

Traumatic Bone Cyst-Anterior Mandibular Region

Dr.Manisha M.Chadotra*, Dr.Mehul.D. Jani**, Dr.Vaibhav Sharma***

*Professor And H.O.D , **1st Year-Postgraduate Student, Department Of Oral And Maxillofacial Surgery. College Of Dental Sciences And Research Centre,Ahmedabad. ***Oral And Maxillofacial Surgery, Vinayak Faciomaxillary Hospital, Plot, 184, Sector-12b, B/H Old Court,Opposite Mp Patel Kanya Vidhyalay, Gandhidham, Kutch, Gujarat.

Abstract: Traumatic bone cyst(TBC) is rare cyst .it is also known as FALSE CYST because it does not have epithelial lining. Causes of TBC is unknown , but number of patients have history of prior trauma. It is more common in mandible with slight predilection to male.TBS of the jaws are often polymorphic, show scalloped borders when located between the teeth roots, are devoid of an epithelial lining, and are usually empty or contain blood or a straw-coloured fluid. The numerous synonyms referring to these lesions reflect their uncertain nature (eg , solitary bone cyst, simple bone cyst). Histology usually shows fibrous connective tissue or only bone. [Chadotra M et al NJIRM 2013; 4(1) : 159-161]

Key Words: traumatic bone cyst,mandibular pseudocyst,false cyst.

Author for correspondence: Dr.Manisha M.Chadotra, Professor And H.O.D, Department Of Oral And Maxillofacial Pathology, Maharaja Ganga Singh Dental College And Research Centre.Sri Ganganagar, Rajasthan. E-mail- mukesh.chadotra@sbi.co.in

Introduction: Lucas and Blum 1929,¹ first time described traumatic bone cyst (TBC) as a separate disease entity.The diagnostic criteria of this cyst were established in1946.These criteria remain valid today, and comprise a generally single lesion without an epithelial lining, surrounded by bony walls and either lacking contents or containing liquid and/or connective tissue².

Classification of the World Health Organization (WHO), TBCs are included in the group of bone-related lesions, together with the aneurysmal bone cyst, ossifying fibroma, fibrous dysplasia, osseus dysplasia, central giant cell granuloma and cherubism³.

The numerous synonyms are hemorrhagic bone cyst, simple bone cyst, hemorrhagic traumatic bone cyst, progressive bone cavity, unicameral bone cyst, extravasation cyst, and idiopathic bone cavity. Different causal factors have been proposed:bone tumor degeneration, altered calcium metabolism,low-grade infection, local alterations in bone growth, venous obstruction, increased osteolysis, intramedullary bleeding, local ischemia, or a combination of such factors^{4,5}. It has been suggested that any form of trauma, including tooth extraction could give rise to a cyst of this kind⁶. Although, it is important to underline that the TBCs' etiology is unknown.These lesions are generally diagnosed in patients under 30 years, with an approximate mean age of 20 years⁷.

The radiologic interpretation of mandibular TBC is often straightforward for typical lesions. Generally, images show a unilocular homogeneous osteolysis, surrounded by a narrow cone-shaped bony condensation with horizontal or vertical apex. The largest lesions demonstrate a more radiolucent polymorphic image, often with a scalloped appearance of the upper edge extending in between the roots, which are not affected by the lesion . In some cases, TBC appears multilocular with septum-like images, thus evoking other possible lesions⁸.

Histologically, the lesion appears as a cancellous bone cavity that may be vacant and without a lining, or present a thin connective tissue layer with a scant liquid content. In any case, the absence of an epithelial lining is a constant characteristic of these lesions⁹. Surgery is the management of choice. The present case report about a traumatic bone cyst developed within 5 days.

Case Report: Diagnosis :_A 24 years old patient came with the chief complaint of pain and swelling in front lower jaw region since last 4 days. Patient was relatively asymptomatic before 4 days. Before 4 days patient had an accident with a large wooden piece at symphysis mandibular region. After accident patient felt that there was swelling in anterior mandibular region with mobility in 33 to 43.(figure-1) There was no previous history of trauma,swelling and mobility.

Clinical examination revealed a irregular shaped soft swelling extending from mental foramen to mental foramen region and from inferior border of mandible to zygomatic arch on both side. Grade II mobility in relation to (i.r.t)33,32,31,41,42,43. Non-vital tooth i.r.t 32.Patient did not have any past medical and dental history. O.P.G radiograph shows radiolucent region in anterior mandible extending from canine to canine. Sclerotic margin was absent (figure 2). Provisional diagnosis of traumatic cyst was made.



Figure 1



Figure 2

Procedure: Patient was placed on intravenous antibiotic cefotaxime 1 gm.one day before surgery. surgery was planned under short general anesthesia (Inj.DEXTOMID). Mobile teeth were immobilized by splinting with interdental wiring (Figure 3).Full thickness muco-periosteum flap was raised with preserving marginal gingiva. Oval shaped Window was made in buccal cortical plate

(Figure 4). There was nothing within the cavity except blood stained 2.5ml of straw coloured fluid .It was completely empty without any epithelial lining. Carefully curettage was done and the collected fluid was sent to oral and maxillofacial pathology department.

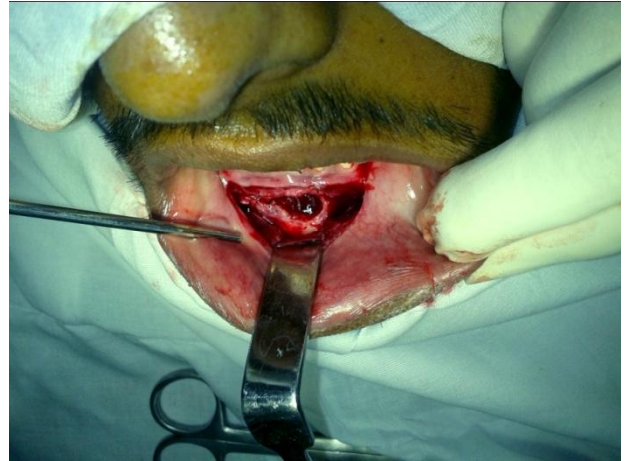


Figure 3

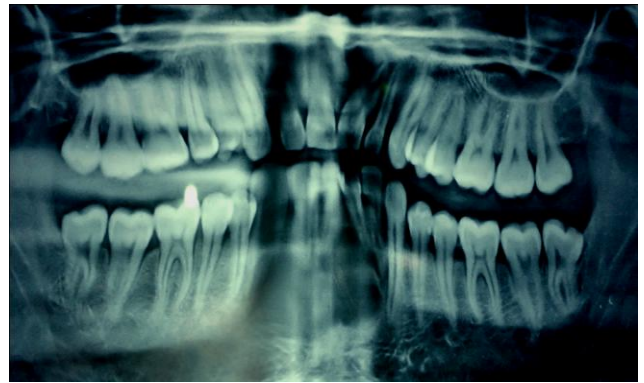


Figure 4

Histological Report : Histological report said that there were blood cells , pus cells, osteoblastic and osteoclastic cells in the specimen. No evidence of epithelial cells.

Discussion: The traumatic bone cyst is uncommon. Etiology is unknown in most of the cases as in our case. The size of over lesion is impossible to develop within 4 days. So there must be any etiology behind it. Patient denied any kind of trauma previously before 4 days. There was non-vital tooth which lead us towards the clinical diagnosis of radicular cyst. But the absence of epithelial lining within the cavity which is

characteristic feature of traumatic bone cyst eliminate the possibility of radicular cyst. There was blood stained fluid in small amount otherwise the cavity was empty. Traumatic bone cyst is common in 2nd decade and more common in body and angle of mandible. It is painless with swelling as in our case.

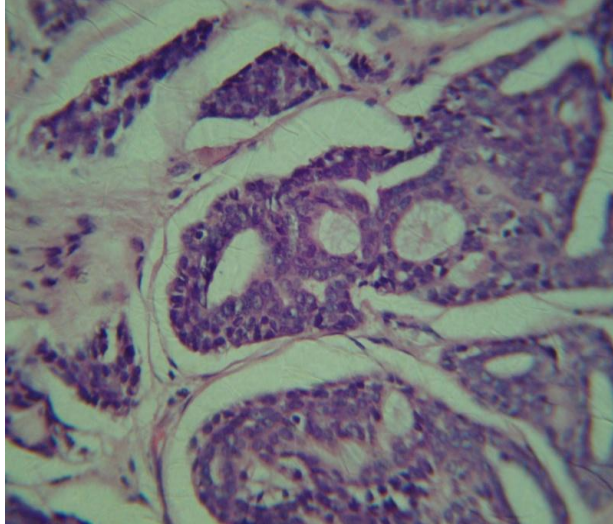


Figure 5

Radiographic finding shows uneven but clearly defined margin, scalloped pattern between tooth roots as we have in our case. The diagnostic criteria includes Radiographic appearance, Clinical finding of an empty bony space (pseudocyst), the dead space (no epithelium), Lamellar bone may be noted along the bony margin^{10,11}.

Conclusion: As the etiology of traumatic bone cyst in unknown and it is not always trauma. Here , in our case there was not any definite cause for the lesion except non-vital left lateral incisor. Based on the absence of epithelial lining and empty cavity as well as histological findings we conclude that the lesion was traumatic bone cyst but cause was not known. The anterior mandibular region has dense bone .So the lesion in our case has took longer time to become this much large. This also eliminate the trauma as cause in our case.

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