Unusual presentation of Adenomatoid odontogenic tumor: case report

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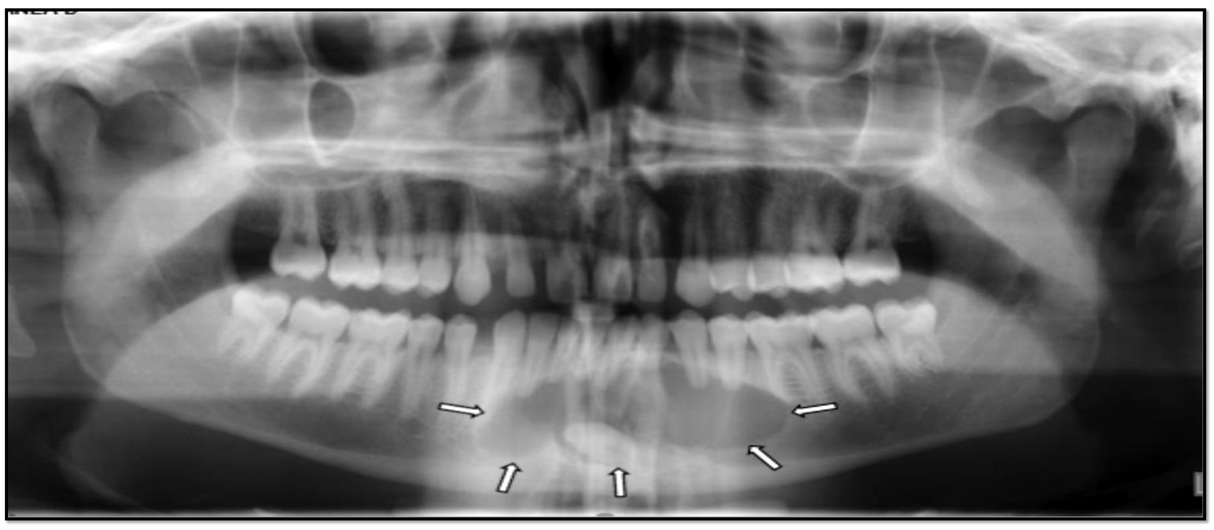
Introduction

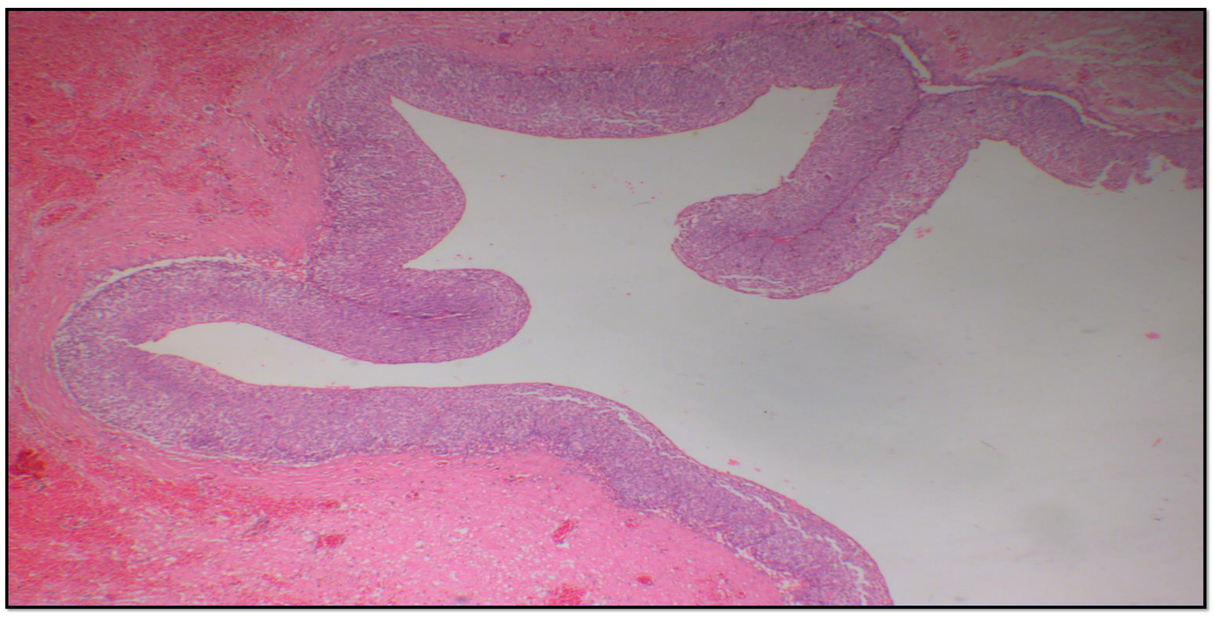
Adenomatoid odontogenic tumor (AOT) is an uncommon benign odontogenic tumor that affects young patients. It represents 3–7% of all odontogenic tumors (1). The tumor appears as painless, non-invasive, and slowly-growing tumor that does not infiltrate bone (2). It is sometimes called the 'two-third tumor' because, about two-thirds of the cases occur in maxilla, two-thirds of the cases arise in young females, two-third of the cases are associated with an unerupted tooth, and two-thirds of the affected teeth are canines (3).

Case Report

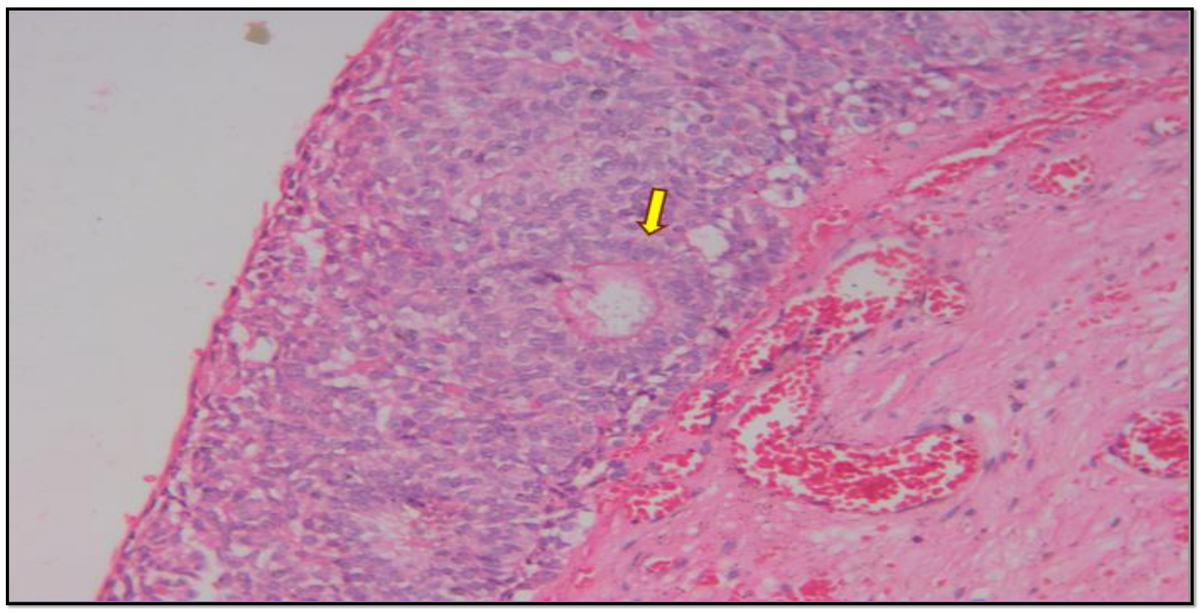
A 14-years-old male patient came to the dental hospital complaining of slowly growing painless swelling related to the anterior part of the lower jaw.



Panoramic radiograph revealed a well defined radiolucency related to an impacted lower left canine, which extending from lower left first molar to lower right canine. The lesion caused root resorption in the lower incisors and lower left premolars. Excisional biopsy was taken by surgical enucleation.



Histopathological examination of H&E stained sections showed a cystic cavity lined by uniform thickness of epithelium, some areas are protruding into the cavity. Underlying dense connective tissue stroma (capsule) was seen (H&EX40)



At a higher power, diffuse spindle and cuboidal cells of odontogenic epithelium forming rosette and ductlike structures with eosinophilic band. The cells have pale scanty eosinophilic cytoplasm.

Discussion

Regarding this case radiographically , the incidence of AOT development in mandible is much lower than that of maxilla, in addition, root resorption is rare among all AOT tumors, which considered as an unusual finding in this case and make it slightly confusing with other lesions like dentigerous cyst and unicystic ameloblastoma . Day E, et al. and Deepti G et al. reported two AOT lesions with similar distinctive irregular root resorption.

About histological findings, AOT is a tumor originating from odontogenic epithelium with duct-like structures of varying degrees of inductive change in the connective tissue (4). The large cystic cavity with almost even thickness of epithelium is very interesting if compared with other common finding of AOT as a solid mass.

Marx and Stern's stated that the origin of AOT is reduced enamel epithelium or epithelial rests of malassez forming a cyst lining mimicking that of dentigerous cyst. In the solid variant, it started as a nodular proliferation from this cyst lining and filling up the entire lumen. Whereas in cystic variant, this process is incomplete and may be seen only in few parts of cystic lining (5).

References

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