Cementoblastoma is a rare odontogenic tumor derived from the odontogenic mesenchymal tissues. It has distinct clinical, radiographical, and histological features that aid in correct diagnosis. This article presented a case of 35-year-old female patient with pain and swelling in the right cheek region. Radiographic examination was suggestive of benign cementoblastoma in relation to unerupted right maxillary third molar. The tumor was surgically removed along with tooth, and the diagnosis of cementoblastoma was confirmed by histopathology examination.

**Keywords:** Cementoblastoma, Impacted third molar, Odontogenic tumor

**INTRODUCTION**

The cementoblastoma or true cementoma is a rare, benign, slow growing, and odontogenic tumor of the mesenchymal origin derived from cementoblasts, comprising 1-6.2% of all odontogenic tumors.\(^1,2\) It was first recognized by Dewey in 1927. The tumor presents as a large bulbous mass of cementum or cementum-like tissue attached to the tooth root(s). Approximately, 50% of the reported cases occurred in patients under 20 years of age, and 75% under 30 years of age. There does not appear to be any significant gender or racial predilection. The most common site of occurrence is mandible premolar-molar region.\(^3,4\) Pain and swelling are the most common symptoms and it may be asymptomatic and discovered during the routine investigation.\(^5,6\) Histologically it is characterized by the sheets of cementum-like tissue containing a large number of reversal lines, lack of mineralization at the periphery, and is surrounded by a band of fibrous connective tissue that resembles a capsule. It obliterates the periodontal ligament space, produces root resorption, and fuse with the root of the tooth.\(^7\) The aim of this article is to report a rare case of cementoblastoma affecting the unerupted maxillary third molar and highlight the points of its differentiation from other radio-opaque odontogenic tumors.

**CASE REPORT**

A 35-year-old woman presented with a chief complaint of intermittent pain and swelling in the right cheek region since 6 months. Clinical inspection of the region was non-contributory to the diagnosis but on palpation buccal cortical bone expansion in the right posterior maxillary region could be well appreciated with the absence of the third molar. Intra oral periapical radiograph (Figure 1) revealed a radio-opaque, dense circular mass, approximately 2 cm in diameter, well demarcated from the surrounding bone by a radiolucent line, associated with the root of the impacted maxillary third molar. A provisional diagnosis of cementoblastoma was made, and the patient was scheduled for the surgery. Surgical removal of the tumor mass along with the associated impacted tooth was planned under local anesthesia using intra-oral approach. The tooth was extracted with associated mass attached in toto and on gross clinical examination exhibited color similar to that of cementum (Figure 2a and b). The periphery of the bony cavity was curetted and the wound was closed primarily.

Histopathologic examination of the specimen revealed broad trabeculae of sparsely cellular cementum containing multinucleated cementoclast and cementoblast and often contains reversal line (Figure 3). Peripheral zone of the tumor is unmineralized with radiating columns of
The WHO described cementoblastoma as “a benign odontogenic tumor composed of cementum-like tissue attached to the tooth roots and appearing as a circumscribed radiopaque mass surrounded by a thin radiolucent line.” It most frequently associated with the erupted permanent tooth, only rarely has an association with an impacted or partially erupted tooth or primary tooth. The cementoblastoma has a characteristic radiographic presentation appearing as a solitary circular radio-opacity with a well-defined radiolucent halo and is fused to the partly resorbed roots of the tooth. The literature reveals that over 90% of tumor cases affect a single tooth; however, it has also been associated with multiple teeth, impacted molars, and deciduous teeth.

A definitive diagnosis should be rendered for the radiopaque lesions to rule out more serious illnesses as they vary in their local aggressiveness, and allow the selection of an appropriate treatment modality. Other periapical radio-opacities such as osteoblastoma, odontome, periapical cemental dysplasia, condensing osteitis, and hypercementosis should be considered in differential diagnosis. Cementoblastoma and osteoblastoma are very similar histologically and begin as radiolucent lesions, progresses through a mixed radiolucent-radiopaque stage, and are mature as radiopaque images. The cementoblastoma can be differentiated from osteoblastoma as the former is usually round and intimate association with the tooth root, whereas areas of osteosclerosis are less regular in form and outline and are not associated with the tooth root. The odontome is usually not fused to the adjacent tooth and appears as a more heterogeneous radio-opacity, reflecting the presence of multiple dental hard tissues. Condensing osteitis lacks a peripheral radiolucent halo. Cemento-ossifying fibroma is a painless lesion producing asymmetry of the face with a predilection for the mandible. The cementoblastoma in its early stage may also be confused with early periapical cemental dysplasia, but later usually produces a smaller lesion that does not cause cortical expansion. The radiopaque lesion of hypercementosis is usually small, and there is no associated pain or jaw swelling.

Although cementoblastoma has been described as a benign, slow-growing lesion, there have been reports of its aggressive behavior. Special emphasis was given on the clinical behavior, treatment, and recurrence rate of cementoblastoma in the study done by Brannon et al. on 44 cases. Recurrence of 37.1% was documented. In recurrent tumors, higher percentage of jaw expansion and cortical perforation was noted. Recurrence and continued growth are possible if tumor tissue remains after initial surgery, therefore a complete treatment should consist of removal of the whole tumor along with the associated tooth or teeth, followed by thorough curettage or peripheral ostectomy.

DISCUSSION

The WHO has classified benign cementoblastoma and cementifying fibroma as the only true cemental neoplasms. Cementum running perpendicular to the surface of the lesion suggestive of cementoblastoma.
A more conservative technique can be used for small lesions in which tumor mass can be completely enucleated without compromising the associated tooth. Tumor is removed, and the involved tooth is retained using a surgical endodontic approach.

**CONCLUSION**

Although cementoblastoma is a rare odontogenic tumor, it should be considered in the differential diagnosis of periapical radio-opacities. The diagnosis is established by its attachment to the root of tooth and radiographic halo surrounding the radio-opaque mass. The treatment of choice is complete removal of the lesion with the extraction of the associated tooth. Complete excision of the tumor mass reduces the chances of recurrence.

**REFERENCES**