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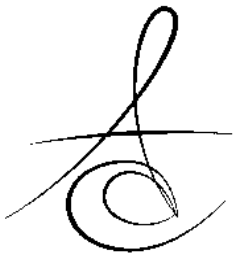

BENIGN CEMENTOBLASTOMA: A CASE REPORT

BENİGN SEMENTOBLASTOMA: VAKA RAPORU

Yrd. Doç. Dr. M. Cemil BÜYÜKKURT* **Arş. Gör. Dt. Ertan YALÇIN****
Yrd. Doç. Dr. M. Hamdi ARAS***

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ABSTRACT

The benign cementoblastoma (BC) or "true" cementoma is a rare benign neoplasm arising from the odontogenic ectomesenchyme and representing about 1% to 6.2% of all odontogenic tumors. The BC more frequently affects young males in an age range of 20-30 years, occurring in the mandible about 3 times more than in the maxilla, and it is always physically attached to the tooth roots. This tumor is often asymptomatic until it produces pain, expansion or swelling of the jaw segment or compression of the inferior alveolar nerve. It usually presents as a distinct lesion with characteristic radiographic and histopathologic features. Pain, expansion and, radiographic radiopacity surrounded by a peripheral radiolucent halo are the most striking features.

A case of a 14-year-old girl with benign cementoblastoma and its treatment is presented. The lesion manifested as a round, radiopaque mass attached to the roots of the right first and second molars of the maxilla.

Key Words: Benign cementoblastoma, odontogenic tumor

ÖZET

Benign sementoblastoma veya gerçek sementoma odontojenik ektomezenşimden meydana gelen nadir bir benign neoplasm olup tüm odontojenik tümörlerin %1 ila %6,2'sini oluşturur. Benign sementoblastoma sıklıkla 20-30 yaş arasındaki genç erkekleri etkiler, mandibulada maxilladan üç kat daha fazla meydana gelir ve genellikle diş köklerine fiziksel olarak bağlıdır. Bu tümör genelde ağrı, ekspansiyon veya şişlik yaparak inferior alveolar sinire baskı yapıncaya kadar asemptomatiktir. Genellikle karakteristik radyografik ve histopatolojik özellikleriyle farklı bir lezyon olarak görülür. Ağrı, ekspansiyon ve peripheral radyolusent bir hale ile çevrili radyoopasite en dikkat çekici özellikleridir.

Bu raporda 14 yaşında bir kız çocuğunda bulunan bir benign sementoblastoma ve tedavisi sunulmaktadır. Lezyon yuvarlak, sağ üst çene 1. ve 2. molar dişlerin köklerine yapışık radyoopak bir kitle olarak görülmektedir.

Anahtar Kelimeler: Benign sementoblastoma, odontojenik tümör

INTRODUCTION

The benign cementoblastoma was first described by Dewey in 1927.[1] The cementoblastoma, or "true" cementoma, a neoplasm of odontogenic ectomesenchyme, is a relatively rare lesion comprising 1% to 6.2% of all odontogenic tumors.[2-5] Its estimated incidence is less than 1 case per million population per year.[6] This neoplasm of functional cementoblasts forms a large mass of cementum or cementum-like tissue on the tooth root. Although the

* Ağız-Diş-Çene Hastalıkları ve Cerrahisi A.D., Diş Hekimliği Fakültesi, Atatürk Üniversitesi. Erzurum
** Ağız-Diş-Çene Hastalıkları ve Cerrahisi A.D., Diş Hekimliği Fakültesi, Atatürk Üniversitesi. Erzurum
*** Ağız-Diş-Çene Hastalıkları ve Cerrahisi A.D., Diş Hekimliği Fakültesi, Gaziantep Üniversitesi. Gaziantep,

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cementoblastoma was described as early as 1927, opinions have varied over the years regarding its nature and behavior. Some believe that the cementoblastoma merely represents an osteoblastoma occurring in a tooth-bearing area, and several investigators have discussed the overlapping clinical, radiographic, and histologic relationship between cementoblastoma and osteoblastoma of the jaws. As a consequence, the cementoblastoma is considered to be an innocuous neoplasm that can be conservatively treated with virtually no chance for recurrence.[2]

CASE REPORT

A 14-year-old female was admitted to the Department of Oral and Maxillofacial Surgery of Atatürk University the Faculty of Dentistry for a swelling in the right maxillary region (Figure 1). The maxillary swelling had been noticed a year before admission. Her medical and family history was noncontributory. The lesion manifested as a round, radiopaque mass attached to the roots of the right first and second molars of the maxilla. The swelling was bony. The periodontal tissues were infectious, and all associated teeth were immobile and painless. A panoramic radiographic examination revealed a round, radiopaque mass measuring 3.0 cm and extending from the right maxillary first molar to the impacted third molar. At the orthopantomograph, roots and crowns of the maxillary right first and second molars could have observed (Figure 2). Our initial diagnosis was odontoma. While the patient was under local anesthesia, a buccal mucoperiosteal flap was raised in the right maxillary premolar-molar region. The right side of the maxillary sinus floor had been lifted by the tumor in the alveolar region, but the sinus mucosa was intact. A round tumor was removed with the associated right maxillary first and second molars. This lesion was attached to the roots of the right maxillary first and second molar (Figure 3). The cavity was irrigated. The wound was closed. A histopathologic examination of the surgical specimen revealed the calcified tumor mass measured 3 x 3 x 2.8 cm and involving two teeth. The tumor was composed of cementum-like tumor tissue. Tumor was dark brown, regular surface and has bony materials. The post-operative course was uneventful and no recurrences were seen after a 4 month follow-up (Figure 4).

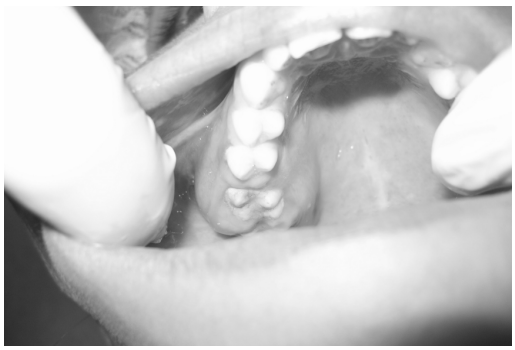

Figure 1. Clinical appearance

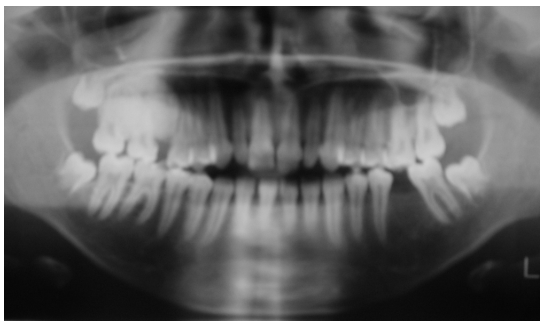

Figure 2. Radiologic appearance

Figure 3. Specimen photograph

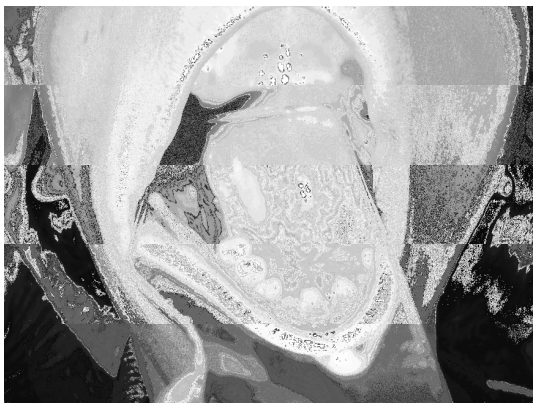

Figure 4. Postoperative clinical appearance

DISCUSSION

In the past the benign cementoblastoma was recognized in the World Health Organization's classification of odontogenic tumors as one of the cementoma neoplasias. Recently the benign cementoblastoma is included into 'Mesenchyme and/or odontogenic ectomesenchyme, with or without odontogenic epithelium' odontogenic tumors. The lesion derives from mesenchymal tissue, although its etiology is unknown .[1]

Benign cementoblastoma most commonly found in the second and third decades of life. Ulmansky et al.[7], has reviewed literature and reported that close to three quarters of the patients (73%) are under the age of 30.[1] Some studies have reported that these tumors arises slightly more frequently in males or in females, though other studies have found no difference between the sexes.[8] This case was a 14 years old female.

Nearly all benign cementoblastomas occur in the premolar-molar region, more commonly in the mandible than the maxilla.[8] The tumor usually involves an erupted permanent tooth.[1] The most commonly affected tooth is the first permanent molar.[1] In this case, the tumor occurred in the right maxillary molar region and involved right maxillary first and second erupted permanent molars.

The benign cementoblastoma is a relatively rare tumor of the jaw and may easily be overlooked as a possible diagnosis. Periapical cemental dysplasia, cementifying fibroma and gigantiform cementoma and odontoma are easily confused with the cementoblastoma until the condition is quite advanced.[9] Our initial diagnosis was odontoma.

The lesion is slow growing and usually asymptomatic; however, pain and swelling have been reported in a number of cases. This case complained about swelling. The growth rate for cementoblastoma is estimated to be 0.5 cm per year.[1] In this case, maxillary swelling had been noticed a year before admission and tumor mass measured 3 x 3 x 2.8 cm. Radiographically, most cementoblastomas exhibit a central opacity surrounded by a radiolucent halo, but they rarely may be purely radiolucent. This case had a big central opacity surrounded by a radiolucent halo.

According to among investigators the cementoblastoma is a benign neoplasm with unlimited growth potential but with little tendency to recur. There are 13 recurrent cases associated with cemetoblastomas in literature.[2] It is too early to evaluate recurrence in our case.

Many of the cases have exhibited signs of local aggressiveness and destruction, including bony expansion; erosion of cortical plates; displacement of adjacent teeth; maxillary sinus involvement; invasion of pulp chamber and root canals; and extension to and incorporation of adjacent teeth.[2] In the present case, there was a displacement of first and second molars. There was 4 mm diastema between second premolar and first molar and this space was occupied by tumor.

Appropriate treatment for this lesion should consist of removal of the tumor, along with the affected tooth (or teeth) and curettage. This is due to the fact that recurrence and continued growth are possible if any remnant remains after initial surgery. A study reviewing 44 cases of cementoblastoma (related to the permanent dentition) described recurrent lesions in 13 cases (37% of patients; 7). The follow-up care for these patients varied between 4 months and 24 years, with an average follow-up care of 5.5 years. The treatment for those 44 lesions varied among: (i) extraction with tumor removal, (ii) curettage without extraction, (iii) root amputation with tumor removal, (iv) root amputation with tumor removal, and (v) en bloc or segmental resection. When initial treatment methods were taken into account, recurrence proved

to be more likely when curettage was attempted without extraction of the associated tooth (or teeth). However, recurrence also occurred when tumor and tooth were initially removed in continuity. Therefore, careful follow-up protocols are important when treating patients with cementoblastoma.[10] The involved teeth were extracted in the case presented.

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Yazışma Adresi
Arş.Gör.Dr. Ertan YALÇIN
Ağız-Diş-Çene Hastalıkları ve Cerrahisi A.D., Diş Hekimliği Fakültesi, Atatürk Üniversitesi.
Erzurum, 25240, Türkiye
Telefon: 04422311747
Faks: 04422360945
E-posta: ertanyalcin@gmail.com