CASE REPORT

Central odontogenic fibroma - A Report of a quiet and concealed tumor in maxilla

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Abstract

Central odontogenic fibroma (COF) is a rare benign non-epithelial tumor arising from odontogenic mesenchymal tissues with reported incidence of only 0.1–12.8%. The WHO has defined COF as “a rare neoplasm characterized by varying amounts of inactive looking odontogenic epithelium embedded in a mature, fibrous stroma.” The COF case reported here discusses the incidence, etiology, clinical/radiographic presentation, management, and prognosis along with literature review.

Keywords:
Benign tumors, central odontogenic fibroma, impacted canine, odontogenic cysts

Introduction

Odontogenic fibroma is a rare tumor, and the WHO has categorized it in two types: According to site, as peripheral or central and histologically as poor type (simple type) and epithelium rich type (complex or the WHO type). The WHO has reported an incidence of 86.5% and 13.5% for odontogenic fibromas in mandible and maxilla, respectively.¹ It is more common in the anterior region in maxilla and in posterior region in mandible with a female sex predilection.²-⁴ Crown of an unerupted tooth has also been found to be associated with the central odontogenic fibroma (COF). Clinically, simple type is more common in maxilla and presents as an asymptomatic slow-growing swelling, whereas the complex type which is more common in mandible is aggressive and has been found to be associated with inferior alveolar nerve paresthesia and expansion of cortical plates.²-⁴ COFs have been reported from the ages 4 years–80 years but occur more commonly in the second and third decades of life. On radiograph, it may present as a unilocular or a multilocular radiolucency with well-defined margins, though a mixed radiolucent and radiopaque lesion with undefined margins have also been documented.²,⁶

Case Report

A 26-year-old female reported with chief complaint of missing the right maxillary tooth and desired for prosthetic rehabilitation. On clinical examination, the right maxillary canine was absent, and a diffuse asymptomatic swelling was observed indicating possible labial proximity of the impacted canine. The mucosa was normal in color and texture, non-tender, bony hard, and limited to the region of alveolus only. Adjacent teeth were firm, vital, and the premolars showed moderate palatal tipping. On radiographic examination [Figure 1], an impacted canine was present with a normal follicular space around the crown. Adjacent teeth roots showed no root resorption. A quadrangular flap was raised, the labial cortex exhibited minor porosities. A bone window exposed a soft tissue mass around the impacted canine [Figure 2]. A complete enucleation of the lesion was performed followed by transalveolar extraction of the impacted canine [Figure 3]. The patient recovered uneventfully with no dehiscence, infection, or any other complication. Histopathology picture showed the domination of mature collagen fibers with plenty of fibroblasts. A possible variable observed was the presence of inactive odontogenic epithelium. The diagnosis was made as a simple type of COF [Figure 4].
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Discussion

Clinically, odontogenic fibroma is a slow growing, usually asymptomatic, causes expansion of the cortical plates, and may cause mobility of adjacent teeth and root resorption. In the present case, the patient had not noticed anything unusual except for the missing tooth. Radiographic presentation of the lesion was similar to that of an enlarged dental follicle, and there was no root resorption. Radiologic examination alone cannot distinguish these lesions from cysts or other odontogenic tumors, but Hara et al.\textsuperscript{(7)} have reported role of dynamic contrast-enhanced magnetic resonance imaging in distinguishing odontogenic fibromas from other cystic lesions which may have similar presentations on radiographs. Histopathologic examination revealed a COF. Till, Gardner, in 1980, discussed the histologic details of odontogenic fibromas. The first type, classified as simple, contained fibrous tissue with various amounts of collagen and the second type, which has been referred to as the WHO type or complex type, contained fibrous tissue with myxoid area associated to odontogenic epithelium. Many of the enlarged dental follicles were diagnosed as COFs, leading to reports of this tumor to be the most common of all the odontogenic tumors, other tumors which closely resemble COF are ameloblastic fibroma and desmoplastic fibroma.\textsuperscript{(8,9)} The COF tumor is not known to recur frequently after enucleation. However, some recurrent cases have been reported. Heimdal et al.\textsuperscript{(10)} reported a case that recurred 9 years following surgery. Since then, Svirsky et al.\textsuperscript{(11)} have reported a 13% (2 out of 15 cases) rate of recurrence. Jones et al.\textsuperscript{(12)} reported a case, which recurred 16 months after surgery. For small lesions, enucleation is the preferred method of treatment; however, for larger lesions, resection may be an option followed by reconstruction. The case was followed for 18 months and repeated periodic radiographs after 6 months have not revealed any signs of recurrence.

References


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