Psammomatoid Juvenile Ossifying Fibroma of Mandible in a 41-Year Male Patient
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ABSTRACT
Juvenile ossifying fibroma (JOF) is a rare fibro-osseous neoplasm that develops among the craniofacial bones at an early age; and in majority of patients, it is diagnosed in the first or second decade of life. We present a case in 41-year male patient having it in the left anterior mandibular region. Peripheral eosinophilic areas resembling psammomatoid bodies along with other features impelled the diagnosis of psammomatoid ossifying fibroma. However, the term juvenile seems to be losing impact with the patients showing such features in old age.

Key Words: Juvenile. Ossifying fibroma. Fibro-osseous neoplasm.

INTRODUCTION
Juvenile ossifying fibroma (JOF) is a rare fibro-osseous neoplasm that develops among the craniofacial bones at an early age; and in absolute majority of the patients, it is diagnosed in the first or second decade of life. It arises from the periodontal ligament. It has an equal predilection for males and females. Majority of cases of JOF occur in facial bones accompanied by calvarium and mandibular region. Reports at extracranial location are very rare.1

Although, JOF was depicted in the past as a variant of ossifying fibroma; more lately, it has been segregated into two distinct subtypes: Trabecular variant, WHO type (TrJOF) and Psammomatoid variant (PsJOF) with varied clinical and histological features.2

The PsJOF primarily involves the bones of the orbit and paranasal sinuses, whereas the trabecular type usually involves the jaws.3 The PsJOFs are unique lesions that occur usually in children. Psammoma-like bodies are the hallmark of this neoplasm. Lesions in the mandible are uncommon and can be mistaken for an odontogenic cyst.4

Here, we report a case of PsJOF in a 41-year male patient with 3 months history at a rare site, i.e. mandible.

CASE REPORT
A 41-year male patient presented with a 3-month history of a slowly expansile lesion of the left anterior mandible.

Slight facial asymmetry was clinically evident. Orthopantomograph (OPG) revealed the presence of radiolucency in the left side of the mandible in anterior region with respect to 31 - 34 (Figure 1). Aspiration biopsy was performed to rule out arteriovenous malformation, cystic lesion, and fibro-osseous lesions. On aspiration, no significant finding was revealed. Incisional biopsy followed by surgical resection of the mass was done.

Figure 1: OPG showing the presence of radiolucency in the left side of the mandible in anterior region with respect to 31 - 34.

Figure 2: Peripheral eosinophilic areas resembling psammomatoid bodies.
Histologic examination revealed highly cellular lesional tissue comprising of plump hyperchromatic fibroblasts. Numerous strongly basophilic calcifications were present. Other types of calcifications consisting of central basophilic areas with peripheral eosinophilic areas resembling to psammomatoid bodies were also seen (Figure 2). The intervening connective tissue stroma comprised of dense bundles of collagen fibres; and hemorrhagic areas along with dense infiltrate of chronic inflammatory cells comprising of lymphocytes and plasma cells. The constellation of all the features of this lesion supported an interpretation of PsJOF.

**DISCUSSION**

Ossifying fibroma was first reported in 1872. It is a rare, benign primary tumor that occurs most commonly in the jaw. In 1927, the term “ossifying fibroma” was given; and in case of children, this tumor was named as ‘JOF’. The most characteristic feature of JOF, as the name suggests, is its higher incidence in children and young adults. However, its occurrence in the older age group has also been reported. In this case, it was seen in a 41-year male patient. Also, a case has been reported in a 45-year female patient. This puts up a question on the use of the term juvenile for this variant, when same can be observed in adults as well?

The most recent classification is by Mofty, who distinguished two categories: Trabecular JOF (TrJOF) and psammomatoid JOF (PsJOF), based on histologic criteria. The bones of the orbit and paranasal sinuses are involved in the psammomatous type; whereas jaw involvement is seen in case of trabecular type, although there is a dispute as to which jaw has greater predilection – maxilla or mandible. The pathognomonic feature of this fibro-osseous lesion is the presence of eosinophilic spherical structures dispersed in a fibrous stroma consisting of plump spindle-shaped cells that are arranged as strands and whorls. This unique spherical structure is termed as psammoma like body. These particles vary in appearance, but usually have a central basophilic area and a peripheral eosinophilic fringe.

In this case, a predominantly cellular connective tissue stroma composed of plump hyperchromatic fibroblasts in highly cellular lesional tissue was seen. Numerous types of calcifications present were strongly basophilic. Other types of calcifications consisted of central basophilic areas with peripheral eosinophilic areas resembling to psammomatoid bodies. The histopathological features lead to the diagnosis of PsJOF. The JOFs are uncommon, but these need to be documented and managed appropriately because of their typical clinical behaviour. The varying age groups of affected patients raise a question mark against the use of term “Juvenile” for this lesion.

**REFERENCES**