ADENOMATOID ODONTOGENIC TUMOR IN MANDIBLE: AN UNCOMMON ENTITY

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ABSTRACT

Adenomatoid odontogenic tumor is the most common benign tumor in the maxilla. Tumor is painless, progressive, slow growing predominantly found in young and female patient. It usually develops around or overlaps adjacent teeth. It constitutes of 2-7% of odontogenic cyst and tumors. It is also called 2/3rd of tumor due to its clinical and radiographic features. There are three variants of AOT: follicular, extrafollicular and peripheral. We report a rare case of follicular–type of AOT which is present in the 14 year old male patient in the mandible who presented with anterior left sided jaw swelling.

Keywords: Tissue Engineering, Cell, Periodontal Regeneration, Recombinant Therapeutics.

INTRODUCTION:

Adenomatoid odontogenic tumor(AOT) is uncommon benign lesion which arises from dental lamina or its remnant.[1]Intially it was reported by Harbitz as cystic adamantoma.[2] It is relatively uncommon odontogenic neoplasm, there are list of nomenclature for adenomatoid odontogenic tumor (AOT). It is also known as adenoameloblastoma, ameloblasticadenomatoid tumor, adamantinoma, epithelioma adamantinum.[3]Philipsen & Brin proposed the term AOT in 1969 due to its different behaviour which was previously called as variant of ameloblastoma.[4] It was also termed as "two third tumor" because 2/3rd of the tumor occurred in maxilla, 2/3rd tumor present in young individual, 2/3rd tumor associated with un-erupted tooth especially canine.[5]

CASE REPORT:

A 14 year old boy complaint of swelling in lower front tooth region of jaw since 6 months. He gives the history of trauma in the same region 7-8 months ago. Mode of onset was insidious and swelling was gradually increased during the course of time period. No history of pain and fever present. No relevant history of allergy and infections. Further Patient gave the history of, visits to the dentist several times for the treatment of the same but was not relieved. Extraorally patient profile was

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asymmetrical with diffuse swelling present in the mandibular anterior region of jaw of size approximately 3cm x 2 cm slightly on the left side which crosses the midline. Shape was round to oval; overlying skin was normal as shown in figure 1 & 2. It was non-tender, non-compressible, non – reducible, firm to hard in consistency with no inflammatory changes present. On inspecting intraorally as shown in figure-3 well defined swelling present extending from 41 to 35 in buccal vestibular region, 31 to 35 in lingual vestibular region, round to oval shape with smooth and shiny mucosa present. Missing tooth was 33, retained deciduous present i-r.t 73 with grade III mobility. Pulp vitality test was done on 73, 34, and 35 which shows negative response. Palpatory finding was confirmed with negative response to egg shell crackling sound. A Provisional diagnosis of Dentigerous cyst was made.

Radiological examination was done and orthopantomogram (figure-4) showed well-defined roughly oval shaped radiolucency with corticated margins apical to the 41, 31, 32, 73, 34, 35. Internal structure revealed slight haziness with thin lace-like pattern is present along with impacted 33 was seen. There is loss of Lamina Dura 41,42,31,32,34,35,36 and also root resorption can be seen with respect to 34, 41, 42. Erosion of the lower border of the mandible was seen. Mandibular Occlusal cross-sectional radiograph (figure-5) was done which shows bucco - lingual cortical plate expansion on the left side. Excisional Biosy was done along with aspiration as shown in figure 6.

Microscopic Examination figure-7 was done which shows tumor cells are cuboidal to spindle shape with hyperchromatic nucleus giving a homogenous appearance. Tumor cells surrounding the ductal pattern are low columnar showing oval shaped nucleus which was away from the lumen. Eosinophilic coagulum like material is also appreciated surrounding the luminal surface. Many extravagated RBC's was also appreciated. Connective tissue stroma within the tumor mass was very sparse. With clinical, radiological correlation, histopathological features are suggestive of "ADENOMATOID ODONTOGENIC TUMOR" (follicular type).

DISCUSSION:

AOT is benign neoplasm having slow growth .Its occurence represents 3% of all odontogenic tumor.[1] It has three clinicopathologic variants i.e intraosseous follicular, Intraosseous extrafollicular & peripheral. Intraosseous follicular type is mostly associated with impacted tooth.[2] Mostly AOT occurs in maxilla, female male ratio is 2:1, and two third affected teeth is unerupted canine. [(3-5)] Present case is associated with mandibular unerupted

canine. 69% of case is diagnosed in second decades of life, mostly in teenagers. Size of lesion is 1-3 cm but it can be larger and occurs in tooth bearing areas of jaw. Lesion is asymptomatic includes slight displacement of adjacent tooth. [6, 7]

Radiologically AOT resembles other odontogenic lesion dentigerous cyst, odontogenic keratocyst, ameloblastoma , calcifying odontogenic cyst.[8] Along with the radiolucency AOT also reveals radioopaque calcified discrete having flocculent foci present the radiolucent lesions which was found by Dare et al.[9] AOT shows calcified deposits in 78% cases.[10] Present case has some unusual findings which is different from typical

Features of AOT:

Typical findings of AOT	Unusual finding in present case
Anterior maxilla is commonest site	Present in anterior mandible
Size mostly 1-3 cm	Present case size was more than 5-6 cm
Female predilection is more than male	Tumor is present in the male
Radiographic flecks are associated with impacted tooth.	No radiographic flecks/ Focii were seen in present case.
Root resorption is extremely rare	Root resorption was present in 34, 41 and 42.

Histopathologically tumor is composed of spindle shaped epithelial cells in the form of sheets, strands & whorled masses of cells. Cells are arranged in rosette like structure with empty / eosinophilic material present inside the central spaces. Conservative Surgical Enucleation is the treatment modality as it is completely benign because of its capsule and easily enucleates from bone. Reoccurence is exceptionally rare so prognosis is good.[3]Some Japenese patients are reported for reoccurrence of tumor.[10]

CONCLUSION:

Although Adenomatoid odontogenic tumor mostly found in maxilla but persistence of swelling in the mandibular anterior region associated with delayed exfoliation of deciduous tooth and unerupted succeding permanent tooth can also be considered in the differential diagnosis even its incidence is low.

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FIGURES:

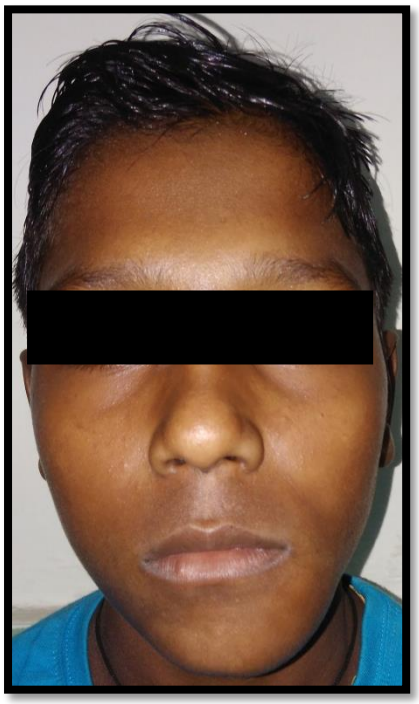


Figure 1 : FRONT VIEW

Figure 2: SUBMANDIBULAR VIEW

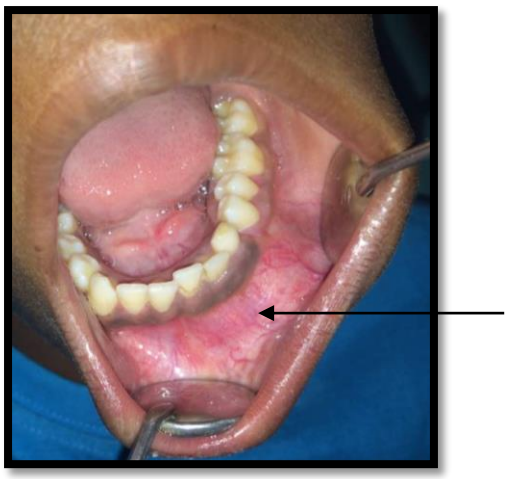
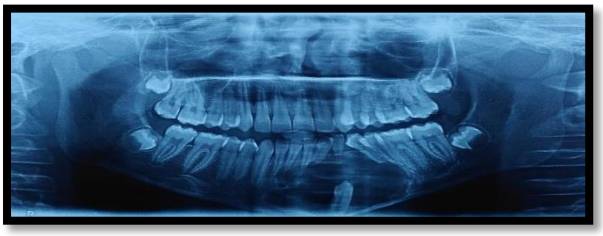
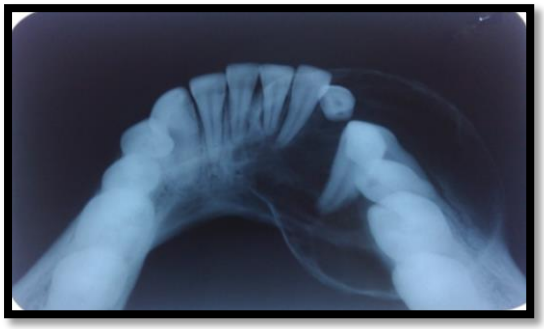


Figure 3 : INTRA-ORAL VIEW



OPG Figure – 4



Mandibular occlusal radiograph(Figure - 5)

Figure 6: POST BIOPSY

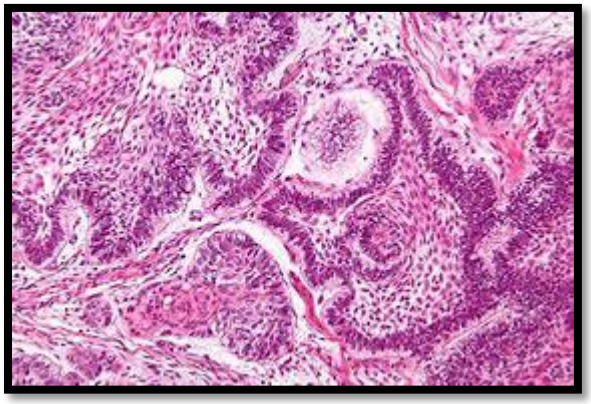


Figure 7: Microscopic examination