An unusual case of nasopalatine cyst in Brazilian population

Um caso incomum de cisto nasopalatino na população brasileira

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Abstract

The nasopalatine duct cyst (NPDC) is the most common non-odontogenic cyst typically found in middle-aged Caucasian female in Brazil, however the present report describes a case in a 35 year-old black male. NPDC are usually asymptomatic and are discovered incidentally during routine radiological examination. A cone-beam computed tomography (CBCT) is a valuable tool to localize a cyst within the nasopalatine canal. CBCT enables analysis of the dimension of the NPDC, analysis of the involvement of neighboring anatomical structures and assists in treatment planning. The authors at this case highlight the importance of clinical examination with an unbiased view of age, gender and ethnicity.

Descriptors: Nonodontogenic cysts; Cysts/diagnosis; Cysts/radiography; Cone-beam computed tomography; Nose diseases/diagnosis

Introduction

NPDC is one of the most common non-odontogenic cyst¹, comprising 10% of jaw cysts and occurring in 1 of every 100 persons with slight male predilection, the mean age being 42.5 years². These cysts are usually asymptomatic, unless they are secondarily infected. These entities are usually treated with surgical enucleation³. With progressive increases in the size of the cyst, the risk for minor postsurgical complications significantly increases.

The introduction of cone beam computed tomography (CBCT) represented an important new development in dentomaxillofacial radiology and precipitated a shift from 2- to 3-dimensional data acquisition, image reconstruction, and visualization. With limited CBCT imaging, 3-dimensional analysis of the exact location and size of the NPDC has become possible⁴.

Literature review

Nasopalatine duct cysts are the most common non-odontogenic developmental cysts originating in the incisive canal of the maxilla⁵. These cysts were once formally classified as and called fissural cysts. They were believed to originate in entrapped epithelium in embryonic fissures during the development of the orofacial region⁶. The pathogenesis is now believed to arise from remnants of the embryonic nasopalatine duct⁷. A nasopalatine duct cyst can arise at any age, but it is seen most often in patients between 30 and 60 years of age. There is no gender predilection. These cysts are usually asymptomatic; on occasion, they present as a palatal soft-tissue mass. On CT and panoramic radiography, a nasopalatine duct cyst appears as a well-defined bone defect in the anterior midline of the palate between and posterior to the central incisors. These cysts vary in size; most are less than 2cm, while others are large enough to cause nasal obstruction³.

Case report

The case presented here is that of a black 35-year-old man who had a nasopalatine duct cyst that had been grown in the anterior nasopalatine area causing an asymptomatic bulging of the cortical as we can see on Figure 1 by computed tomography i-CAT (Imaging Sciences International Inc, Hatfield, USA), using 120kVp and the software Xoran CT (Xoran Technologies Inc, Ann Arbor, USA). Images of Figure 2 were obtained with 0,3mm axial slice thickness, transaxial slice of 0,2mm, voxel size of 0,2mm and grayscale depth 14 bits. The radiolucency extension is 20mm height and 45mm depth. The periphery of the lesion was well defined. There was no evidence of reabsorption of the roots.
Discussion

A retrospective observational Spanish study was made comprising a period of 36 years (1970-2006), and yielding a series of 22 patients and one of the conclusions (as the majority of European and American studies) is that nasopalatine duct cysts (NPDCs) are almost three times more common in males than in females, and show a predilection for Caucasian individuals despite the large number of studies on nOCs in the literature information regarding the demographic profile of these lesions in different populations is scarce. Thus, the aim of this case report is to show the different distribution of NPDC in Brazil as NPDC in a recent Brazilian article of Nonaka et al. (2011) shows a majority of appearance in females (68.4% of 26,788 cases).

As the incisive canal and foramen may normally vary greatly in size, the clinician may have some difficulty in distinguishing between a large incisive foramen and
a small asymptomatic incisive canal cyst on the basis of radiographic evidence alone. Some clinicians follow the rule of thumb that radiolucencies of the incisive canal measuring less than 0.6 cm in diameter should not be considered cystic in the absence of other symptoms. Even though definitive diagnosis of a nasopalatine cyst is more easily made on plain films other advanced imaging modalities such as computed tomography and magnetic resonance imaging are being used to differentiate this entity from other lesions. Simple surgical resection is recommended, followed by clinical and radiological control to ensure correct resolution of the case.

Conclusion

Nasopalatine duct cysts occur in approximately 1% of the population with mean age of 42.5 years. The lesions may be asymptomatic or may manifest as swelling, pain, and drainage from the hard palate. A well-circumscribed, round, ovoid, or heart-shaped radiolucency is seen on radiograph. Computed tomography easily visualizes the radiotransparency on the midline, with well defined sclerotic margins, and informs of the exact location of the lesion. In addition, it facilitates planning of the best surgical approach.

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References


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