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Dumbbell Radiolucency In Anterior Mandible- A Case Report

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Abstract

Introduction: Dumbbell shaped radiolucency in anterior mandible is a rare entity. Very few cases reported till date with anterior mandibular radiolucencies. But, the shape of radiolucency in our case was interesting which even consisted of an impacted tooth in it. Radiolucency in anterior mandible is an uncommon site for occurrence of intrabony pathologies.

Case Presentation: A 40 year old male patient presented with chief complaint of pain and swelling in lower front teeth region and radiographically with unilocular "Dumbbell shaped radiolucency". We present the clinical presentation and surgical approach followed by final or histopathological diagnosis.

Conclusion: Anterior mandible is a rare site for occurrence of intrabony pathologies. This paper explains a proper approach to a patient with unilocular radiolucency in anterior mandible with not a known dental origin

Keywords: Odontogenic cyst, Unilocular radiolucency, anterior mandible, tumor, Odontogenic keratocyst, OKC

Introduction

The basic principle behind diagnosing any lesion is to correlate the clinical and radiographic findings and establish a provisional diagnosis, followed by confirmatory histopathological examination. Radiographic interpretation for same lesion can be different and vice versa. Unilocular appearance usually represent unaggressive, slow growing, benign process. Concomitant radiographic findings are also of equal importance, viz. corticated/non-corticated borders, regular/irregular borders, root displacement, root resorption, mandibular canal displacement, and lingual cortex expansion[1].

Among all the odontogenic cysts in oral cavity, Radicular cyst was most prevalent histological type (48.67 %) followed by dentigerous cyst, odontogenic keratocyst, lateral periodontal cyst, paradental cyst, residual cyst, adult gingival cyst, glandular odontogenic cyst, calcifying odontogenic cyst. The most common locations of the odontogenic cysts were the mandibular (49.33 %) and posterior region (33.33 %)[2]. But, in the present case was applicable for all the parameters mentioned above except the site of the lesion, which is in anterior mandible a rare entity.

Case Presentation

A 40 year old male patient presented to us with the chief complaint of pain in lower front teeth region since 2 weeks.

On history taking, patient gives the same complaint in the same site 6 months ago where a radiograph was taken and advised biopsy by other dental surgeon, But, the patient didn't undergo any treatment as he got relief from symptoms due to the analgesic intake.

On thorough clinical examination, there was crowded lower anterior teeth with evident retained deciduous left canine which was grade 1 mobile. Surrounding hard and soft tissues appeared normal. No paraesthesiaelicited on lower lip region. An Orthopantomograph revealed Unilocular Dumbbell shaped radiolucency in anterior mandible extending from right mandibular first premolar to left impacted

second premolar region approximating left mental foramen with inferior border spared.

Fig.1 Pre operative intra oral clinical presentation

Fig.2 Orthopantomograph

Endodontic evaluation was done for lower anteriors which reveals all the teeth were positive for vitality except the retained left deciduous canine. Provisional diagnosis was made as Dentigerous Cyst and Differential diagnosis was Odontogenic Keratocyst, Adenomatoid odontogenic cyst.

Patient was explained about the treatment plan which included extraction of retained deciduous teeth followed by excisional biopsy of underlying pathology under general anaesthesia. Patient was also explained about the recurrence rate based on the histopathological diagnosis and requirement of enodontitc therapy of all or few lower anteriors based on post operative vitality test periodically. Patient gave his consent for the treatment under general anaesthesia.

Under all aseptic conditions, patient was nasoendotracheally intubated and draped. Aspiration was performed using 18 guage needle which showed a thick aspirate of creamy white cheesy material. A mandibular crevicular incision was placed from distal of left first molar region to mesial of right first molar with bilateral releasing incision which is called four cornered flap. Mucoperiosteal flap was elevated followed by skeletonization of mental nerve bilaterally. Removal of impacted tooth by collar guttering technique was done as the coronal portion of impacted tooth was visualized after flap elevation.

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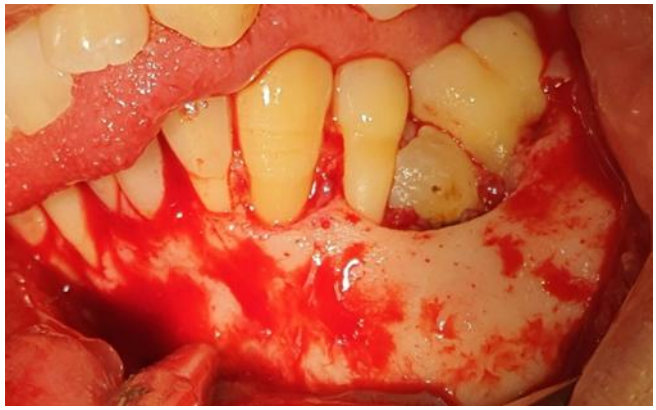

Fig. 3 Visualization of Impacted 35.

A bony window approximately 2 X 2 centimeter was made on the buccal cortical plate apical to the lower right anterior teeth region with no. 8 round bur to attain access to the cystic cavity from inferior aspect. Bony cavity at the impacted tooth site was extended to get access to the cystic cavity from the superior aspect.

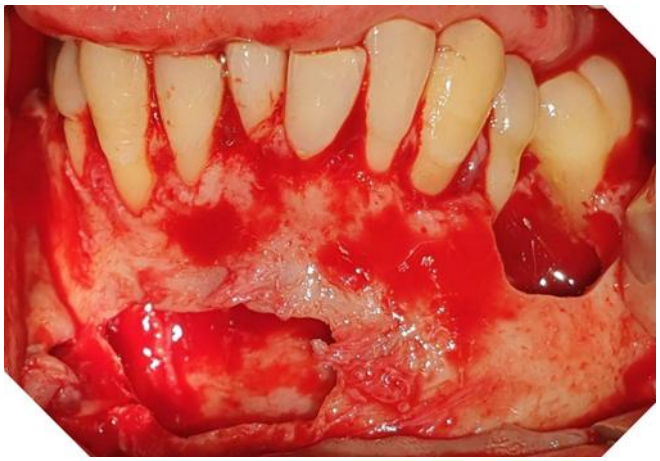

Fig. 4 Bony window created

Tunneling was made between two bony windows while elevating the cystic epithelium with Lucas Curette. Cyst epithelium was excised in-toto without breach in the epithelium.

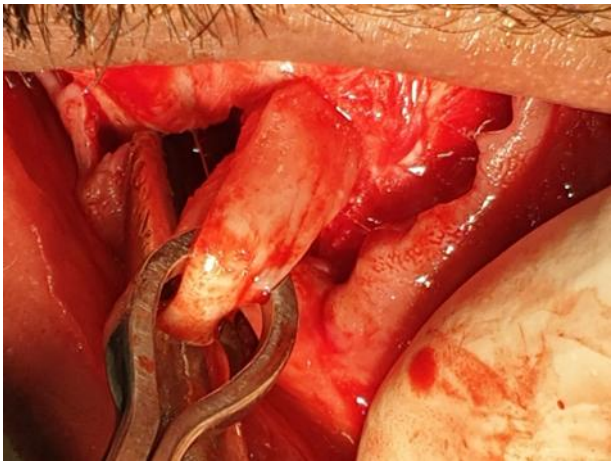

Fig. 5 Excision of cyst epithelium

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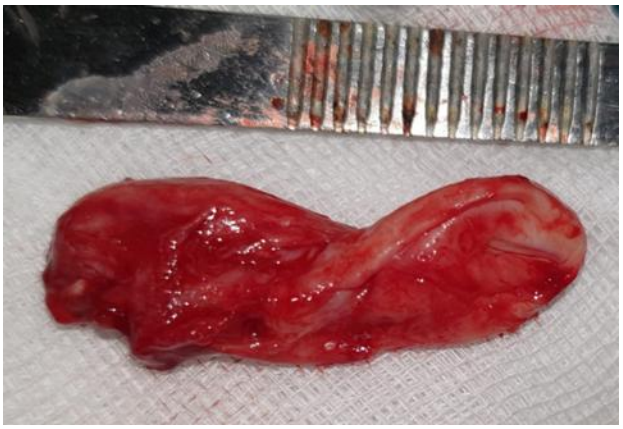

Fig. 6 Excised Dumble shaped specimen

Excised specimen was sent for histopathological examination. Thorough betadine and normal saline irrigations were made followed by primary closure of wound after primary hemostasis with VICRYL. Patient was extubated and shifted to post operative ward uneventfully.

Fig. 7 Primary closure of the incised wound

Histopathological report states that, the cystic lining comprising of 3- 4 layers thick parakeratinized stratified epithelium. Prominent Palisading pattern. Few odontogenic cell rests were seen in cystic wall. Which are suggestive features of Odontogenic keratocyst of anterior mandible.

Discussion:

Curative management of OKC is always difficult because the lining of the OKCs is characteristically thin and friable, removal of the cyst in one piece may be difficult. Surgeon should take an utmost care to remove entire cyst epithelium without leaving any cystic remnants attached to the adjacent bone or soft tissue. The high recurrence rate associated with OKCs is a result of satellite cysts confined to the fibrous walls of the OKCs. It should be emphasized that if the fibrous capsule is completely removed, no satellite cyst will be retained to serve as a nidus for recurrence. As the possible recurrence of the cyst is almost and always from basal cell proliferation and presence of satellite cysts, the bony walls of the cyst after its removal should be abraded with course surgical or acrylic burs to ensure that any residual cystic tissue was removed. The goals of treatment should involve eliminating the potential for recurrence while also minimizing the surgical morbidity. There is no consensus on adequacy of appropriate treatment of this lesion[4].

Multilocular cysts with bony trabeculae present special problems, as it is difficult to remove the lining in one piece at the intersection of locules. Many attempts have been made to reduce the high recurrence rate of OKCs by improving the operative technique. Radical surgery for treatment of OKC including resection with or without continuity

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defects, has been advocated for larger OKCs and recurrent lesions.

Bramley recommended radical surgery with resection and bone transplantation[5]. He did not favor a two-stage approach--ie, decompression followed by enucleation. Thomas et al. also expressed caution against the use of decompression treatment because of the possibility that remnants of cystic tissue may be left behind[6]. Ephros et al. advocated the use of the Brosch procedure, a radical procedure involving the removal of the lateral cortical plate and enucleation of the cyst[7].

Conclusion

Excision of OKC being highly technique sensitive and high chances of recurrence due to aggressive nature and high mitotic activity, it requires aggressive surgical management and close follow up post operatively to monitor recurrences. The authors recommend follow ups with suitable radiographs every 6 months for minimum about 2 years post operatively in asymptomatic patients.

References:

1. Mohanty S, Gulati U, Mediratta A, Ghosh S. Unilocular radiolucencies of anterior mandible in young patients: A 10 year retrospective study. *Natl J Maxillofac Surg.* 2013;4:66–72.
2. Kambalimath DH, Kambalimath HV, Agrawal SM, Singh M, Jain N, Anurag B, Michael P (2014) Prevalence and distribution of odontogenic cyst in Indian population: a 10 year retrospective study. J Maxillofac Oral Surg 13:10
3. Abdullah W.A.Surgical treatment of keratocystic odontogenic tumour: a review article.*Saudi Dent J.* 2011; 23: 61-65
4. Teresa MA, Christopher BC. A retrospective review of treatment of the odontogenic keratocyst. *J Oral Maxillofac Surg.* 2005;63:635–9.
5. Bramley P. The odontogenic keratocyst: an approach to treatment. Int J Oral Surg 1974;3:337-41.
6. Thomas M, Tackett JC, Desai P. The incredible odontogenic keratocyst. N Y State Dent J 1992; :31-3.
7. Ephros H, Lee HY. Treatment of a large odontogenic keratocyst using the Brosch procedure. J Oral Maxillofac Surg 1991;49:871-4.

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