

Adenomatoid Odontogenic Tumor– Unusual Occurrence in Posterior Mandible: A Case Report

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Abstract

The Adenomatoid Odontogenic Tumor (AOT) represents 3% to 7% of all odontogenic tumors and is generally considered to be an uncommon tumor which occurs mostly in association with an unerupted maxillary cuspid. Some investigators consider it as a benign neoplasm, while others categorize it as a hamartomatous malformation due to limited size and lack of recurrence in most cases. Although AOT was formerly considered to be a variant of ameloblastoma and was designated as 'adenoameloblastoma', its clinical and biologic behaviour indicates that it is a separate entity. This manuscript describes a rare case of huge Adenomatoid odontogenic tumor occurring in the posterior mandible of a 20 year old male patient.

Keywords: Tumor, mandible, odontogenic, adenomatoid, posterior.

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INTRODUCTION

The Adenomatoid Odontogenic Tumor (AOT) represents 3% to 7% of all odontogenic tumors, although this lesion was formerly considered to be a variant of the ameloblastoma and was designated as adenoameloblastoma, its clinical features and biologic behavior indicates that it is a separate entity [1]. AOT is generally considered to be an uncommon tumor and occurs mostly in association with an unerupted maxillary cuspid. Like all other odontogenic tumors, the

specific stimulus that triggers proliferation of the progenitor cells of AOT is unknown [2].

CASE REPORT

A 20 year old male patient reported to the department with a chief complaint of asymptomatic slow growing swelling over right side of faces since one year. At the initial consultation, the patient had a good general condition with normal vital signs (Fig-1).



Fig-1: Clinical view of the lesion

On inspection the growth was bony hard swelling over the posterior region of the mandible. The patient was clinically examined & investigated with OPG along with routine blood investigation. The

radiographic interpretation shows a well demarcated unilocular radiolucency with smooth corticated border (Fig-2).



Fig-2 Radiograph (OPG)

Patient was planned for surgery under general anaesthesia and the surgical resection of lesion with wide normal margin of lesion was done under general

anaesthesia (Fig-3). Reconstruction was done with 2.5mm reconstruction plate with condyle (Fig-4).



Fig-3: During surgery

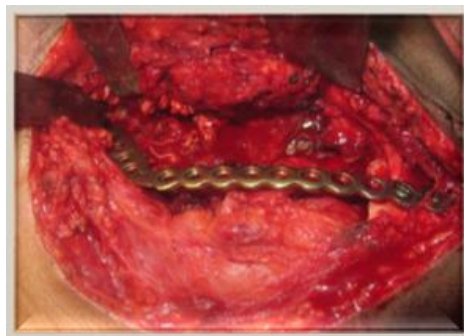


Fig-4: Reconstruction condyle plate

The biopsy specimen was sent to department of oral pathology and microbiology for final diagnosis. The gross specimen was soft to firm in consistency and measured approx. 7.5 x 4 x 3 cm, reddish in colour (Fig-

5). Whole tissue was processed using routine processing technique and stained by haematoxylin and eosin.

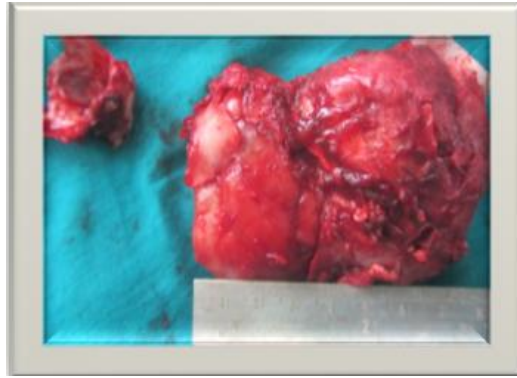


Fig-5: Gross specimen

On histopathological examination the section revealed cuboidal and columnar epithelial cells forming nest or rosette like structures with minimal connective tissue stroma, between epithelial cells of nodule and in centre of rosette like configuration eosinophilic amorphous material is present with empty duct like spaces or microcyst lined by single row of low

columnar or cuboidal epithelial cells, nuclei of which are polarized away from lumen. Connective tissue stroma is loosely structured and contain thin walled congested vessel characteristically showing marked degenerative changes of endothelial lining blood vessels which lead to the histopathological diagnosis of Adenomatoid Odontogenic Tumor (Fig 6 & 7).

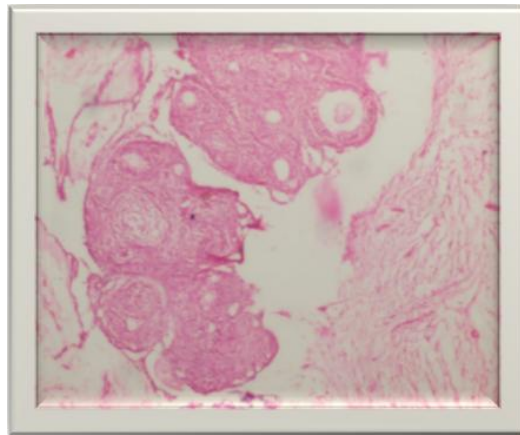


Fig-6: A photomicrograph showing rosette pattern of cuboidal to columnar epithelial cells forming nest or rosette like structures with minimal connective tissue stroma (H&E,10X)

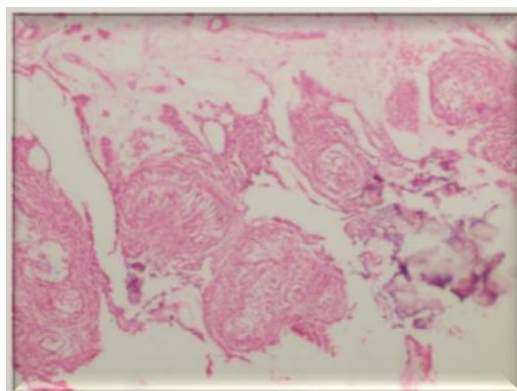


Fig-7: A photomicrograph showing tubular or duct like spaces lined by single row of low columnar or cuboidal epithelial cells (H&E, 20X)

DISCUSSION

The interest in the description of this case is evidenced by the rarity of its occurrence as well as the conduct and outcome of the same. Several studies of adenomatoid odontogenic tumor have been performed

in various areas of health. However, no studies similar to this study with posterior mandible location have been published. AOT is a relatively uncommon distinct odontogenic neoplasm that was first described by Steensland in 1905 [3]. However, a variety of terms

have been used to describe this tumor. Unal *et al.*, produced a list containing all nomenclatures for AOT reported in the literatures. Many different names like adenoameloblastoma, ameloblastic adenomatoid tumor, adamantinoma, epithelioma adamantinum or teratomatous odontoma have been used before to define the lesion currently called AOT. In 1999 Philipsen and Reichart presented a review based on reports published until 1997 which showed some interesting aspects regarding epidemiological figures of this tumor [4]. AOT is benign, slow growing, non-invasive tumor of odontogenic epithelium. Tumor can occur both intra osseously & extra osseously. It is surrounded by well-developed connective tissue capsule. It is more commonly found in young patients with two thirds of all cases occurring between age group 10 to 19 years of age. It is more common in females than males with incidence of almost 2:1 [5]. Histopathologically section shows markedly proliferated ulcerated and dysplastic squamous epithelium showing intense mixed inflammatory infiltrate with underlying zone showing biphasic proliferation of odontogenic epithelial cells. Origin of AOT is controversial. Most authors accept as odontogenic source, other quote as a developmental outgrowth / hamartoma.

Points in favour of hamartoma

Limited size in most cases & lack of recurrence

Points in favour of neoplasm

Limited size is due to fact that they are detected early and removed before slow growing tumour reaches clinically noticeable [6, 7].

AOT is most commonly reported in the anterior maxilla and never reaches larger dimensions. But in this case it occurred in the angle-ramus region and reached massive size which is a rare event. Recurrence of AOT is exceptionally rare.

CONCLUSION

Benign odontogenic tumors are treated by surgical excision of the lesion so as to prevent complications such as nerve compression and malignant progression. In our patient excisional biopsy was performed with careful and complete removal of the lesion without any damage to the adjacent structures.

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