CASE REPORT

Management of an unusually large adenomatoid odontogenic tumor

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Summary The present case is a rare report of an adenomatoid odontogenic tumor (AOT) in the maxilla of a 12-year-old African-American male involving an impacted canine and bicuspid and its subsequent management.

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Adenomatoid; Odontogenic; Tumor; Management

Case report

A 12-year-old African-American male was referred by his orthodontist for evaluation of a maxillary radiolucent lesion noticed on a panoramic radiograph (Fig. 1). The medical history was insignificant and the patient was in good general health. The patient was asymptomatic and clinical exam did expansion of both vestibular and lingual osseous cortical plates. The patient had no nerve deficit or adenopathy in the face or neck. An orthopantomogram revealed the presence of a significant unilocular radiolucency area with well-defined sclerotic borders, involving an embedded upper right permanent canine and first bicuspid with the displacement of second bicuspid. The differential diagnosis was of dentigerous cyst, calcifying epithelial tumor, odontogenic keratocyst, and unicystic ameloblastoma.

The patient underwent an incisional biopsy under local anesthesia. Histological exam revealed well-developed fibrous connective tissue capsule with a partially cystic lesion and tumor lobules (Fig. 2). A profuse complex of rounded, rosette-like and stream-like aggregates of spindle-shaped odontogenic epithelial cells, similar in size and shape to the stratum intermedium cells of the developing tooth germ with few areas of eosinophilic material could be seen (Fig. 3). The histological sign-out diagnosis was consistent with adenomatoid odontogenic tumor (Figs. 2 and 3).

Discussion

AOT had been initially described and classified as a variant of the ameloblastoma having been
AOT occurs as a well-circumscribed lesion around the crowns of unerupted anterior teeth of young patients and consists of epithelium in swirls and ductal patterns interspersed with spherical calcifications. The more common variant is the follicular type and is often mistaken for a dentigerous cyst. Histopathologic examination demonstrates cuboidal or spindle-shaped epithelial cells forming aggregates or rosette-like structures with minimal connective tissue, and cuboidal or low columnar cells forming glandular duct-like structures.

Management of adenomatoid odontogenic tumor

A review of the literature depicts a lesion in which conservative management produces a uniformly excellent outcome without recurrence.\textsuperscript{5,6} Since the adenomatoid odontogenic tumor (AOT) is a benign tumor that presents with a non-aggressive biologic behavior, progressive growth, small frequency of recurrence, absence of invasion, and the frequent presence of a connective tissue capsule, the treatment should consist of enucleation and curettage.\textsuperscript{7–10}

In the presently reported case the lesion was removed by surgical enucleation. After reflection of an ample mucosal flap and widened entrance through the usually thinned and expanded cortical bone, the connective tissue capsule of the lesion was encountered. Enucleation was achieved by separation of the lesion from bone without perforating the capsule. Inspection, irrigation, and gentle curettage of the resultant cavity remove any residual lesion. Both the impacted canine and
bicuspids incorporated within the lesion were re-
moved. The upper right lateral incisor and the sec-
ond bicuspids—whose radicular bone cover had been
resorbed by the lesion, were endodontically trea-
ted. The healing was uneventful, and there was no
evidence of recurrence 1 year after the surgery.

It should however be noted that in cases when
the tooth involved by the tumor presents itself in
a favorable position for orthodontic movement,
with the objective of preservation of the tooth,
we recommend marsupialization or decompression
as the initial modality of treatment. However,
when the tumor does not decrease in size, or con-
tinues growing during treatment by marsupializa-
tion, immediate surgical removal should be
performed. The position of the impacted tooth,
as well as its localization in maxilla or at the ramus
or body of the mandible are other data that must
be considered when interpreting the radiograph
and selecting the modality of treatment.

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