Review Article
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Cementoblastoma–a review of literature

Abstract

Cementoblastoma is a rare odontogenic tumour of the jaws is a true neoplasm of cementum origin. It affects the younger population more. Cementoblastoma exhibits unlimited growth potential resulting in high recurrence rates if not excised completely. Although there are authors who advocate retention of the affected tooth, the majority suggests the removal of the affected tooth. Unless the lesion is diagnosed at an early stage, we conclude that resection with removal of the affected tooth is the best mode of treatment.

Keywords: cementoblastoma, true cemental neoplasm, odontogenic neoplasm

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Introduction

In 1927 Dewey[1] was the first to report a benign cementoblastoma, which is a relatively rare odontogenic neoplasm of the jaws and is the only true neoplasm of cementum origin.[2] At a prevalence of less than 1% to 6.2%, it affects the younger population more. Their characteristic feature is their close attachment to the roots, which commonly involves the roots of the second premolar or first molar in the lower jaw. Its association with the impacted or partially impacted tooth is a rarity.[3] They are usually asymptomatic, pain and swelling being the common findings if symptomatic.[4]

In the past, the benign cementoblastoma got recognized in the World Health Organization's classification of odontogenic tumors as one of the cementoma neoplasia [4]. Recently the benign cementoblastoma is included into 'Mesenchyme and/or odontogenic ectomesenchyme, with or without odontogenic epithelium' odontogenic tumors.[6] Although etiology remains unknown, the lesion is derived from the mesenchymal tissue.[5]

There is a predominance of cementoblastoma in young individuals. As per the literature review by Ulmansky et al.[4], three-quarters (73%) of the individuals belonging to the age group below thirty. Although there are reports of nil sexual predilection,[7,8] some authors have reported more male affliction when compared to females.[9,10] The affliction of cementoblastoma is more towards the mandible than the maxilla and erupted tooth than the unerupted, partially erupted or deciduous tooth.[2,8]

Radiographically, cementoblastoma presents as a radiopaque mass fused with root or roots of the permanent tooth. They are seen surrounded and limited peripherally by a radiolucent halo. Its relationship with the root has nearly become a pathognomonic feature of the lesion. Multiple authors have reported a more radiolucent form of the lesion, and it is considered to be representative of an early-uncalcified matrix stage.[11] There are a few lesions which should be distinguished from cementoblastoma such as cementoma, osteoblastoma, odontoma, condensing osteitis, periapical cemental dysplasia, and hypercementosis.[12]

Management

Ulmansky et al.[4] reported, with the unlimited growth potential of benign cementoblastoma, the usual treatment is complete surgical excision with the extraction of the associated teeth. Van der Waal et al.[13] also reports that the choice of therapy is the complete excision of the mass with the removal of the whole of the affected tooth. With incomplete removal, recurrence is frequent, and recurrence risk appears to be highest for those treated with curettage alone.

The treatment in most cases of odontogenic tumors in children is same as that of the adults. However, the rapidity of the growth of the lesion[14] is a modifying factor in cases of cementoblastoma. Because of the rarity of incidences in patients below the age of ten, there is no statistically relevant data on the prognosis and the post-surgical development of the jaw following the treatment of the lesion.

Harada et al.[15] reported a case of a 10-year-old patient where cementoblastoma excision was done, and the right corner of the patient's mouth is raised slightly because of postsurgical scarring. But the maxillary region became nearly symmetrical at nine years after the operation. This remarkable outcome may have been achieved because the periosteum in front of the maxilla was preserved, and the obturator had to be frequently adjusted during observation of the maxillary growth. The patient was followed up for nine years, and there were no signs of recurrence.

Brannon et al.[16] says that the appropriate management of cementoblastoma should include the removal of the tumor with the affected tooth and combine it with peripheral ostectomy or curettage. Continued growth and recurrences are possible following incomplete removal, amounting to as high as 37.1%. He also emphasized the need for extraction of the involved tooth. Cortex expansion and perforation are the signs for recurrence, following excision.

Goerig et al.[17] has reported a case of benign cementoblastoma which was enucleated by apicoectomy with no recurrence for a follow-up period of 4-years. This report goes on to establish that despite the technique used, complete removal is necessary and will help in the prevention of recurrence. Biggs et al.[18], Keyes et al.[19] suggested a more conservative method by retaining the involved tooth and the removal of the lesion through a surgical endodontic approach. He recommends this procedure for small lesions that can be completely enucleated without causing damage to the adjacent tooth and has the potential to maintain a sufficient crown–to–root ration following apicoectomy.

Cintia Mussi et al.[20] suggests that with an early diagnosis, the treatment can be achieved by minimal resection and the preservation of

the affected tooth by thorough endodontic treatment and apicoectomy. In cases of late diagnosis with lesions that have reached considerable proportions, complete removal of the lesion and associated structures is recommended, preferably under general anesthesia, due to the unlimited growth potential and eventual recurrence. Kalburge et al.[21] tried to retain the affected tooth and remove the tumor mass only but failed in preserving the tooth because of loss of support and resultant mobility. Thus they had to remove the tooth along with the attached tumor mass.

Conclusion

Cementoblastoma, a benign tumor, exhibits unlimited growth potential resulting in high recurrence rates following incomplete excision. Although there are authors who advocate retention of the affected tooth, the majority suggests the removal of the affected tooth. Unless the lesion is diagnosed at an early stage, we conclude that resection with removal of the affected tooth is the best mode of treatment. But the line between preservation between the retention and removal of the affected tooth is still in a gray area and should be decided upon the surgeon's discretion.

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Conflict of interest

The authors of this article reports no conflicts of interest.

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