and was predominantly radiolucent but with internal radiopaque entities. There was thinning of the mandibular buccal and lingual cortices, with possible disruption of the lingual cortex.

Differential Diagnosis: Calcifying odontogenic cyst (COC), ameloblastic fibro-odontoma, calcifying epithelial odontogenic tumor (CEOT), and ossifying fibroma were considered in the differential diagnosis.

Diagnosis and Management: The histologic investigation determined all 3 lesions to be radicular cysts. The radiopaque entities seen in the mandibular lesion were identified as cholesterol granulomas with multiple foci of calcification. Management included extraction of tooth #29 and surgical removal of all 3 radicular cysts.

Discussion: Radicular cysts with internal calcifications have been described in histopathologic evaluations but rarely in radiographic evaluations of radicular cysts. The differential diagnosis of COC was believed to be the most likely diagnosis because of its variable presentation. CEOT was not considered because of the advanced age of the patient but could not be ruled out. Similarly, the differential diagnosis of an ameloblastic fibro-odontoma was unlikely because it is typically seen in a much younger age group, but was included in the differential diagnosis. Radicular cyst was not initially considered in the differential diagnosis because of the presence of internal radiopaque entities. This case reinforces the importance of correlating clinical findings with radiographic findings. Even though radicular cysts with internal calcifications are rare and not often documented in the literature, under the right circumstances and with the aid of proper clinical information, a radicular cyst should be considered in the differential diagnosis of a lesion with internal calcifications. The proper diagnosis of radicular cysts may lead to a more conservative treatment approach, such as endodontic therapy vs enucleation, greatly improving the patient's comfort and prognosis.

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CONE BEAM COMPUTED TOMOGRAPHY IS SUPERIOR TO DIGITAL PERIAPICAL RADIOGRAPHY FOR DIAGNOSIS OF STRIP ROOT PERFORATION

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Background: Strip root perforation requires meticulous diagnosis and may compromise the prognosis, if left undiscovered. It is a common reason for endodontic failure. Strip perforations, usually seen in the mid-section of a curved canal, may result from excessive instrumentation. Radiographic detection of strip perforations may be challenging.

Objective: The aim of this study was to compare the sensitivity, specificity, and accuracy of digital periapical (PA) radiography compared with cone beam computed tomography (CBCT) in detecting simulated perforation in filled and unfilled canals in extracted teeth.

Materials and Methods: After obtaining institutional review board approval, canals of 30 extracted mandibular molar teeth were prepared. Mesial roots of the 15 study teeth were perforated, and all canals were filled in the 15 study and 15 control teeth. The teeth were mounted in simulated D-3 bone. All teeth were imaged by using CBCT and triangulated PA radiography before and after obturation. Discontinuity seen near the furcations was considered perforation. Receiver operating characteristic (ROC) analysis was used to show sensitivity, specificity, and accuracy. Analysis of variance (ANOVA) was used to compare the results, and the kappa statistic for interobserver agreement.

Results: Az values for CBCT before and after obturation were 0.941 and 0.873, respectively, and for PA radiography, the values were 0.640 and 0.776, respectively ($P < .01$). In unfilled canals, the sensitivity and specificity of CBCT were 91% and 100%, respectively, and for angled PA radiography, these values were 52.5% and 49.5%, respectively. In obturated canals, the sensitivity and specificity of CBCT were 82%, and 90%, respectively; in angled PA radiography, the values were 70% and 88%, respectively. Interexaminer agreement was significantly better for CBCT than for PA radiography ($P < .01$).

Discussion: CBCT is more reliable than PA radiography for the detection of perforations, especially in unfilled canals. The accuracy of CBCT decreased after filling because of artifact formation. Accurate diagnosis of perforations in unfilled canals using PA radiography is limited.

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SYSTEMATIC REVIEW OF CONE BEAM COMPUTED TOMOGRAPHY USE IN DIAGNOSIS OF MEDICATION-RELATED OSTEONECROSIS OF THE JAW

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