

Dilemma in radiographic interpretation of radicular cyst

Dear Editor:

Radicular cysts are the most common cystic lesions of the jaw which are known to occur from the epithelial residues in the periodontal ligament as a result of inflammation [1]. A 22 years old male visited us for oral prophylaxis. On clinical examination diastema between maxillary left central and lateral incisor was found with slight mesial rotation of the left lateral incisor. Class IV gingival recession with calculus deposition was noted along the entire mesial and labial root surface of the left maxillary lateral incisor penetrating the mucogingival junction apically. Slight gingival inflammation was noted on mesial aspect in apical and middle third region of the root of the left maxillary lateral incisor (Fig-1). Generalized stains were seen on other teeth with no other gross abnormality.

Fig-1: Intraoral view



Intra oral periapical radiograph was taken to assess the bone loss. Interestingly, intraoral periapical radiograph revealed presence of mixed radiolucent radio opaque lesion in periapical region of left maxillary central incisor. The radiolucency was well defined measuring approximately 2 cms in diameter with discrete specks of radio opacity within radiolucency and along the distal peripheral aspect of the periapical lesion. Vertical bone loss was seen along the mesial aspect of the left maxillary lateral incisor

(Fig-2). Patient could not recall any history of trauma to that region. On vitality test, maxillary left central incisor was found to be non vital. Maxillary lateral incisor was vital. A provisional diagnosis of radicular cyst with calcifications with left maxillary central incisor was made which is a very rare entity. Treatment plan consisted of root canal therapy with the left maxillary central incisor along with the periapical surgery and extraction of the left maxillary lateral incisor.

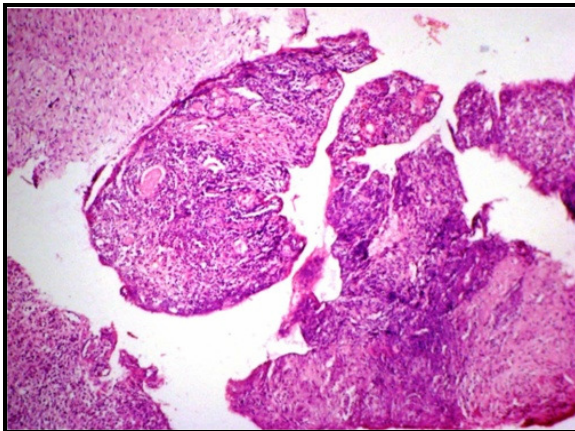
Fig-2: Intra oral periapical radiograph showing mixed radiolucent radio opaque periapical lesion



On surgical exploration some small flecks of sub gingival calculus were seen on mesial aspect of the left maxillary lateral incisor root moving towards the apical region of left maxillary central incisor root. This calculus was superimposing the periapical pathology present in relation to the central incisor and this might have been responsible for such an atypical radiographic presentation in the present case. Lateral incisor was extracted along with removal of all the calculus.

Periapical lesion was surgically excised with apicectomy of the left maxillary central incisor. Subsequent histopathological examination (Fig-3) showed a cystic lumen lined by 4-5 cell layer thick epithelium which showed proliferation. The epithelium was discontinuous in few areas. The cystic wall comprised of collagen bundles, blood capillaries and chronic inflammatory cells confirming the lesion to be radicular cyst (without any calcifications) with central incisor.

Fig-3: Photomicrograph (10X) showing the lining epithelium and cystic wall



Radicular cysts with calcification are quite rare [2]. Long standing case of radicular cyst with

calcification can be first differential diagnosis while others being odontomas, AOT, ossifying fibroma which favors the site of the present case [3] when diagnosis of the present lesion is done only radiographically. The present case mimicked the mixed radiolucent radio opaque periapical lesion radiographically due to presence of radio opaque shadows of sub gingival calculus on underlying radiolucent lesion leading to its misinterpretation.

The association of non vital tooth, surgical exploration and histopathological confirmation rules out the other possible differential diagnosis and confirms the lesion to be radicular cyst in relation to central incisor with superimposing shadows of the calculus from the adjacent tooth. This case highlights the correlation between the clinical, radiographic, surgical and histopathological examination which are interrelated. Clinician should be aware of the shadows of calcified structures of oral cavity such as calculus on the underlying cystic lesions which can mislead the radiographic interpretations leading to wrong diagnosis.

References

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