

The Benign Cementoblastoma with Two Cases Report

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ABSTRACT

The benign cementoblastoma is a neoplasm of cementum which has an unlimited growth potential, this lesion occurs almost in mandibular molars or premolars vital teeth. In our present two cases, case I occurs at upper right canine area, surveying of the literatures reveals this upper canine location has not been previously reported. Case II indicated the lesion associated with residual root when we found. We report the two rare cases and illustrate the clinical, radiographic and histologic feature of these lesions.

Keywords: Benign cementoblastoma

The benign cementoblastoma is a benign odontogenic tumor of mesoderm origin which was first described by Norberg in 1930^(1,2,3,4,6).

The world Health Organization defines the benign cementoblastoma as "A neoplasm characterized by the formation of a sheets of cementum-like tissue which may contain a very large number of reversal lines and be unmineralized at the periphery of the mass or in the more active growth area^(2,3)."

The cementoblastoma occurs mainly in male below 25 year of age⁽³⁾, these lesion occurs more often in mandibule, involving the permanent molars and premolars, the involved teeth are vital. Typically, growth is slow and asymptomatic, although pressure on nerve may give rise to pain^(1,2,4). Bony expansion of cortical plate may occur and be the first sign of presence of tumor⁽⁷⁾.

Radiographically, the tumor exhibits centrally radiopaque area surrounded by a radiolucent peripheral zone^(5,7), and attached to the root(s)^(5,6,7).

CASE REPORT

Case (I):

A 25-year-old woman asked for dental check-up, because she had a swelling mass near the upper right canine area. This swelling she felt more larger than she knew the mass existed during her childhood.

a. Clinical finding:

Intraoral examination: showed that a palpable hard tumor nodule about 1 cm in size is located between upper right canine and premolar, near the tooth cervix, mucose is normal in appearance, she had no

complaint of pain or tenderness. (Fig. 1)

Radiographic examination (occlusal view) showed a radiopaque mass apparently attach to the cervix of upper right canine, the radiopacity was surrounded by a radiolucent periphery. (Fig. 2)

b. Operation:

Under local anesthesia, completed remove of the lesion measuring about 1.5 x 1 x 1 cm attach to the tooth.

c. Histological examination:

The tumor is a proliferating mass tissue which consisted of a cementum-like substance with a connective tissue stroma, the tumor mass exhibited a more basic stained than

adjacent bony tissue. (Fig. 3) In the central part the more mineralized area of the tumor tissue, the cementum tissue exhibit many reversal lines. (Fig. 4) At the peripheral of the lesion, the cementum sheet is more dispersion, and more immature active phase, the connective tissue stroma was more extensive in this area. (Fig. 5) We also see in the loose connective tissue containing cementoblast and cementoclast, (Fig. 6) it proves its activity.

d. Diagnosis:

The diagnosis is benign cementoblastoma.

Case II

In Aug. 1979 a 47-year-old woman

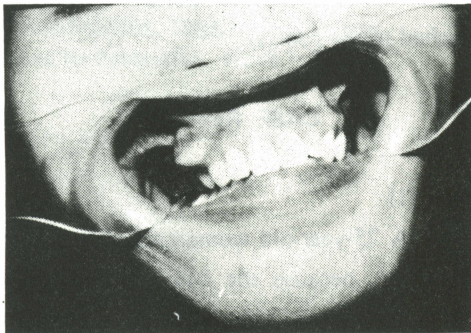


Fig. 1. A palpable hard tumor nodule about 1 cm in size location between 4 3.

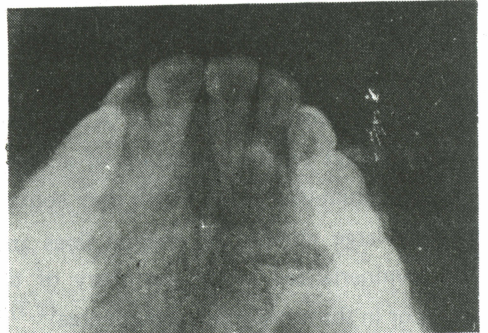


Fig. 2. Occlusal view: radiopaque mass attach to the cervix of 3 0.

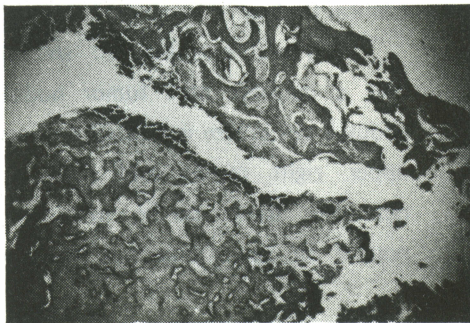


Fig. 3. Upper right: normal bone, low left: tumor mass. (HE.80X).

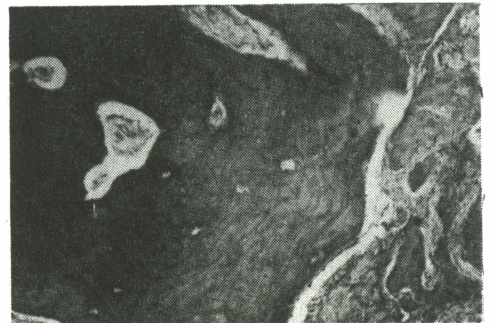


Fig. 4. In central part, many reversal lines was found. (HE 400S).



Fig. 5. In peripheial part more dispersion cementum tissue in connective tissue stroma. (HE 200X).



Fig. 6. In stroma area, cementoblast and cementoclast was found. (HE 400X).

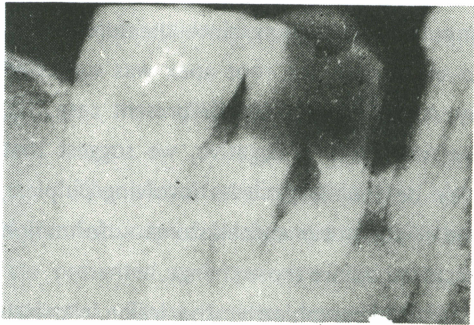


Fig. 7. Periapical view: radiopaque mass around the mesial root of 6 .



Fig. 8. Whorle appearance cementum and contain reversal lines. (HE 200X).

came to our hospital to seek care of her tooth. We found that she had a deep caries of lower right 1st molar, vital test was negative, periapical film showed a periapical radioapque mass around the lower right 1st molar. She had no sign or symptom at that time, so refused any treatment.

In Dec. 1980, the patient came again, because of crown portion of lower right 1st molar was almost lost.

a. Clinical finding:

Intraoral examination: Gingival inflammation in residual root of lower right 1st molar area, no pain or tenderness, vital test was still negative.

Radiographic examination (periapical view): showed periapical radio-

paque with peripheral radiolucency around the residual root of lower right 1st molar. (Fig. 7)

b. Operation:

Under local anesthesia, extracted the residual root of lower molar and enucleated radiopaque mass.

c. Histological examination:

The tumor consisted of a mass of disorderly cementum-like substance, some area showed whorled appearance, (Fig. 8) while other area showed irregular globular appearance. (Fig. 9) The number of lacunae varied considerably throughout the lesion, cell inclusion was observed in some parts of cementum (Fig. 10) some area had few. (Fig. 11)



Fig. 9. Irregular globular cementum in peripheral area. (HE 200X).



Fig. 10. Cellular cementum. (HE 200X).



Fig. 11. Lacunae through the all acellular cementum. (HE 200X).

d. Diagnosis:

The diagnosis is benign cementoblastoma.

DISCUSSION

Clinically the lesion is slow growth at lower molar or premolar area. Grolin

and associated reported a case involving left mandibular canine area, and caused facial asymmetry⁽⁴⁾. In our present case I, the location is rare at canine cervix area, surveying of the literatures reveals this upper canine location has not been previously reported. This area location also is worthy of attention to it.

Associated teeth are vital, but may be nonresponsive to pulp test probably indicating disturbance of normal nerve impulse transmission, since the tumor tend to encourpass the root apex was suggested by Albert⁽⁸⁾. But in our present case (II), the vital test is negative, we suggest that may be the deep caries involving pulpless, and the cementoblastoma formation occurred before those change.

Radiographically, the lesion classically is seen as a solitary radiopacity confluent with the root(s) of involved tooth, there is general a peripheral uniform radiolucent zone^(5,8), Larsson et al. found only a very thin rim of a capsule-like connective tissue at the periphery of the lesion, so they proposed that capsule observed in the radiograph of the appearance corresponds mainly to unmineralized matrix and proliferating cells rather than to a fibrous connective tissue⁽⁹⁾.

According to histologic descriptions of benign cementoblastoma, the tumor may show a certain degree of histologic intra-individual and inter-individual variation. In some tumors, mature cementum may be the predominant finding whereas in other tumors, signs of active growth are more prominent with varying numbers of pleomorphic cells and the formation of an immature cementoid-like or steoid-like sub-

stance⁽⁹⁾. So pathological diagnosis of cementoblastoma sometime arbitrary and subjective, depend on views of interpretation and clinic finding⁽¹⁰⁾.

The benign cementoblastoma has been classified as a benign tumor of cementoblastoma has an unlimited growth potential, for this reason must be removed surgically together with involved tooth^(2,3,5,6). Even in Agazzi and Belloni reported that a case is which the mass so large that subtotal maxillary resection was necessary⁽⁴⁾.

SUMMARY

The clinical radiographic and histologic features of benign cementoblastoma are presented and two rare new cases are reported. These lesions occur almost in mandibular premolars or molars vital teeth, typically asymptomatic. In our case (I) described an unusual location, case (II) described not responded to vital test. These uncommon clinic findings may lead to misdiagnosis. Clinician must pay attention to it during consideration and differentiation these cementum-like lesion. It's origin from periodontal membrane, has unlimited growth potential surgically complete remove all of the lesion and attached teeth is absolute necessary.

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良性造牙骨細胞瘤——二個病例報告

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摘要

良性造牙骨細胞瘤是一種起源於中胚層的良性牙源性腫瘤，在 1930 年第一次由諾伯格描述於文獻上。世界衛生組織對良性造牙骨細胞瘤所下之定義為——一種能形成類牙，骨質組織的腫瘤，其鈣化組織內含有許多反轉線，右腫瘤的周圍或活動區會有未礦化的組織存在。良性造牙骨細胞瘤主要發生在 25 歲以下之男性，常犯下顎臼齒前臼齒區，所涉及之牙齒仍具活性。腫瘤之生長緩慢而且常是沒有症狀的。但因其具有生長特性，所以拔除牙齒是治療所必須的。其 X 光像為依附在牙根上一個中央為致密放射線阻射性質塊，周圍有放線透射區。

我們報告二個病例，第一個病例是 25 歲女歲女性，在上顎犬齒區有硬塊之腫大，此外無任何症狀。經手術切除後組織切片證實為良性造牙骨質細胞瘤。上顎犬齒的特殊位置，經查文獻，尚未有此位置之報告。

第二個病例，是一位 47 歲女性，右下顎第一大臼齒牙根間有一個 X 光像為緻密之放射阻線質塊。臨床活性試驗為失活牙，經手術拔除殘根與硬塊，組織切片證實為良性造牙骨細胞瘤。因其臨床活性試驗為失活牙，與一般之表徵不同，易導致診斷上之困惑，值得加以注意。

我們報告這二個稀少之病例，並就其臨床，X 光像和組織上，作一說明。

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民國七十四年三月二十一日受理