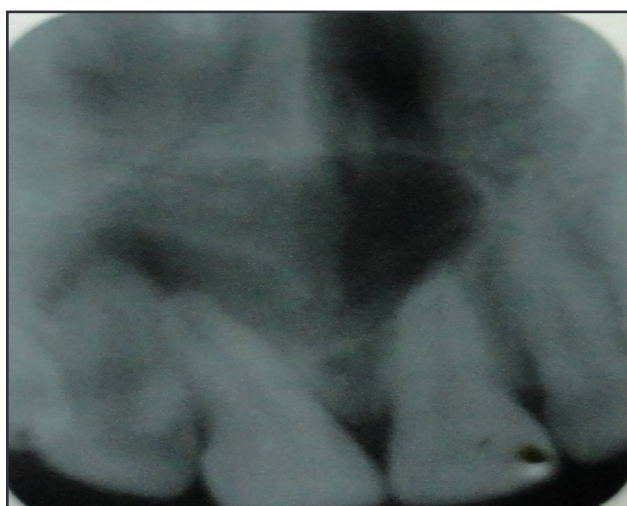


Fig. 4: Intra-oral periapical radiograph showing a heart-shaped radiolucency in relation to 11 and 21

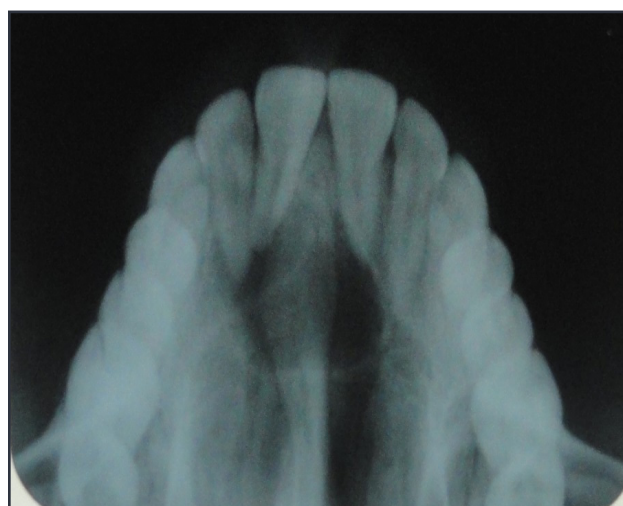


Fig. 5: Maxillary true occlusal radiograph showing a periapical radiolucent lesion in relation to 11 and 21.

Discussion

The nasopalatine duct cyst (NPDC) was first described by Meyer in 1914.[4] Other synonyms for this lesion include incisive canal cyst, median palatine cyst and median anterior maxillary cyst.[2,5] The uniqueness of this cyst can be attributed to the fact that it occurs only in a single location i.e. the midline of the anterior maxilla.[6]

NPDC usually affects individuals in the age range of 30 to 60 years, and is two to three times more common in males as compared to females.[1] The present case was diagnosed in a 28-year old male, which was in accordance with that reported in literature.

A majority of NPDC cases are asymptomatic and are frequently detected as an incidental finding during routine radiographic examination. Symptomatic lesions usually occur due to secondary infection and patients may present with swelling on the anterior palate in the region of the incisal papilla with or without pain.[4,6] The present case was also an incidental finding which was detected on the orthopantomograph, and the patient did not show any signs or symptoms in the maxillary anterior region.

Radiographically, they appear as oval radiolucencies in the midline of the anterior maxilla, between and apical to the central incisors, with well-defined corticated borders. Some lesions may appear heart-shaped due to superimposition by the nasal spine or because of notching by the nasal septum during expansion of the cyst.[4] The roots of the maxillary central incisors often show distal displacement but root resorption is uncommon. Our case also showed a heart-shaped radiolucency, with distal displacement of the roots of the maxillary central incisors. NPDC may radiographically resemble a periapical granuloma or abscess, especially when the roots of the maxillary central incisors lie within the radiolucent cystic cavity. Hence, pulp vitality testing is essential to rule out a periapical lesion and to prevent inadvertent root canal therapy.

Histopathologic examination may show a highly variable epithelial lining, composed of stratified squamous, pseudostratified columnar, simple columnar or cuboidal epithelium. In many cases, more than one type of epithelium is found in the same cyst.[2] Presence of nerves and blood vessels in the fibrous capsule is a diagnostic feature. These lesions are treated by surgical enucleation of cyst with its lining.[2,5] A palatal approach is preferred to avoid damage to the nasopalatine nerve. In the present case, unfortunately, the patient had to leave the state and was lost for follow-up.

Conclusion

The Nasopalatine Duct Cyst, due to its characteristic location, clinical and radiographic features may often resemble a periapical lesion or radicular cyst. Besides histopathological analysis, pulp vitality testing is essential in arriving at a correct diagnosis.

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Financial or other Competing Interests: None.