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ADENOMATOID ODONTOGENIC TUMOR IN THE ANTERIOR MAXILLA: A CASE REPORT

Dental Science

Dr. Sajja Rishitha* MDS, Pedodontics, Ms Healthcare Informatics, Consultant Pedodontist And Clinical Research Scientist.*Corresponding Author

Dr. J Sharada Reddy MDS Pedodontics, Professor And Head, Department Of Pedodontics, Government Dental College, Hyderabad.

Dr. K. Suhasini MDS Pedodontics, Associate Professor, Department Of Pedodontics, Government Dental College, Hyderabad.

Dr. I. Hemachandrika MDS Pedodontics, Associate Professor, Department Of Pedodontics, Government Dental College, Hyderabad.

Dr. P. Tara singh MDS Pedodontics, Associate Professor, Department Of Pedodontics, Government Dental College, Hyderabad.

Dr. Shaik Hasanuddin MDS Pedodontics, Associate Professor, Department Of Pedodontics, Government Dental College, Hyderabad.

ABSTRACT

Adenomatoid Odontogenic tumor (AOT) is a rare benign odontogenic tumor that is often misdiagnosed as an odontogenic cyst. It is predominately seen in females and in the maxillary arch. The present article illustrates clinical, radiographic, histologic features, and management of a 14yr old female patient who reported to pediatric dentistry specialty with a swelling in the anterior maxilla.

KEYWORDS

Adenomatoid Odontogenic Tumor, Epithelium, Radiolucency, Jaw swelling

Introduction

Adenomatoid odontogenic tumor is an uncommon odontogenic neoplasm. Steenland first described the clinical features of this neoplasm in 1905.[1] Dreibalt in 1907 described it as "Pseudo-adenoameloblastinoma", Harbitz in 1915 named it as "Cystic adamantoma" and Max and Stern described this as "Adenomatoid Odontogenic Cyst" in 2003.[1,2]

According to WHO "Histological typing of odontogenic tumors," Adenomatoid odontogenic tumor (AOT) is defined as "A tumor of odontogenic epithelium with duct-like structures and with varying degrees of inductive change in the connective tissue. The tumor may be partly cystic, and, in some cases, the solid lesion may be present only as masses in the wall of a large cyst".[1]

The incidence is reported to 3 -7% of all the odontogenic neoplasms. Most commonly seen in females in the 2nd and 3rd decades of life, with the ratio of female: male is 2.3:1 and predominantly found in the anterior region of the maxilla (Maxilla: mandible ratio is 2.6:1).[3] The clinical features include slow-growing lesion around an unerupted tooth especially canine. The cardinal histopathological features include cuboidal to columnar cells arranged in the form of nests and rosettes, leisegang pattern of calcification in form of globular or spheroidal masses called as "Tumor droplets" and solid duct-like pattern, whorled arrangement of cells and tubular appearance.[4,5,6]

Radiographic features include typical unilocular well-defined radiolucency around an impacted tooth most commonly canine.[6,7,8,9]

Case Report

A 14-year-old female reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of swelling on the left side of the face. The patient had first noticed the swelling 1 month before the presentation which gradually increased in size. There was no pain or tenderness associated with the swelling Extra orally-the swelling was located in the maxillary region on the left side lateral to the nose just below the infraorbital margin, resulting in the facial asymmetry. The swelling was irregular in shape and measured approximately 4x3 cm, extending superiorly to the infraorbital margin, laterally to the zygomatic bone, and inferiorly to the angle of the mouth.

On palpation, the swelling was bony hard in consistency, non-tender and immobile. Intra orally the swelling was present in the buccal vestibule on the left side extending from the mesial surface of the permanent left central incisor to the mesial surface of the permanent left first molar, obliterating the buccal vestibule. Intraoral examination revealed obliteration of the mucobuccal fold with mild tenderness, while the oral mucosa was unaffected as seen in figure 1. Hard tissue status revealed missing 23, 24, 25, and over-retained 62,63,64,65 with no palatal swelling as seen in figure 2. Submandibular bilateral lymphadenopathy was observed.

Figure 1: Intra oral view

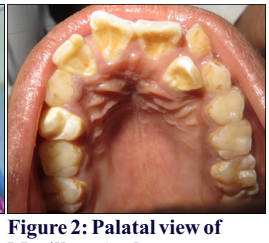

Figure 2: Palatal view of Maxillary Arch

Radiographic Features

Orthopantamograph (OPG) revealed radiolucency extending from the distal of the upper left lateral incisor root till the mesial of the upper left second premolar root. No radiopacities were detected. The root of the lateral incisor was displaced mesially and canine and first premolar were impacted as seen in figure 3.

Figure 3: OPG view with radiolucency in the anterior region of left side of the maxilla.

Differential Diagnosis: Based on radiographic features a differential diagnosis was established.

1. Dentigerous cyst
2. Ameloblastoma
3. Odontogenic Keratocyst
4. Calcifying Odontogenic tumor.

Treatment

A surgical enucleation procedure was performed under general anesthesia along with extraction of left maxillary first premolar tooth as seen in figures 4 and 5.

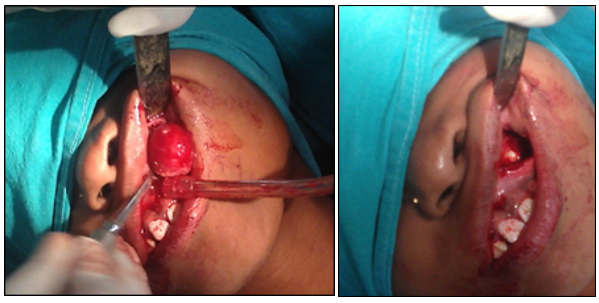

Figure 4: Enucleation of lesion
Figure 5: Surgical site with Impacted left Maxillary Canine

Histological Features

The excised lesion was sent for histological examination. The gross description of the specimen included an irregular grey white soft tissue measuring 1.5x1.0x0.5 cms in size with papillary projection. On microscopic examination, there is a cystic lesion lined by odontogenic epithelium. The mass showed epithelium lined ductal structures lined by cuboidal to tall columnar cells as seen in figure 6. The stromal tissue showed dense bluish calcifications. Numerous calcified deposits were scattered throughout the epithelial lining. The surrounding stroma is loose, oedematous with scattered blood vessels as seen in figure 7. Histologically, the diagnosis was confirmed as Adenomatoid Odontogenic tumor of Anterior left maxilla.

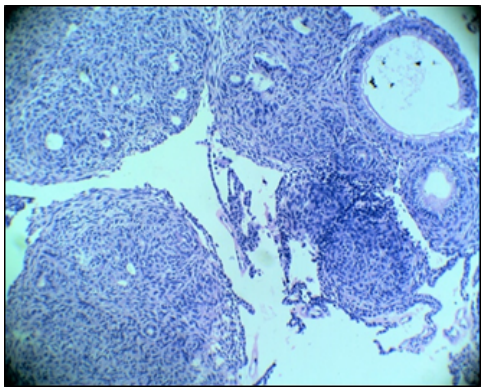

Figure 6: Gland like tissue surrounded by cuboidal to columnar cells.

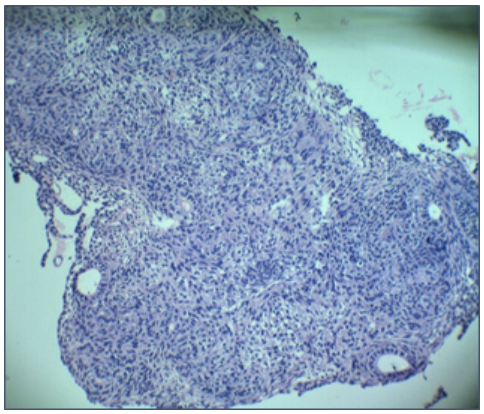

Figure 7: Stromal tissue with glands and nest like structures

Follow up and Prognosis

A 6months follow up call was made. There was no evidence of recurrence and no apical resorption of the adjacent teeth as seen in figures 8 and 9.

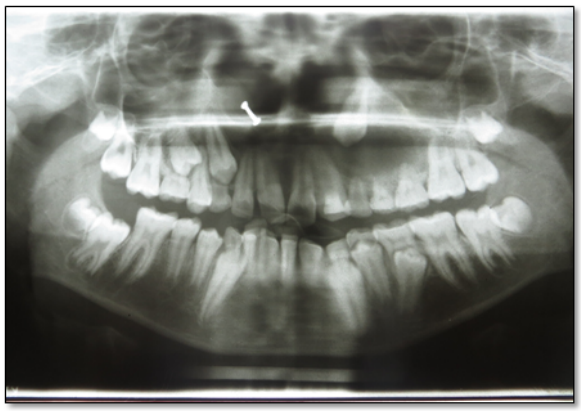

Figure 8: OPG from 6 months follow up

Figure 9: Intra oral view of anterior maxillary arch

Conclusion

The present case report provides insight to the overlapping presentation of AOT. An initial diagnosis can be made by the age of the patient, location of the lesion, and radiographic features.

From a Pedodontist perspective, an early diagnosis of the lesion and followed by treatment can prevent the root resorption of the adjacent tooth and enhance the overall wellbeing of the patient by increasing the chances of retaining the natural tooth.

REFERENCES

1. Rajendran R. In: Shafer's Text book of Oral Pathology. 8th ed. Rajendran R, Sivapathasundharam B, editors. Noida (India): Elsevier; 2016. pp. 282–83.
2. Handschel JG, Depprich RA, Zimmermann AC, Braunstein S, Kübler NR. Adenomatoid odontogenic tumor of the mandible: review of the literature and report of a rare case. Head Face Med. 2005 Aug 24;1:3.
3. Dhirawani RB, Pathak S, Mallikaarjuna K, Sharma A. An adenomatoid odontogenic tumor in disguise. J Indian Soc Pedod Prev Dent. 2016;34(3):291-293.
4. Bravo M, White D, Miles L, Cotton R. Adenomatoid odontogenic tumor mimicking a dentigerous cyst. Int J Pediatr Otorhinolaryngol. 2005;69(12):1685-1688.
5. Barodiya A, Banda NR, Banda VR, Vyawahare S. Maxillary adenomatoid odontogenic tumour. BMJ Case Rep. 2013.
6. Garg D, Palaskar S, Shetty VP, Bhushan A. Adenomatoid odontogenic tumor - hamartoma or true neoplasm: a case report. J Oral Sci. 2009;51(1):155-159.
7. Siar CH, Ong ST, Ng KH. Adenomatoid odontogenic tumour: a case study with radiographic differential diagnostic considerations. Singapore Dent J. 1996 ;21 (1): 19-22.
8. Nigam S, Gupta SK, Chaturvedi KU. Adenomatoid odontogenic tumor--a rare cause of jaw swelling. Braz Dent J. 2005;16(3):251-253.
9. Mehkri S, Rajkumar GC, Nagesh KS, Manjunath GS. Bilateral adenomatoid odontogenic tumour of the maxilla in a 2-year-old female--the report of a rare case and review of the literature. Dentomaxillofac Radiol. 2012;41(4):342-348.
10. Chugh A, Srivastava I, Khatana S, et al. Case series of adenomatoid odontogenic tumour of jaws with variations in presentation. BMJ Case Reports CP 2020;13:e229358.
11. Gomez RS, Castro WH, Gomes CC, Loyola AM. Adenomatoid odontogenic tumor associated with odontoma: a case report and critical review of the literature. Head Face Med. 2013;9:20.