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# Adenomatoid odontogenic tumour: A case report

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## Introduction

AOTs are non-aggressive benign neoplasms arising from odontogenic epithelium. As many names have been used for this entity historically; the search for the first identifiable caseis challenging. The earliest cases reported by Harbitz1 in 1915 as Admantoma and by James and Forbes2 in 1909 as an epithelial odontome were almost certainly AOT. Wohl3 in 1916 reported a similar case as a tooth germ cyst of the jaw. Stafne4 in 1948 reported the first series of AOT as the epithelial tumour associated with developmental cyst of the maxilla. Bernier and Tiecke5 in 1950 published a case as Adeno-ameloblastoma. Gorlin6 in 1961 used a term Ameloblastic Adenomatoid tumour to remove unjust stigma from this lesion. Abrams7 in 1968 admitted that the term used by Gorlin was an improvement and suggested consideration of the term Odontogenic Adenomatoid tumour. Philipsen and Birn8 in 1969 proposed the name Adenomatoid odontogenic tumour for these lesions. The initial edition of the World Health Organization's Histological typing of odontogenic tumours, jaw cysts and allied lesions in 19719 adapted the term Adenomatoid odontogenic tumour and retained the same in the second edition in 199210.

**Keywords:** Ameloblastic, Palpation, AOTs

## Case report

A 15 years old, female patient reported to the Dept. of Oral & Maxillofacial Surgery with the chief complaint of a swelling in the left midface region for 6 months. The patient was apparently all right when she noticed a

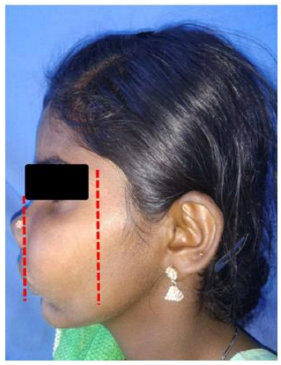
swelling in the upper left front region of the jaw which was smaller in size initially and progressed gradually over the period of 6 months to the present size. No any H/O other associated symptoms was noted. The patient did not give any significant history regarding any past hospitalisations, any drug allergies or any exposure to the dental treatments previously. Her medical observations were non-contributory and all the vital signs were within normal limits.

On extraoral examination facial asymmetry was noted. A solitary well-defined swelling on the left side of the face in the region lateral to the left nasal ala was noted. The swelling was roughly oval, measuring approximately 2.5 cm in diameter, extending super inferiorly from an imaginary line passing horizontally through the left infraorbital rim to an imaginary line passing horizontally 0.5 cm below the left ala tragal line. (Fig.1)

The swelling extended anteroposteriorly from the left nasal ala to an imaginary line passing vertically; approximately 0.5 cm lateral to lateral canthus of the left eye, perpendicular to Frankfort's horizontal plane. (Fig.2) The skin over the swelling appeared normal. On palpation, the swelling was non tender, hard in consistency, and fixed to the underlying bone.

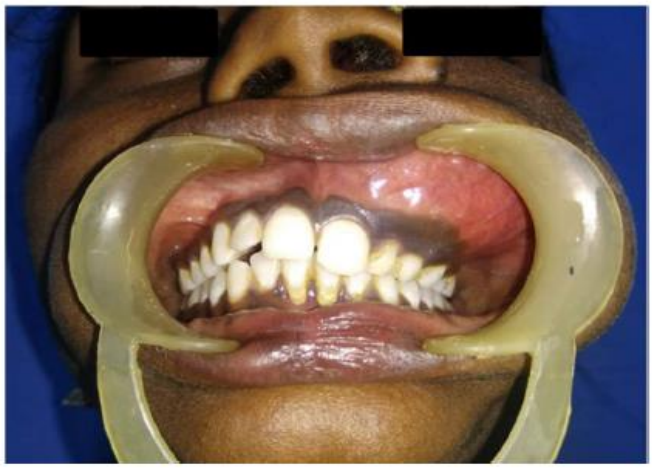
Fig.1

Fig.2



Intraoral examination revealed retained 62 and 63 teeth. A solitary smooth circumscribed swelling of approximately 1.5 cm × 2 cm in size, with well-demarcated margins in the left maxillary region filling buccal vestibule was noted. (Fig.3) Anteroposteriorly, it extended from the mesial margin of 62; to the distal margin of 25. The buccal cortex was expanded, and the surface of the swelling was smooth with a normal colour of overlying mucosa. On palpation the swelling was bony hard and non-fluctuant and mild tenderness was detected. On electric pulp testing, 21 – was found to be vital while, 62,63,24,25 and 26 – were found to be non-vital.

Fig.3



Based upon the clinical examination and the history elicited from the patient the provisional diagnosis of the Adenomatoid odontogenic tumor; involving left maxillary bone was made Clinical differential diagnoses were, dentigerous cyst and a calcifying odontogenic cyst. Routine blood investigations and radiographic investigations (OPG and 3D CT of the face) were advised.

Radiographically a well circumscribed radiolucent lesion was seen in the left maxilla with impacted teeth 22 and 23 with well-defined radio-opaque border. The radiograph clearly showed the juxta position of the impacted canine and lateral incisor with flakes of calcifications inside the lesion. (Fig.4, 5, 6, 7) These radiographic features of a well demarcated unilocular

radiolucency with a smooth corticated border, divergence of roots and displacement of the adjacent teeth than root resorption were suggestive of Adenomatoid odontogenic tumor. Dentigerous cyst and calcifying odontogenic cyst were the radiographical differential diagnoses. The diagnosis of the Adenomatoid odontogenic tumour was thus then made and the treatment planned was enucleation of the lesion under general anaesthesia.

Fig.4

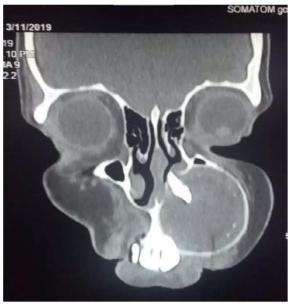


Fig.5

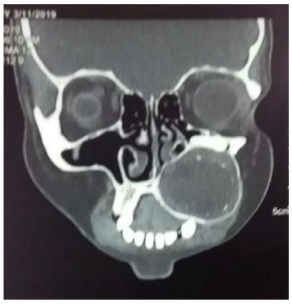


Fig.6

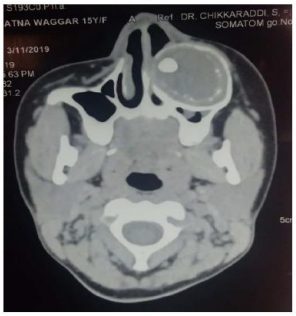
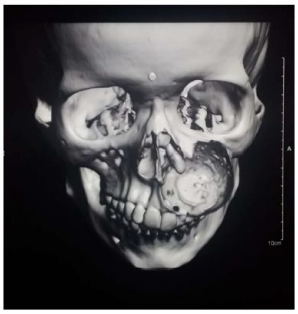


Fig.7



**Surgical steps**

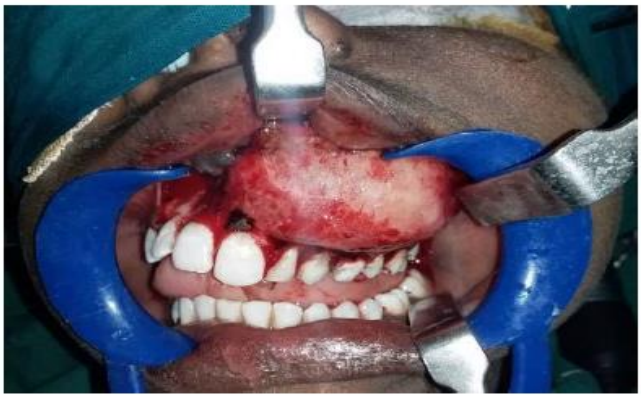


Figure 8

A crevicular incision was placed extending from distal aspect of 13 to distal aspect of 26 teeth using no.15 BP blade. The mucoperiosteal flap was raised carefully to expose the lesion with thinned out buccal cortex.

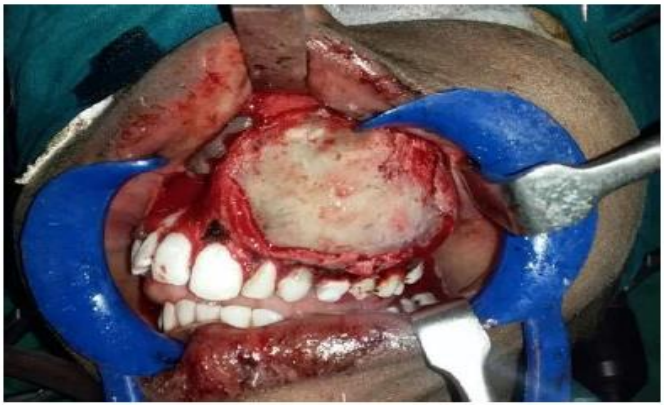


Figure 9

This thinned out buccal cortex was removed carefully to expose the lesion wall.

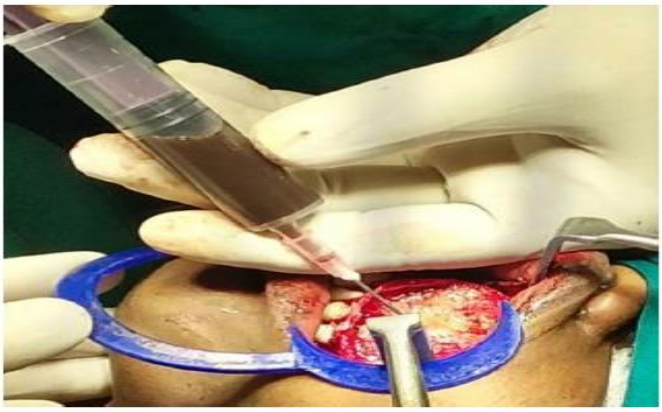


Figure 10

Decompression of the lesion was then done to prevent injury to vital structures and amber coloured aspirate was aspirated.

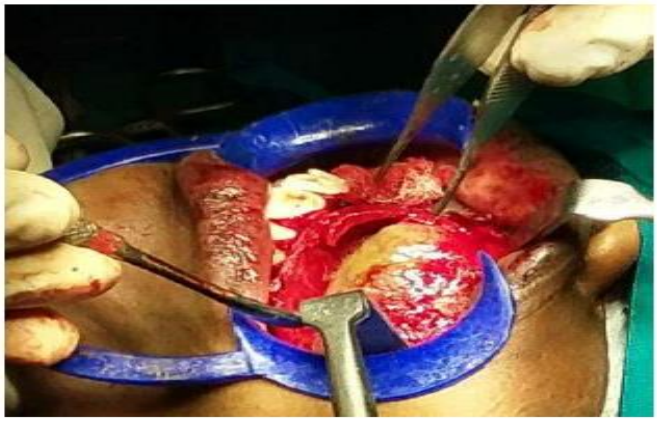


Figure 11

The walls of the decompressed lesion were then carefully separated from bone.

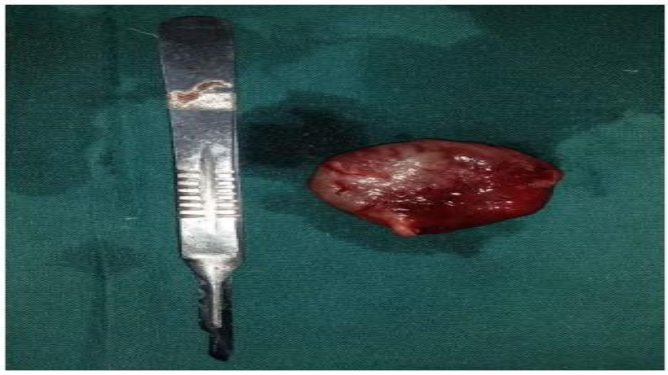


Figure 12

Enucleation was done, the tumour was well encapsulated and the maxillary permanent canine was removed along with the lesion.

Figure 13

Haemostasis was achieved and the bony cavity was then thoroughly irrigated using betadine, normal saline & Gentamycin.

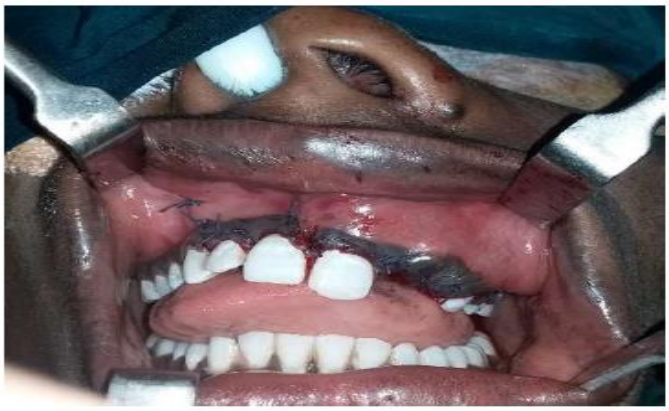


Figure 14

The closure was done using 3-0 Vicryl suture material and simple interrupted sutures were placed

**Discussion**

AOTs occur more frequently in females with a peak incidence within the second decade of life, and they frequently involve an un-erupted canine. They have been coined the two-thirds tumour: two-thirds occur in females, two-thirds occur in the maxilla, two thirds are associated with un-erupted teeth, and two-thirds are associated with canines. AOTs can produce swelling if they are large; however, most are small, asymptomatic, and incidentally found on routine imaging. Radiographically, these lesions can be radiopaque or have small radiopaque structures within the lesion. The entire structure of an un-erupted tooth is frequently involved. This differs from the dentigerous cyst, which tends to involve only the crown of the involved tooth. Large lesions may cause tooth displacement. Histologically, odontogenic epithelium is seen with ductlike structures possessing a lumen lined with a single row of low columnar cells with reverse polarization. Intraluminal eosinophilic material and scattered calcifications may also be seen. Clinically, AOTs have a well-formed capsule with excision.

Treatment is enucleation with the removal of the involved tooth. Recurrence rates are low11. The term AOT is disagreed by some authors. Marx and Stern12 in 2003 preferred the term Adenomatoid odontogenic cyst (AOC) for these lesions. Though the term AOC is still.

controversial, the presence of a unilocular cystic lesion, fluid on aspiration and cystic cavity on transection in the case reported by us there is some extent to support the term AOC as given by Marx and Stern.

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