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Accidental finding of odontoma during routine chronic periodontitis therapy-a rare finding

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ABSTRACT

Chronic periodontitis is an infectious disease resulting in inflammation within supporting tissues of the teeth, progressive attachment loss and bone loss". Odontomas are the most common type of odontogenic tumors and generally they are asymptomatic. This paper describes an accidental finding of odontoma in an adult patient of generalized chronic periodontitis. Surgical excision of the lesion was performed .Reporting of such cases is necessary as initially there was no clinical or radiographic evidence of lesion was present .Dentist should well equipped and prepared for incorporation any modification during flap surgery of for successful management and better patient care.

Keywords: Odontoma, Patient, Periodontitis, Surgery

Introduction

Periodontitis involves the destruction of the supporting structures of the teeth including the periodontal ligament, bone and soft tissues. Treatment of periodontitis consists of proper motivation of patient, oral hygiene instructions, scaling and root planing, flap surgeries with different resective and regenerative procedures. Odontomas are hamartomas malformations consisting of various dental tissues, i.e., enamel, dentin, cementum and sometimes pulp. Paul Broca in 1867 used the term odontoma (or odontome) Broca in 1867 to describe all odontogenic tumors.[1]They are slow-growing, benign tumors with nonaggressive behavior. Treatment of choice is surgical removal.[2]Eruption of an odontoma in the oral cavity is rare. We present a case of complex odontoma, which was embeded under the palate in relation to second molar.A 64-year-old, apparently healthy man reported to the department of periodontology and public health dentistry, Dr. Z. A. Dental College, AMU Aligarh with irritation and bleeding gums since one month. Average pocket probing depth was 5mm with generalized bleeding on probing .Orthopantomogram (Fig 1) showed generalized horizontal bone loss. Diagnosis of generalized chronic periodontitis was made. There was no significant medical or dental history. Mouth opening was adequate. Intraoral examination .Scaling and root planing was done. Flap surgery was planned. Buccal and palatal flap was elevated in relation to second quadrant. Upon debridement of that area a mobile tooth like structure was found overlying the palatal bone(Fig 2) which was removed during the surgery.(Fig 3,4) Flaps were sutured with 5-0 silk suture. Pack was placed. Sutured were removed after

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one week. Tooth like structure that was removed was sent for histopathological examination. On biopsy H & E section showed homogenous eosinophilic material with ghost cells and calcification. Focal degenerated epithelial lining with pulp tissue was also seen.(Fig 5,6)Treatment for periodontitis varies considerably according to the extent and pattern of attachment loss, bone loss, local factors involved, type of periodontal disease, and therapeutic objectives. Treatment provided should reduce etiologic so that they does not cause further breakdown and it should allow repair of the area. In addition to this clinician should have thorough clinical knowledge so that he can corporate any change in surgical procedure extemporary. He should be well prepared both mentally and with armamentarium for any unusual finding, pathology and for modification in treatment plan. As in this case extraction of odontoma was not planned at the start of surgery as there was neither any sign and symptom of it before flap reflection nor any radiographic evidence.Odontoma is the most common type of odontogenic tumour, although some prefer to refer to it as hamartoma, not a true tumour. Complex odontomas usually occur in the posterior region of the jaw and compound odontomas are usually found in the anterior maxilla. They may be discovered at any age, although less than 10% are found in patients over 40 years of age. They are commonly asymptomatic, clinical indicators of odontoma may include retention of deciduous teeth, unerupted permanent teeth, pain, expansion of the cortical bone and tooth displacement. Other symptoms include anesthesia in the lower lip and swelling in the affected area. Clinically, odontomas can be complex or compound, and are classified as:

• Intraosseous — these odontomas occur inside the bone and may or may not erupt) into the oral cavity.

• Extraosseous or peripheral — odontomas occurring in the soft tissue covering the tooth-bearing portions of the jaws.

The developmental stages are classified based on radiologic features and the degree of calcification of the lesion at the time of diagnosis. The first stage is identifies by radiolucency due to the absence of dental tissue calcification, the second or intermediate stage shows partial calcification and third that is classically radiopaque stage is characterised by predominant tissue calcification with the surroundereing radiolucent halo described above.[3] In this case,we present a mature complex odontoma, which should be differentiated from cementoblastoma, osteoid osteoma and fibro-osseous lesions, such as cemento-ossifying fibroma. A cementoblastoma presents as a well-defined radiopaque mass attached to the tooth root and surrounded by a radiolucent rim. Osteoid osteomas identified as small ovoid or round radiolucent area lined by a rim of sclerotic bone; the central radiolucency shows some calcification. Cemento-ossifying fibroma presents as a well-defined radiolucency with increasing flecks of calcified masses with maturation; it is not surrounded by a radiolucent rim and it is diffuse with normal bone.[3] None of these is associated with an impacted tooth. The mechanism of odontoma eruption appears to be different from that of tooth eruption because of the lack of periodontal ligament in odontoma. Therefore, the force required to move the odontoma is not linked to the contractility of fibroblasts, as it is in case for teeth. As there is no root formation in odontoma, its increasing size may lead to the sequestration of the overlying bone. The increase in the size of the odontoma over time produces a force sufficient to cause bone resorption. Another cause for its eruption could be the bone remodelling of the alveolar bone. However, for this dental follicle is required, as it provides both the conductance and chemoattraction for the osteoclasts necessary for tooth eruption. Although the diagnosis of odontomas, in most cases, can be provisionally confirmed by radiographic examination, a histological study of the removed lesion must be done to confirm the diagnosis.[4]Surgical removal of odontomas is suggested if there is no absolute .Clinical and radiographic follow-up is suggested where surgical intervention is deferred due to any cause.A proper treatment planning and proper evaluation of underlying structures during flap surgery is of vital importance. Modification of treatment plan according to the requirement is essential and needs a careful approach and wise judgment . Histopathological examination of excavated abnormal tissues is needed and will lead to a definitive diagnosis. Reporting of such cases is important as it may pave the path for better oral care of the patient.

Fig 1: OPG of the patient shows generalized horizontal bone loss

Fig 2:Tooth like structure in overlying palatal bone irt 26

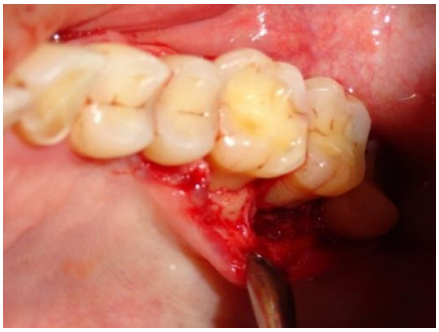

Fig 3:Site after removal of tooth like structure

Fig 4:Removed tooth like structure

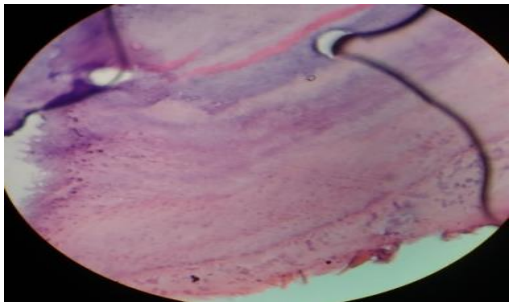

Fig 5:H & E section showing homogenous eosinophlic material with ghost cells and calcification

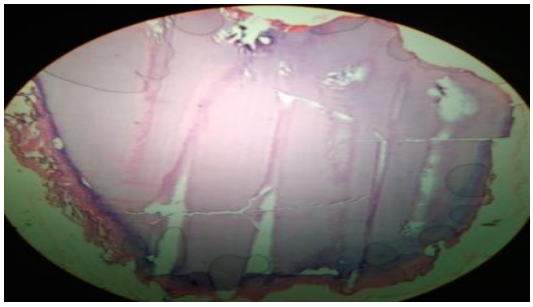

Fig 6 :Focal degenerated epithelial lining with pulp tissue was also seen

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