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Radiographic assessment of keratocystic odontogenic tumor in maxilla using CBCT: a case report

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Keratocystic odontogenic tumor (KCOT) is a developmental odontogenic cyst of epithelial origin. This lesion shows features of a cyst and a benign neoplasm, because of its behavior, autonomous growth, and the potential for recurrence. The KCOT occurs more significant in the posterior mandible than in maxilla. Occasionally, pain, swelling, and drainage indicate a secondary infection of the cyst. Asymptomatic KCOT usually detected in a routine radiograph. The radiographic examination is important to determine KCOT diagnosis and treatment plans to prevent recurrence. The aim of this case report was to describe a radiographic characteristic of KCOT in maxilla using cone beam computed tomography (CBCT).

A 20-year-old women patient was referred to the oral maxillofacial radiology department of Padjadjaran University with the chief complaint of swelling, painless in the anterior of the upper jaw. In this presented case, we used CBCT to find out the margin of the cortical extension, and diameter of the lesion. The CBCT examination showed a well-defined, radiolucent lesion in the 12-14 regions with the displacement of 12. The size of the lesion was about 20x15x19 mm. The lesion extended postero-superiorly to nasal cavity and it showed less degree of bone expansion. Based on the radiographic and clinical examination, the tentative diagnosis was KCOT. The differential diagnosis of KCOT is dentigerous cyst and ameloblastoma.

KCOT has some radiographic characteristics that are distinguishable from another odontogenic lesion. Therefore, CBCT examination is recommended for the diagnosis of KCOT and proper surgical planning.

Keywords: Radiographic characteristic, Keratocystic odontogenic tumor, CBCT