

Benign Fibro-Osseous Lesions of the Jaws



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KEYWORDS

- Benign cementoblastoma • Juvenile ossifying fibroma
- Craniofacial fibrous dysplasia • McCune Albright syndrome • Ossifying fibroma
- Florid osseous dysplasia • Periapical osseous dysplasia

KEY POINTS

- Fibro-osseous lesions share a common histology of benign fibrous connective tissue with varying degrees of mineralization such that histologic information alone is inadequate for a diagnosis. Variations in the location of the lesions, age and gender of the patient affect the behaviors that range from insidious to aggressive neoplasias, hamartomas and dysplasias. Specific radiographic presentations become major findings in establishing a diagnosis.
- Osseous dysplasia in the jaws have multiple presentations that range from periapical osseous dysplasia (POD), focal osseous dysplasia (Fo OD) to florid osseous dysplasia (FI OD). The histologic patterns are similar but the location and degree of extension are the variables that differentiate these types.
- Odontogenic neoplasms that fit into the category of benign fibro-osseous lesions include the ossifying fibroma and the benign cementoblastoma.
- Monostotic and polyostitic fibrous dysplasias affect larger areas in the craniofacial complex. The size and extent of the lesions are the major determinants of their degrees of morbidity.

INTRODUCTION

Some of the earliest discussions on fibro-osseous lesions of the jaws have been presented by Waldron and Giansanti.¹⁻³ These lesions are grouped together because histologically they show replacement of bone with benign connective tissue along with varying degrees of mineralization. In the jaws, these mineralization patterns vary in

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appearance between patterns of woven bone and acellular cementum. However, the distinctions between woven bone and acellular cementum have often been difficult to determine. Because of the similarity, a detailed description of the histologic differences between cementum and bone is not included in this discussion. In general, early-stage lesions demonstrate fibroblast-like cells in proliferating fibrous connective tissue with interspersed areas of mineralization. As the lesions increase in size and become more mature, the degree of mineralization increases to dense, sclerotic, acellular, avascular mineralized tissue.^{4,5} The histologic patterns are frequently so ubiquitous that the histologic information alone is often inadequate to commit to a definitive diagnosis.⁶

Despite the histologic ubiquity, their behaviors vary significantly. Variations occur due to their location, and the age and gender of the patient. Some exhibit an insidious presence, whereas others are extensive and aggressive. Some lesions are neoplastic, whereas others are hamartomas or dysplastic. Because of the broad range of morbidity among them, the range of treatments varies depending on the diagnosis. Therefore, it is important to be able to differentiate between them in the preliminary diagnostic process.

The radiographic presentations, along with the location of the bony changes, are often extremely critical diagnostic features to help render a differential or working diagnosis in lieu of an automatic biopsy procedure. Therefore the unique and specific radiographic presentations may be one of the main criteria for preliminary diagnosis. Hence, it is of utmost significance that clinicians be familiar with their range of presentation, and be able to develop a differential diagnosis.

OSSEOUS DYSPLASIA IN THE JAWS

Osseous dysplasias in the jaws are the most common of the fibro-osseous lesions. These lesions are more commonly referred to as cemental dysplasias, cemento-osseous dysplasias or cementomas. However, recent publications suggest that references to the term cementum should be discontinued.^{7,8} The rationale is that cementum cannot really be identified in histologic specimens nor can it be identified with any certainty on radiographic images. Various references have in the past also reported that a histologic identification of cementum is difficult to establish or confirm. The mineralized masses are more comfortably referred to as amorphous woven bone patterns.

Three different types of distribution patterns have been described; periapical, focal, and florid. The periapical pattern is described when the lesions occur adjacent to the periapices of teeth, or in the vicinity of teeth in edentate cases. It affects multiple teeth and multiple quadrants of the maxilla and mandible, but it is more common in the mandible.

The focal pattern is used to describe situations when the lesion is only identified in one area of a single tooth or even multiple adjacent teeth. The possibility that a focal dysplasia may eventually occur in other parts of the jaws develops over time.

The florid description is a more widespread or extensive distribution of the periapical form. A clear delineation between the periapical and the florid patterns has not been reported and is often subjective. If the periapical pattern is present in 3 or 4 quadrants, or is extensive in the jaws, the term florid is often applied. Although there is no distinct delineation between alveolar bone and basal bone in the maxilla or mandible, we are of the opinion that when periapical osseous dysplasia (POD) apically extends to a recognizable area of the basal bone, then the term florid becomes more appropriate.

Demographic indices of gender, age, and race, the location of the lesion, the lack of symptoms, and the radiographic findings all support a diagnosis of osseous dysplasia in the jaws.

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