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Nasopalatine duct cyst – Case report



KEYWORDS

Nasopalatine duct cyst;
Anterior maxilla;
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The nasopalatine duct cyst is the most common non-odontogenic cyst of the oral cavity, occurring in approximately 1% of the population.¹ It arises from remnants of the nasopalatine duct in the incisive canal.¹ This case report presented a nasopalatine duct cyst in a 31-year-old male patient.

This 31-year-old male patient was referred from a local dentist to our hospital for treatment of a lesion in the midline of the anterior maxilla. Periapical radiography showed a round radiolucent lesion in the periapical area of teeth 11 and 21 (Fig. 1A). Because the teeth 11 and 21 were covered by porcelain fused to metal crowns, the vitality test of these two teeth could not be performed. The clinical diagnosis was a nasopalatine duct cyst and thus the treatment plan was total enucleation of the cyst. For convenience to do the surgery, endodontic treatment on teeth 11 and 21 was done (Fig. 1B) and the two upper central incisors were discovered to be vital during the endodontic treatment. After that, the round radiolucent lesion was removed by an oral surgeon under local anesthesia. The histopathological examination of the specimen showed a cyst lined by pseudostratified ciliated columnar

epithelium (Fig. 1C and D). Small to medium-sized nerves (Fig. 1E and F), muscular arteries and veins (Fig. 1E and G), and a small island of hyaline cartilage (Fig. 1E and H) were found in the fibrous cystic wall of the cyst. Therefore, the histopathological diagnosis of a nasopalatine duct cyst was confirmed.

The nasopalatine duct cyst is a developmental cyst occurring more frequently in the male patients. It may develop at almost any age but is most common in the fourth to sixth decades of life.¹ Immunohistochemical stain is frequently used to identify the origin of the tumor cells.^{2–5} However, the nasopalatine duct cyst does not need the immunostaining to confirm the origin of the lining epithelial cells. Because the incisive canal contains not only nasopalatine duct but also nasopalatine nerve and anastomosing branches of the descending palatine and sphenopalatine arteries, it is reasonable to find small to medium-sized nerves, arteries and veins in the surgical specimens of the nasopalatine duct cyst.¹ Sometimes, islands of hyaline cartilage or lobules of minor salivary glands are also noted in the fibrous cystic wall of the nasopalatine duct cyst. The nasopalatine duct cyst is the only one type of cysts in the oral and maxillofacial region in which we can find small to medium-sized nerves, arteries and veins, hyaline cartilage, and minor salivary glands in the fibrous cystic wall. This is a specific finding that can help us to make a histopathological diagnosis of the nasopalatine duct cyst. The differential diagnoses of nasopalatine duct cyst may often include radicular cyst (if the upper central incisors are non-vital) or a large incisive foramen (a diameter of 6 mm is the upper

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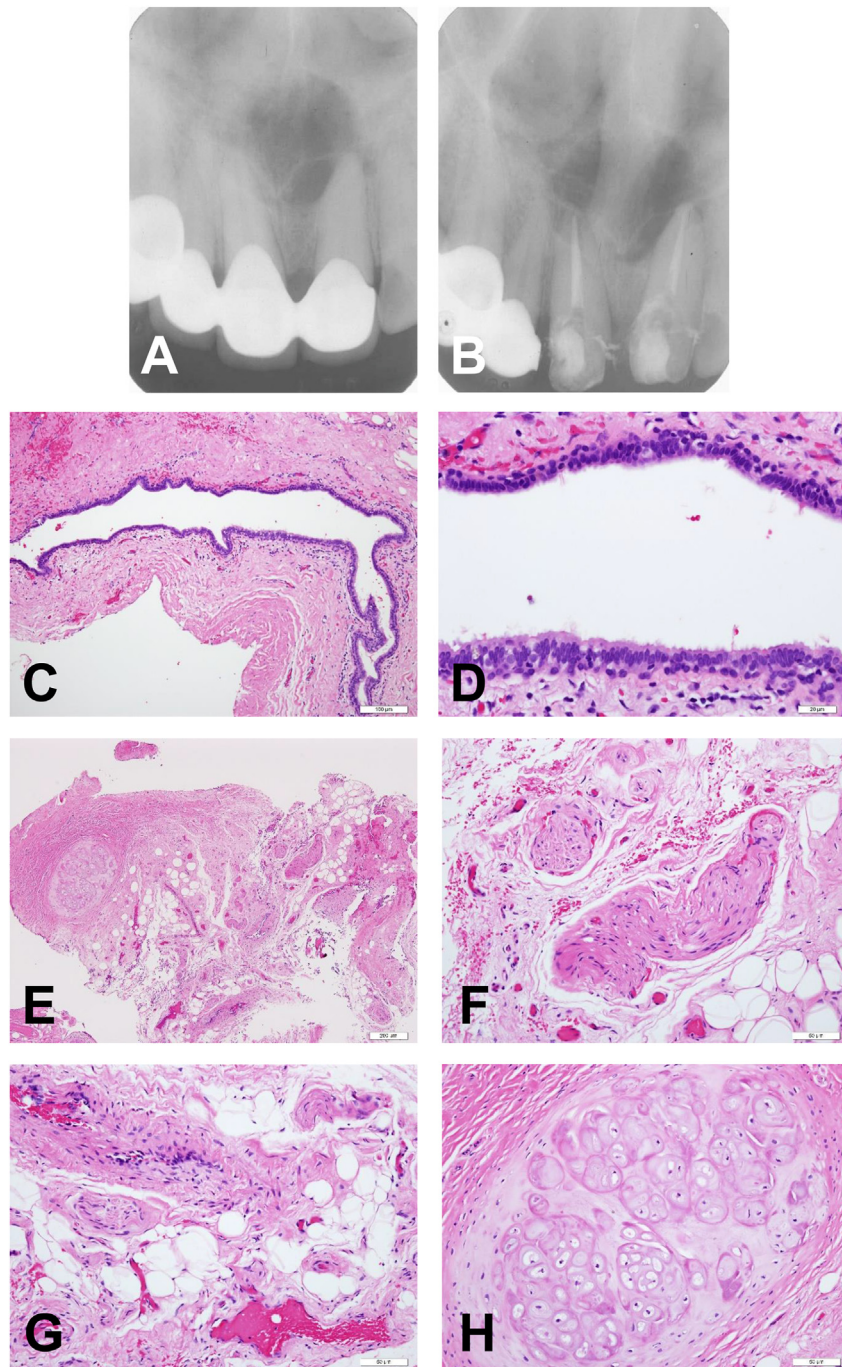


Figure 1 Radiographic and histological photographs of our case of nasopalatine duct cyst. (A) A periapical radiograph showing a round radiolucent lesion in the periapical area of teeth 11 and 21. (B) The periapical radiograph taken after endodontic treatment of teeth 11 and 21 demonstrating gutta-percha-filled root canals and a round radiolucent lesion in the periapical area of teeth 11 and 21. (C and D) Histological microphotographs showing a small portion of a cyst lined by pseudostratified ciliated columnar epithelium. (E) Low-power microphotograph exhibiting small to medium-sized nerves, muscular arteries and veins, and a small island of hyaline cartilage in the fibrous cystic wall of the cyst. (F, G and H) High-power microphotographs showing small to medium-sized nerves (F), muscular arteries and veins (G), and a small island of hyaline cartilage (H) in the fibrous cystic wall of the cyst. (Hematoxylin and Eosin stain; original magnification, C, 10 \times ; D, 40 \times ; E, 4 \times ; F, G and H, 20 \times).

limit of normal size for the incisive foramen). Recurrence is rare after total enucleation of the nasopalatine duct cyst. Although malignant transformation of the nasopalatine duct cyst has been reported, this is an extremely rare complication.¹

Declaration of competing interest

The authors declare no conflict of interest.

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