

Calcifying Epithelial Odontogenic Cyst of the Maxillary Sinus

Sir,

The calcifying epithelial odontogenic cyst (CEOC) is a rare lesion of the jaws first described as a distinct entity by Gorlin *et al.*, in 1962.^[1] The condition is also referred as Gorlin's cyst, keratinizing ameloblastoma or melanotic ameloblastic odontoma.^[1] CEOC is often referred as an asymptomatic slow growing swelling of the jaws. It is a well circumscribed, solid or cystic lesion derived from odontogenic epithelium (OE) which develops from reduced enamel epithelium or remnants of OE in the follicle, gingival tissue or bone but contains "ghost cells" and spherical calcifications. It is considered a unique entity with both cystic and neoplastic behavior.^[2] We report a case of CEOC which occurred in the maxillary sinus.

A 45-year-old female patient came with a chief complaint of asymptomatic swelling in the right upper jaw since 6 months. The lesion had been slowly increasing in size since it was first noticed. The lesion was extending from right lateral incisor to first molar on the same side intraorally and soft in consistency on palpation. A panoramic radiograph showed a well-circumscribed radiolucency in relation to upper right premolars with impacted canine and supernumerary tooth causing root resorption and displacing roots of premolars [Figure 1]. Computed tomography (CT) scan axial section revealed well-circumscribed radiolucency in the maxillary sinus thus obliterating the sinus [Figure 2], enucleation and aggressive curettage was done under local anesthesia using intraoral Caldwell-Luc approach [Figure 3]. Histopathology reviewed presence of cystic space lined by OE with ghost cells suggestive of CEOC [Figure 4]. Postoperative follow-up was done for 1 year and no recurrence was observed.

The CEOC is known to involve mandible and maxilla with equal frequency. The age of occurrence of the cyst has been reported to vary from 3-80 years with definite peaking in the 2nd decade. The cyst is usually asymptomatic unless secondarily infected. Some cases were reported where the cyst concomitantly occurred with other odontogenic lesions.^[2] Praetorius^[3] described four types of conjunctive lesions with the cyst, namely, dentine producing ameloblastoma, ontoameloblastoma, ameloblastic fibro-odontoma, and complex odontoma. The presence of ghost cells characterizes the histological appearance of the

lesion. The calcifications, if present, will appear as scattered radiopaque flakes in the radiograph.^[4] Odontogenic pathologies arise from OE. OE by itself has the potential for diverse differentiation under the influence of the ectomesenchyme. In this case, the proliferation of strands of lesional tissue resembled the inner enamel epithelium and hence possibly had the primary ectomesenchymal induction potential. It has been pointed that the combined occurrence of calcifying epithelial odontogenic cyst (CEOC) with odontogenic pathology is a possibility owing to the inherent potentiality of the OE.^[5] The other conditions which may simulate this radiographic appearance are the Pindborg tumor, ameloblastic fibro-odontoma, and



Figure 1: Orthopantomogram showing unilocular radiolucent lesion in relation to maxillary premolars with root resorption of involved teeth along with impacted canine and supernumerary tooth



Figure 2: Computed tomography scan axial section showing well-circumscribed radiolucency in the maxillary sinus thus obliterating the sinus with impacted canine and supernumerary tooth

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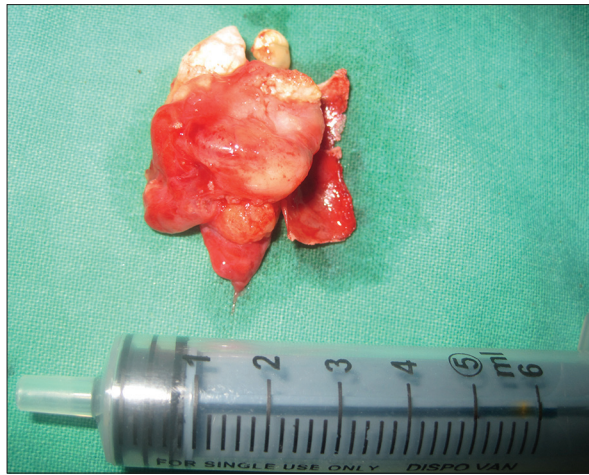


Figure 3: Excised specimen showing cystic lining along with canine and supernumerary teeth

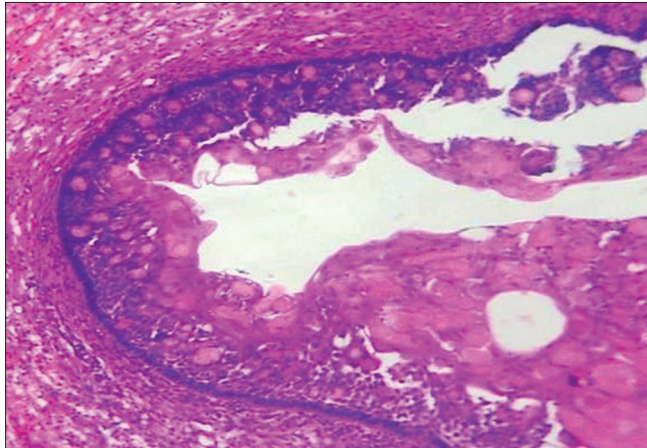


Figure 4: Histopathological picture showing cystic space lined by odontogenic epithelium and ghost cells (H and E, × 400)

adenomatoid odontogenic tumor.^[6] Maxillary sinus involvement of the CEOC seems to be a rare occurrence.

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