Case Report

Interradicular adenomatoid odontogenic tumor of mandible: A case report

S. Tharanikumar, A. Murali Balasubramaniam, Ajay Chandran, P. Anu Sudha

Department of Oral and Maxillofacial Surgery, Sathyabama University Dental College and Hospital, Chennai, Tamil Nadu, India

ABSTRACT

The present case report is of extrafollicular adenomatoid odontogenic tumor (AOT) in the mandibular anterior region, in a 20-year-old female patient. She reported with a painless swelling in the mandibular anterior region to our department of oral and maxillofacial surgery. Fine needle aspiration yielded no fluid. Periapical, panoramic radiograph showed circumscribed radiolucent area with fine calcifications. The lesion was totally enucleated and incisors, canine and premolars of that quadrant were removed. The rarity of AOT may be associated with its slowly growing pattern and symptomless behavior. Therefore, it should be distinguished from more common lesions of odontogenic origin in routine dental examinations.

Key words: Adenomatoid odontogenic tumor, Cyst, Mandibular swelling

INTRODUCTION

Adenomatoid odontogenic tumor (AOT) is an uncommon, benign, and slow-growing tumor which is usually located in the anterior region of the maxilla without pain,[1,2] and represents 3% of all odontogenic tumors.[3] It often causes expansion of surrounding bone and displacement of adjacent teeth.[4] However, the slow growing nature of the lesion may cause the patients tolerate the swelling for years until it produces an obvious deformity.[5] The tumor is usually associated with unerupted teeth, frequently canines, or lateral incisors.[6] In this report of a case, we presented an AOT causing jaw swelling in the mandibular anterior region.

Address for correspondence:
Dr. S. Tharanikumar,
Department of Oral and Maxillofacial Surgery,
Sathyabama University Dental College and Hospital,
Jeppiaar Nagar, Chennai - 600 119, Tamil Nadu, India.
E-mail: dr.tharanikumar1977@gmail.com

Access this article online	
Quick Response Code:	Website: www.jiadsr.org
	DOI: 10.4103/2229-3019.148281

CASE REPORT

A 20-year-old female was reported with a painless swelling in the mandibular anterior region. The patient had no systemic diseases nor used any medication. There was no history of trauma, pain, discharge, or any other symptoms related to the lesion. In the clinical examination of the head and neck, chronic lymphadenopathy was found on the right and left submandibular lymph nodes. Facial asymmetry was observed. Figure 1 shows preoperative, intra-oral, asymmetry of the face. Intraorally, the patient presented a painless, slowly increasing swelling in the mandibular anterior region. A mild labiolingual expansion was seen on the mandibular anterior alveolus in relation to teeth 31-35. The tooth 32 and 33 was not responsive to electrometric pulp testing. The swelling had well-defined margins with normal overlying mucosa. The swelling was bony hard and nontender on palpation. Fine needle aspiration yielded no fluid. Periapical and panoramic radiographs shown in Figure 2 portrays circumscribed radiolucent area with fine calcifications involving the teeth 31. No root resorption, but the displacement of these teeth was seen. The possibilities of ameloblastoma and calcifying odontogenic tumor were considered preoperatively. The lesion was enmass enucleated and the teeth 31-35 were removed as shown in Figure 3. Gross examination of the specimen showed a single pink-white soft tissue measuring 3 × 3 cm. Microscopy revealed a well-defined cystic tumor encapsulated with a thick, regular, fibrous connective tissue as shown in Figure 4. The tumor consisted

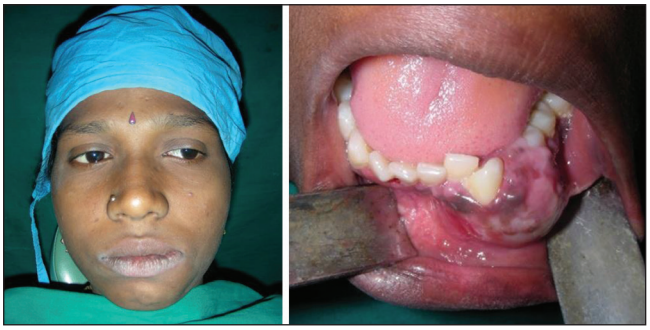

Figure 1: Preoperative intraoral

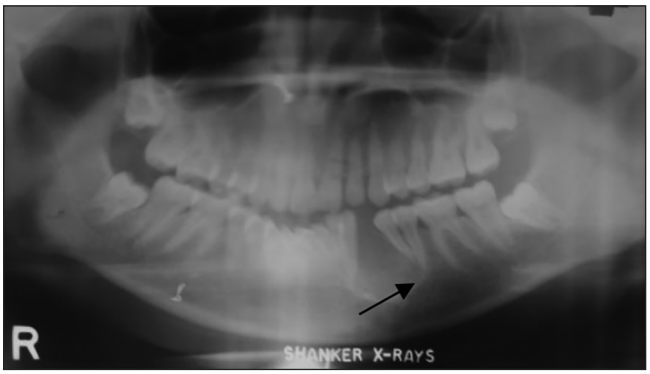

Figure 2: Preoperative orthopantomogram (OPG)

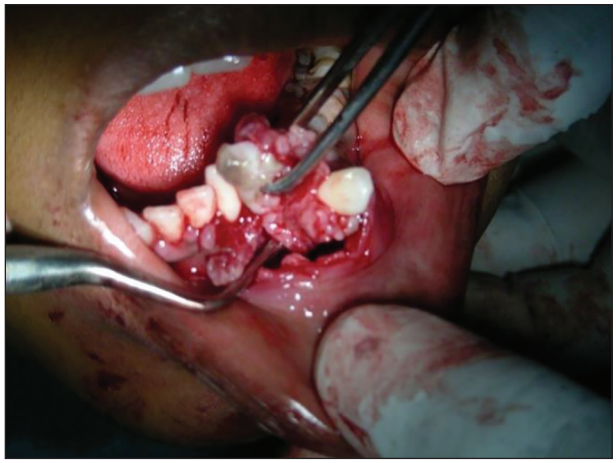

Figure 3: Surgical excision of the lesion

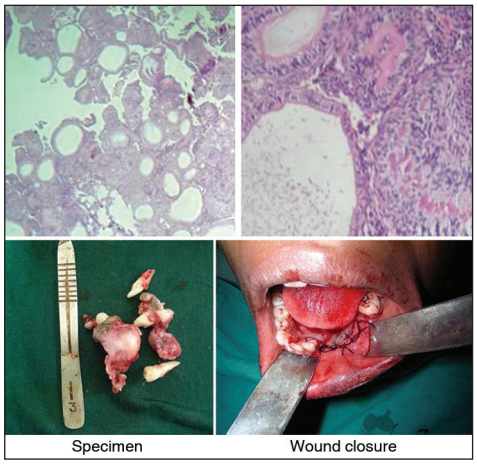

Figure 4: Histopathology slide from oral pathology

of ameloblast-like epithelial cells forming duct-like structures. Eosinophilic droplets and irregular displaced odontogenic calcification areas were seen amongst the epithelial cells. The final diagnosis of AOT was obtained. Healing was uneventful 6 months after the surgery as shown in figure 5.

DISCUSSION

The AOT is an uncommon cause of jaw swelling. There is a slightly female predilection over male, 2:1[7] and appears most often in the 2nd decade of life.[8] The sex and the age of the patient we described in this report were consisted with the previous literature. The lesions are typically asymptomatic, but may cause cortical expansion and displacement of the adjacent teeth, as in the case reported here. The origin of the AOT is controversial. Because of its predilection for tooth-bearing bone, it is thought to arise from odontogenic epithelium.[4]

The tumor has three clinicopathologic variants, namely intraosseous follicular, intraosseous extrafollicular, and peripheral. The follicular type (in 73% of all AOT cases) is associated with an unerupted tooth; whereas, extrafollicular type (24%) has no relation with an impacted tooth[9] as in the case we presented here, and the peripheral variant (3%) is attached to the gingival structures. Follicular and extrafollicular types are over two times more common in maxilla than in mandible,[10] and most of the tumors involve anterior aspect of the jaws.[2] In our case, the tumor was an extrafollicular intraosseous type, and also found in the anterior region of the mandible.

Although larger lesions, the tumors are usually in the dimensions of 1.5-3 cm.[6] Radiographically, they usually appear unilocular,[6] may contain fine calcifications,[2] and irregular root resorption is rare.[6] This appearance must be differentiated from various types of disease, such as calcifying odontogenic tumor or cysts. The differential diagnosis can also be made with ameloblastoma, ameloblastic fibroma, and ameloblastic fibro-odontoma.[7] The patient we describe in this report presented no root resorption, but displacement of the adjacent teeth, and also the tumor was not associated with an impacted tooth. Radiographically, it was easily differentiated from dentigerous cyst, which usually occurs as pericoronal radiolucency.

The histological findings for AOT are remarkably similar in the literature. The histological features of the tumor were described as a tumor of odontogenic epithelium with duct-like structures and with varying degree of inductive changes in the connective tissue. The tumor may be partly

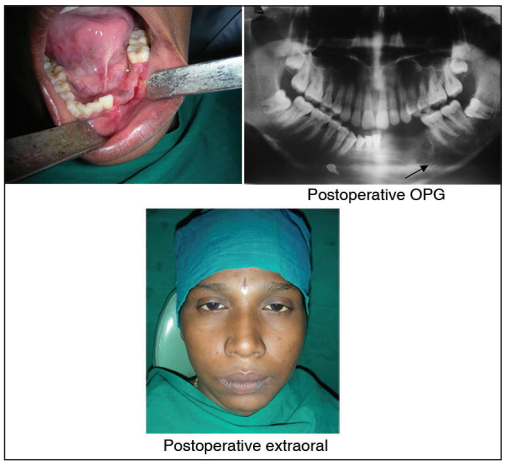

Figure 5: Postoperative intraoral image

cystic and in some cases the solid lesion may be present only as masses in the wall of a large cyst. The tumor may contain pools of amyloid-like material and globular masses of calcified material. Our case was consisted with these common features.

The tumor is well encapsulated and shows an identical benign behavior. Therefore, conservative surgical enucleation produces excellent outcome without recurrence. Our patient has been under follow-up for 6 months.

CONCLUSION

Because of being the extrafollicular variant of AOT, and with respect to the localization of the lesion in the mandible, our case is a rare case of AOTs. Additionally, it supports the above mentioned general description of AOT in the previous studies. We conclude that the rarity of AOT may be associated with its slowly growing pattern and symptomless behavior. Therefore, it should be distinguished from more common lesions of odontogenic origin in routine dental examinations.

REFERENCES

1. Philipsen HP, Reichart PA, Zhang KH, Nikai H, Yu QX. Adenomatoid odontogenic tumor: Biologic profile based on 499 cases. J Oral Pathol Med 1991;20:149-58.
2. Toida M, Hyodo I, Okuda T, Tatematsu N. Adenomatoid odontogenic tumor: Report of two cases and survey of 126cases in Japan. J Oral Maxillofac Surg 1990;48:404-8.
3. White SC, Phaorah MJ. Oral Radiology. Principles and Interpretation. 5th ed. St. Louis: Mosby; 2004. p. 431-3.
4. Bravo M, White D, Miles L, Cotton R. Adenomatoid odontogenic tumor mimicking a dentigerous cyst. Int J Pediatr Otorhinolaryngol 2005;69:1685-8.
5. Olgac V, Koseoglu BG, Kasapoglu C. Adenomatoid odontogenic tumor: A report of an unusual maxillary lesion. Quintessence Int 2003;34:686-8.
6. Dayi E, Gurbuz G, Bilge OM, Ciftcioglu MA. Adenomatoid odontogenic tumour (adenoameloblastoma). Case report and review of the literature. Aust Dent J 1997;42:315-8.
7. Ajagbe HA, Daramola JO, Junaid TA, Ajagbe AO. Adenomatoid odontogenic tumor in a black African population: Report of thirteen cases. J Oral Maxillofac Surg 1985;43:683-7.
8. 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;1:3.
9. Philipsen HP, Srisuwan T, Reichart PA. Adenomatoid odontogenic tumor mimicking a periapical (radicular) cyst: A case report. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2002;94:246-8.
10. Philipsen HP, Reichart PA. Adenomatoid odontogenic tumour: Facts and figures. Oral Oncol 1998;35:125-31.

How to cite this article: Tharanikumar S, Balasubramaniam AM, Chandran A, Sudha PA. Interradicular adenomatoid odontogenic tumor of mandible: A case report. J Indian Acad Dent Spec Res 2014;1:83-5.

Source of Support: Nil, **Conflict of Interest:** None declared