Ossifying fibroma of mandible

Ayse Zeynep Zengin, Peruze Celenk, Gokhan Kutlar, Sancar Baris, Omer Gunhan

ABSTRACT
Ossifying fibroma is one of the most common benign fibro-osseous neoplasms of maxillofacial region. Ossifying fibroma tend to occur in the second and third decades of life, with predilection for women and for the mandibular premolar-molar area. Slow growth and lack of symptoms are the cardinal features. The method of treatment used for large or rapidly expanding lesions is enucleation. This paper reports a 22-year-old woman with incidentally diagnosed giant ossifying fibroma of mandible with its radiologic and histopathologic findings.

Keywords: Fibro osseous lesion; Mandible; Ossifying fibroma

Introduction
Ossifying fibroma is one of the most common benign fibro-osseous neoplasms of maxillofacial region. Ossifying fibroma was first described by Menzel in 1872. It is a rare, benign primary bone tumour that occurs most commonly in the jaw. Montgomery in 1927 coined the term "ossifying fibroma". This lesion tend to occur in the second and third decades of life, with predilection for women and for the mandibular premolar-molar area. Slow growth and lack of symptoms are the cardinal features. Because of its risk for recurrence, ossifying fibroma needs to be completely enucleated from the surrounding bone. This paper reports a 22-year-old woman with incidentally diagnosed giant ossifying fibroma of mandible with its radiologic and histopathologic findings.

Case Report
A 22 year old female reported to Oral Diagnosis and Radiology department for severe pain on the upper left second premolar. Extra oral examination revealed no facial asymmetry. Intraoral examination revealed caries on the upper left second premolar and a mild swelling on the right mandible. The swelling was bony hard and non tender on palpation. It was obliterating the vestibule from permanent right premolar to the ramus of the mandible with bucco-lingual expansion. The overlying mucosa was normal in color. Plain radiography showed ground glass matrix in right premolar-molar area and the lamina dura on all teeth related to the lesion were absent. Panoramic radiograph shows a well-defined large expansile osteolytic lesion in the right posterior mandible with radiolucent internal structure and small foci of internal calcification. Margins were thinned and corticated. The alveolar canal was displaced inferiorly and visualization of the cortical border was faint. Bowing of the inferior border of the mandible was evident (Figure 1). A provisional diagnosis of fibro osseous lesion or osseous neoplasm was made. Axial and coronal computed tomography (CT) scan (bone window) revealed an extensive hypo dense lesion involving the right posterior mandible with evidence of varying prominent internal radio opacities. There was cortical expansion without cortical perforation (Figure 2). Under general anaesthesia, a buccal mucoperiosteal flap exposing the buccal cortical plate from the lower right first premolar to the ascending ramus was reflected. The patient underwent surgical excision with curettage by intra oral approach. Lower second premolar and all molars were extracted. Microscopic examination revealed a benign fibro osseous lesion characterized by abortive osteoid trabeculae within a relatively cellular fibrous stroma. Most of the trabeculae were rimmed by osteoblasts (Figure 3, 4). Taking clinical and radiologic features in account as well, a diagnosis of ossifying fibroma was made.

Discussion
Ossifying fibroma is a true neoplasm with a significant growth potential. It appears mostly in third and fourth decades of life with a female predilection. The mandibular premolar-molar region is the most common site. In this case, the patient was a 22 year old female and the lesion was on the right premolar molar area of the mandible. While small lesions seldom cause any symptoms and may be detected on radiographic examinations, larger tumors cause a painless swelling in the related area. If it gets larger, it can produce facial asymmetry. In this case, the lesion was asymptomatic and caused a swelling that can only be seen in intraoral examination.

Radiographically, ossifying fibroma has a well-defined, thin, radiolucent border that may separate the lesion from surrounding bone. The internal structure can be seen a mixed radiolucent-radiopaque or totally radiolucent density. Large ossifying fibromas of the mandible frequently show a characteristic downward bowing of the inferior cortex of the mandible. In this case plain radiography showed ground glass matrix in right premolar-molar area and panoramic radiograph showed a large, well defined, multilocular radiopaque-radiolucent lesion in the right mandible that extended from the first premolar area to the third molar area. The lesion demonstrates a characteristic downward bowing of the inferior cortex of the mandible. CT revealed extensive hypodense lesion with cortial expansion with varying degrees of radio opacities.

The differential diagnosis of this lesions with mixed radiolucent-radiopaque internal structure includes fibrous dysplasia, periapical osseous dysplasia, giant cell granuloma, calcifying odontogenic cyst, Pindborg tumor, and adenomatoid odontogenic tumors. The differentiation form fibrous dysplasia may be very complicated. In this case the diagnosis of ossifying fibroma was made by histopathologic examination of the surgical specimen.
Conclusion

In conclusion, ossifying fibroma often present a diagnostic dilemma because of uncertainties concerning the diagnostic significance of specific radiological and histological features. Because of its risk for recurrence, ossifying fibroma needs to be completely enucleated from the surrounding bone.

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References


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