

Case Report

Bilateral synchronous ossifying fibromas of the mandible: a case report

Mahir Tayfur¹, Ebru Kadioglu Tayfur², Mecdi Gurhan Balci¹, Ayse Nur Deger³, Ferda Keskin Cimen¹, Feyza Daltaban¹

¹Department of Pathology, Mengucek Gazi Education and Research Hospital, Erzincan University, Erzincan, Turkey; ²Erzincan Oral and Dentistry Center, Turkey; ³Department of Pathology, Evliya Celebi Education and Research Hospital, Dumlupinar University, Kutahya, Turkey

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Abstract: Ossifying fibroma of the jaw is a benign fibroosseous tumour. The growth of it is slowly and it is well circumscribed. Occurrence of multiple ossifying fibromas (synchronous) is rare in the jaw, and only a few cases have been documented. The most of these cases were in only maxilla. The fewer cases were reported in both of maxilla and mandible. We report a case of bilateral synchronous ossifying fibromas involving the mandible of a 37 years old male. The importance of our case is that bilaterality and synchronous of the lesions. Our case is the first synchronous mandibular lesion in literature reported.

Keywords: Ossifying fibroma, mandible, bilateral, synchronous

Introduction

According to the World Health Organization, it is proposed that benign fibro-osseous lesions be divided into 3 categories, including fibrous dysplasia, ossifying fibroma, and osseous dysplasia [1]. The most common fibroosseous lesion of the jaws, is ossifying fibroma (50.8%), followed by fibrous dysplasia (42.6%) and osseous dysplasia (6.6%) [2]. Ossifying fibroma of the jaw is a slow-growing, well circumscribed benign fibroosseous neoplasm [3]. Fibrous dysplasia was mostly seen in the second decade of life (40.4%). The maxilla is involved far more often than the mandible (53.8% and 6.2%, respectively), most common in the posterior region of the maxilla (28.8%) [2]. Ossifying fibroma arises from the periodontal ligament, which contains multipotential cells. Slow growth and lack of symptoms are the cardinal features. It is composed of fibrous connective tissue admixed with varying amounts of calcified tissue resembling bone, cementum, or both. Other names commonly used for this neoplasm are: cementifying fibroma, cemento-ossifying fibroma, fibrous osteoma and osteofibroma. Care should be taken so as not to con-

fuse this head and neck based entity with the unrelated ossifying fibroma of long bones, which is best termed osteofibrous dysplasia.

Case presentation

A 37 years old male was admitted to hospital for investigation of bilateral mandibular region due to toothache. He had teeth out. These were fifth tooth on the left side mandibular region and sixth tooth on the right side mandibular region. The lesions were showed by direct radiography (**Figures 1-3**).

The biopsies were made on these regions. The results of biopsies both of right and left mandibular lesions were ossifying fibromas (**Figures 4 and 5**).

A radioopaque and radiolucent appearance was present on the left side mandibular region. There was a radiolucent appearance on the right side mandibular region. There were apparent uniform external borders in the lesions. The lesion that located on the right side was greater than the left. It was pushed out by seventh in the tooth root. The lesion that located on the left side was attached to sixth tooth root. The

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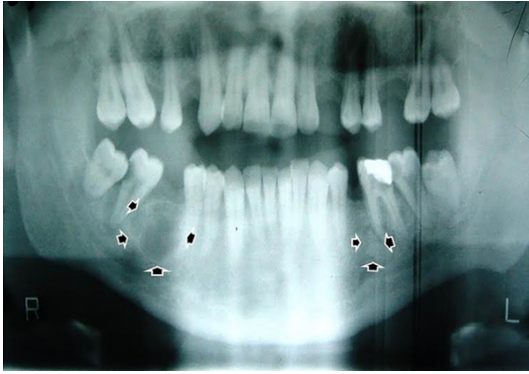


Figure 1. A direct radiography of the bilateral mandibular lesions. Ossifying fibromas are located among the arrows.

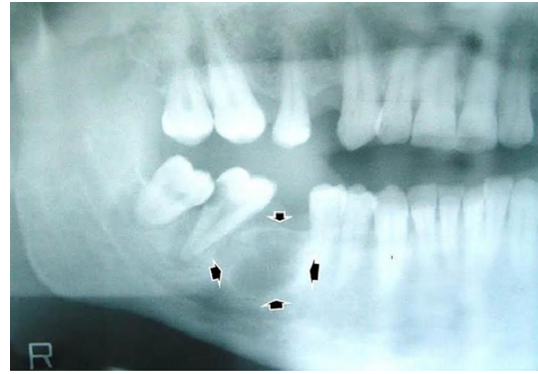


Figure 2. A direct radiography of the mandibular lesion that located on the right side. Ossifying fibroma is located among the arrows.

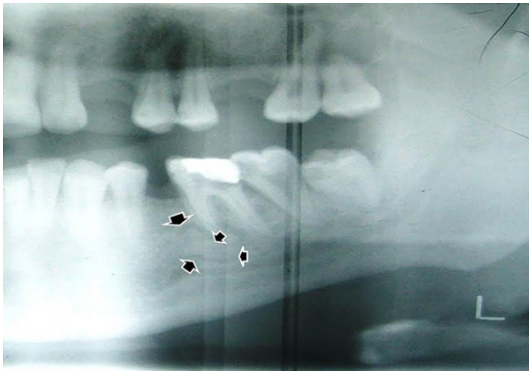


Figure 3. A direct radiography of the mandibular lesion that located on the left side. Ossifying fibroma is located among the arrows.

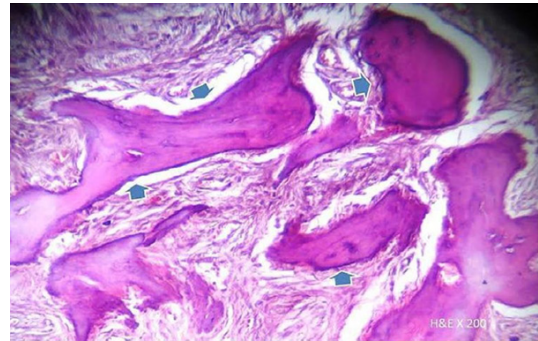


Figure 4. Microscopic view of the mandibular ossifying fibroma that located on the right side (HE x200).

maxillary deficiencies were present in the patient's teeth and unhealthy appearance was observed. The lack of teeth in the patient's right and left maxillary regions was present and was followed unhealthy appearance.

Discussion

Ossifying fibroma of the jaw is a slow-growing, well circumscribed benign fibroosseous neoplasm. It is rarely occurring in the jaws although more often than in other bones of the skeleton [3].

The most common fibroosseous lesion of the jaws, is ossifying fibroma (50.8%), followed by fibrous dysplasia (42.6%) and osseous dysplasia (6.6%). Ossifying fibroma of the jaw is a slow-growing, well circumscribed benign fibroosseous neoplasm. Fibrous dysplasia is mostly seen in the second decade of life

(40.4%). The maxilla is involved far more often than the mandible (53.8% and 6.2%, respectively), most common in the posterior region of the maxilla (28.8%) [2].

Osseous dysplasia is usually occurred in women in the fifth decade of life. It is more likely to present as solitary lesion [4].

The average age of presentation for ossifying fibroma is 36 years with a predilection for the third and fourth decade. The most common mandibular location for this lesion to occur is premolar-molar area. The posterior region of the mandible is mostly involved (41.9%) [2, 3]. Clinical presentation is usually a painless swelling of the involved bone, which may displace teeth or cause facial asymmetry. The maturity of the lesion determines the degree of radiopacity. An immature lesion may present as completely radiolucent whereas a mature lesion may be completely radiopaque, although

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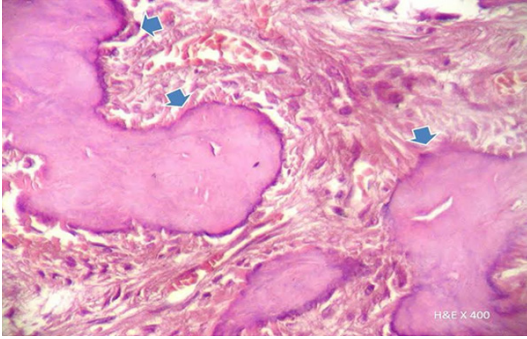


Figure 5. The left mandibular side. Microscopically, ossifying fibroma consists of irregular spicules of trabecular bone lined by osteoblasts (thick arrows) (HE x400).

most lesions demonstrate varying degrees of radiopacity. Fibrous dysplasia more often affects the maxilla whereas ossifying fibroma is seen more often involving the mandible. In contrast to the continuous slow expansion attributed to ossifying fibroma, fibrous dysplasia tends to stabilize and essentially stop growing as skeletal maturity is reached. Radiographically, fibrous dysplasia appears ill-defined and a radiopaque lesion (34.6%) whereas ossifying fibroma is well-defined, circumscribed and mostly appears as mixed radiolucent-radiopacity (45.2%) [2, 3]. The treatment of ossifying fibroma consists of complete enucleation though larger lesions may necessitate surgical resection and bone grafting. Since ossifying fibroma is a well encapsulated and expansile benign bone neoplasm, surgical enucleation appears to be the treatment of choice; recurrence is rare [5]. Ossifying fibroma is a lytic lesion. Microscopically, ossifying fibroma consists of irregular spicules of trabecular bone lined by osteoblasts (**Figures 4 and 5**). These osteoblasts produce a rim of lamellar bone around centers of woven bone. Ossifying fibroma stains positive for cytokeratin. Mitotic figures are rare. Malignant transformation is very rare. The question has been raised if ossifying fibroma is a relative of fibrous dysplasia or a true neoplasm. Most recently, it has been surmised that ossifying fibroma and adamantinoma are on a continuum with osteofibrous dysplasia-like adamantinoma representing an intermediate step between the two lesions. It appears that the distinction between cementifying and ossifying variants is academic, as no behavioral differences exist [6].

Occurrence of multiple ossifying fibromas (synchronous) is rare in the jaws, and only 10 cases have been documented [7, 8]. The most of these cases were in only maxilla. The fewer cases were reported in both of maxilla and mandible. The importance of our case is the first synchronous and bilateral mandibular lesion in the literature reported. The patient was not affected by the hyperparathyroidism and there was not familial condition.

The clinicopathologic features of ossifying fibroma in our case are identical to those in the literature. The patient's age in our case is within the age range of ossifying fibromas. According to Ojo [9], Zachariades [3], Worawongvasu [2] and their colleagues, the average age ranges of presentation for ossifying fibroma were 36-39 years with a predilection for the third and fourth decade. In our case, the patient's age was 37 years at time of diagnosis and age of our patient was match with these results.

The lesions, fibrous dysplasia, ossifying fibroma, and osseous dysplasia, though with similar histopathology, have very different clinical and radiological presentations, behaviour, and treatment outcomes. Fibrous dysplasia of the jaw, which though becoming inactive, does not involute and therefore requires life-long review to monitor for occasional reactivation. Ossifying fibroma is completely removed surgically as it has a propensity to recur. No treatment is generally required for an osseous dysplasia unless it is infected or displays expansion. The conventional radiography augmented by computed tomography is adequate in distinguishing fibrous dysplasia of the jaws from ossifying fibroma in almost every case [10].

Disclosure of conflict of interest

None.

Address correspondence to: Mahir Tayfur, Department of Pathology, Mengucek Gazi Education and Research Hospital, Erzincan University, Erzincan, Turkey. E-mail: drmahirtayfur@gmail.com

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