

Rare Case of Calcifying Epithelial Odontogenic Tumor (Pindborg Tumor)

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Abstract: *Calcifying Epithelial odontogenic tumor is a rare benign odontogenic neoplasm described in 1955 by Danish pathologist Jens J. Pindborg and is now known as Pindborg tumor. Representing less than 1% of all odontogenic tumors. We are reporting a case of CEOT in a 38-year-old male patient with painless bony swelling in the mandible on right side. The clinical, radiographic, and histopathologic features are described in literature.*

Keywords: Calcifying Epithelial Odontogenic Tumor, Pindborg Tumor, CEOT

1. Introduction

Calcifying epithelial odontogenic tumor (CEOT) is an odontogenic tumor arising from the odontogenic epithelium. The most commonly involve posterior aspect of mandible in premolar and molar region and less frequently in maxilla. This lesion is a locally aggressive, slow growing benign odontogenic neoplasm tends to invade local structures and has a potential for recurrence. It occurs most commonly in adult in 3rd to 6th decade of life with no gender predilection.

2. Case Report

A 38-year-old male presents to ENT OPD with right sided jaw swelling for 5-6 months which is gradually increasing in size and painless in nature.

Patient is having past history of tooth extraction of 1st, 2nd premolar and 1st molar on right side before 3 year and also had past history of trauma.

On inspection examination swelling is approximate 3x3 cm in sized well defined, extra oral extending from angle of mouth to 1st molar region and from lower half of face to inferior border of mandible, overlying surface is normal and no evidence of any pus discharge and ulceration is present. On intraoral examination absence of 1st, 2nd premolar and 1st molar.

There is approximate 3x3 cm in sized well defined swelling extending from 34 to 74 involving alveolar mucosa from depth of vestibule to approximate 1cm above occlusal surface and indentation of opposing teeth seen over the lesion and overlying surface is smooth.

On palpation swelling is bony hard in consistency and non-tender.

Right sub-mandibular lymph nodes are enlarged, palpable, tender and not fixed.

In Orthopantomogram (OPG) Well defined radiolucent area extending from left side lower lateral incisor to right side 3rd molar region with corticated border. There is no evidence of any septa or impacted tooth in it.

Thinning and expansion of inferior border of mandible seen. The provisional clinical diagnosis of Ameloblastoma was made.

Then the patient is advised to undergo Plain Computed tomography (CT) Mandible. In which a unilocular, Lytic, expansile, well corticated, low attenuating lesion (Avg HU +32) noted in body of mandible on right side with absence of 1st and 2nd premolar and 1st molar teeth. And the lesion extend anteriorly to involve roots of right lower canine and lower 4 incisors by crossing symphysis menti with resorption of their roots and lesion causing buccolingual expansion.

There is presence of soft tissue with evidence multiple dense foci of calcification within its substance and minimal cortical breach at few areas on medial as well as lateral aspect. Lesion appears to erode right mandibular canal on its anterior aspect.

No evidence of extra-osseous component of lesion noted. The diagnosis of benign lesion of odontogenic origin (Ameloblastoma) was made.

He was referred to Oro-maxillofacial surgeon for further management and then excisional biopsy was done.

Final histopathological diagnosis of Calcifying epithelial odontogenic tumor (Pindborg tumor)

3. Discussion

CEOT (Pindborg tumor) is a rare benign but locally aggressive tumor characterized by presence of amyloid material that may become calcified. The lesion is distinct entity and probably represents less than 1% of all odontogenic neoplasms.

It originates from epithelial rest of dental lamina or from the reduced enamel epithelium that overlies the crown of the tooth. Some author suggests pindborg tumor is reminiscent of sequestered cells in the stratum intermedium layer of enamel.

However, the exact etiology is unknown.

CEOT most commonly between 30 to 50 years of age with mean around 40 years. The tumours are divided according to the two topographical variants as intra-osseous (central type) and extra-osseous (peripheral type). The central variety is the most common type (95%), usually located in the premolar and molar regions with a mandibular to maxillary ratio of 2:1 as present in this case. Radiologically, CEOTs are varied, may be associated with an impacted tooth.

This lesion is often symptomless and discovered on routine radiography. Alternatively, it may present symptomatically as a slow growing, painless, unilocular, expansile, bony swelling with cortical bone resorption as was seen in the case reported and may be perforation.

Although root resorption is an uncommon finding, it was observed in the present case. This feature may aid in the differential diagnosis between CEOT and solid ameloblastoma.

Radiologically In the initial stage, it is totally radiolucent, simulating a dentigerous cyst because of its relation with impacted tooth.

Small intratumoral calcification starts appearing in the second phase which is characteristic but not diagnostic. The final stages are associated with osseous destruction.

Histopathological examination shows sheets and cords of polygonal epithelial cells with hypochromic nuclei. And homogenous eosinophilic deposits and liesgang rings are seen interspersed in and around epithelial sheets. Areas of dentinoid are seen in the fibrocellular connective tissue.

On the basis of histopathological report, the final diagnosis given was CEOT.

Treatment of a CEOT consists of surgical removal including a marginal portion of apparently healthy bone. A minimum 5-year observation period is suggested.

4. Cases



Figure 1: Orthopantomogram (OPG)

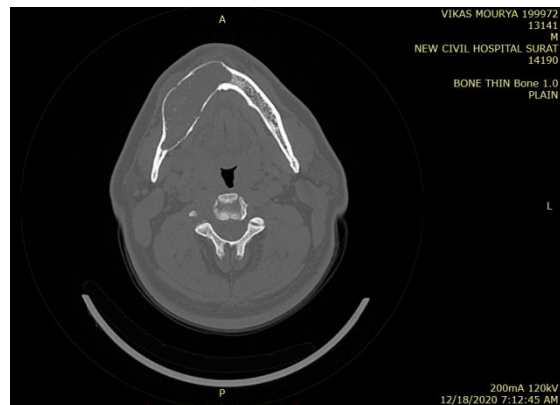


Figure 2 (a): Plain CT (Axial)



Figure 2 (b): Plain CT (Axial View)



Figure 3: Plain CT (Sagittal View)

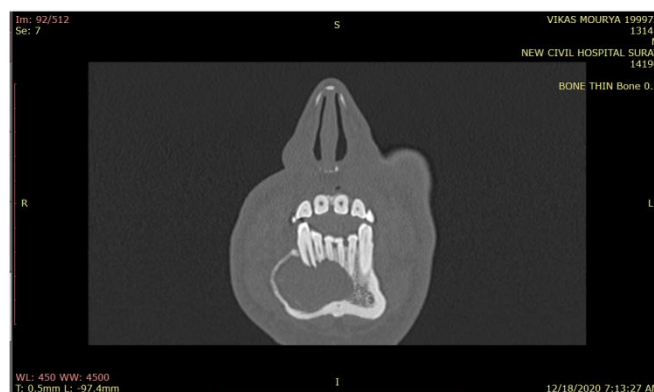


Figure 4: Plain CT (Coronal View) showing tooth resorption



Figure 5: Plain CT (Soft tissue Window)

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