



Case Report

Surgical excision of tooth embedded-osteoma of palate induced by traumatically intruded tooth – A case report

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ABSTRACT

A 47-year old male patient reported with a chief complaint of hard swelling of palate region with associated difficulty in speech articulation and swallowing. It was diagnosed as osteoma of palate region, following a trauma with intrusion of tooth. Complete surgical excision was done and postoperative follow up revealed uneventful healing and restoration of articulation and tongue movements to near normalcy.

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1. Introduction

Osteomas are benign tumors of osteogenic origin. These tumors are slow in growth, round to oval in shape and commonly sessile, constituted of compact or cancellous bone. Various etiologic factors have been proposed for osteomas which include developmental, traumatic, infectious and neoplastic.^{1,2} They can be solitary or multiple. Gardner's syndrome is associated with multiple osteomas. Based on the origin, solitary osteomas can be classified as central, peripheral or extra-skeletal comprising soft tissue arising from the endosteum, periosteum or within a muscle respectively.^{3,4} The paranasal sinuses and the mandible are most commonly affected sites in the head and neck region.^{5,6} Palatal osteomas are relatively uncommon^{7,8} and are often asymptomatic. The osteomas in palatal region can cause functional impairment and minimal facial disfigurement. Surgical removal remains the gold standard treatment for osteomas with very low recurrence rate. In this article we present a case of pedunculated peripheral osteoma

of anterior palatal region in a 47 year old male, with its uniqueness lying on the traumatic intrusion of permanent tooth as etiologic factor. It was managed by surgical removal and primary closure.

2. Case Report

A 47 years male patient presented to our OPD with complaint of swelling in the region of palate since 25 years which was gradual in progress to attain the current size. The tumor was noticed by the patient following a trauma. Associated difficulty in chewing, restriction of tongue movements and speech articulation. There was no history of pain in the area of the swelling. Past medical history was non-contributory. On clinical examination, there was a large pedunculated swelling overlying the entire anterior part of hard palate. The swelling was approximately 3.5 * 4 cm, margins well defined and pedunculated with overlying mucosa appearing smooth and stretched. On palpation, there was no tenderness. The swelling was hard in consistency, non-mobile, non-fluctuant and there was clear demarcation between the swelling and the adjoining normal mucosa

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(Figure 1). In addition to that there was missing central incisor on left side and fractured non vital lateral incisor and canine on the same side. With a provisional diagnosis of palatal exostoses and peripheral osteoma, radiographic investigations were undertaken. Occlusal view radiograph of upper arch revealed a well-defined radioopaque mass with a tooth like structure within it. Following which CECT was done, which showed a heterogenous, pedunculated, radio-opaque mass of 3* 4 * 3.5 cm, attached to the palate by a narrower stalk on the midline region. (Figure 2). Interestingly, a tooth like structure was present with proper crown and root morphology (Figure 2 B, D). This was correlating with the history of trauma and the absence of central incisor and fractured, intruded non-vital adjacent teeth. Based on clinical and radiological examination a provisional diagnosis of post-traumatic osteoma arising from the hard palate was made and excision biopsy was planned. Intraoperatively, a circumferential incision was given at the base to expose the mass (Figure 3 A). It was planned to preserve the firm and thick overlying mucosa as it will be helpful to cover the denuded region later. The osteotomy was started at the base using a tapered fissure bur to make the stalk thinner which was followed by separation from the hard palate using a curved osteotome and mallet (Figure 2 B) and the mass was excised in total (Figure 4). The remnants of stalk and the irregularities were smoothed in shaving motion using a trimming bur. The excess mucosa was reduced and primary closure was done with 3-0 vicryl following confirmation of intact palatal vault (Figure 3 C). The tumor was removed in toto and specimen showed a tooth engulfed within the tumor on the deeper surface. The postoperative period was uneventful and the wound healed completely (Figure 3 D). Histopathological examination showed that the lesion was composed of bony lamella with osteocytes and intervening fibrous tissue, fatty tissue and calcification. No cellular atypia was seen. Three years follow up showed no recurrence of the lesion.



Fig. 1: Preoperative photograph showing pedunculated tumor

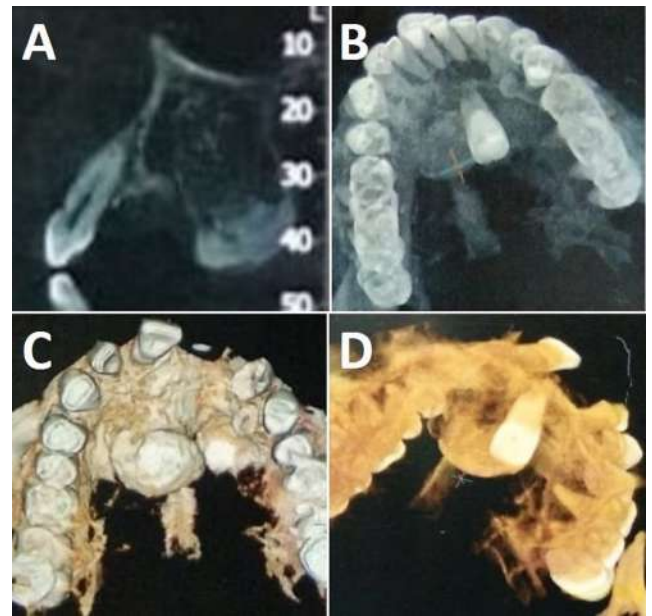


Fig. 2: Preoperative radiograph: **A):** Sagittal section of CBCT; **B):** Occlusal view; **C):** 3D view; **D):** Note the displaced tooth within the tumor mass

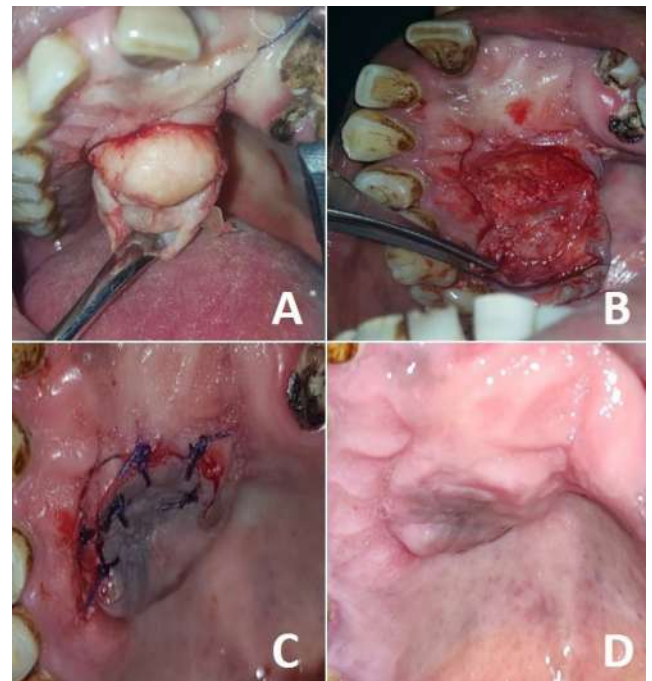


Fig. 3: Intraoperative photograph: **A):** Exposure; **B):** Post excision; **C):** Closure; **D):** Follow-up photograph

3. Discussion

Osteomas are uncommon in palatal region and occur in a wide age distribution and without any gender predilection.³ According to study by Woldenberg et al, osteomas of



Fig. 4: Specimen. Note the discolouration representing the tooth engulfed within the tumor

maxillofacial region occurs in mean age group of 40.5 years.⁴ In this case the patient was a 47 year old male with history of trauma. Paranasal sinuses followed by mandible and maxillary region remain as the common site for peripheral osteomas occurring in the head and neck region. The hard palate is a rare site with a very few cases reported in literature. In this case, the trigger factor for onset of tumor was trauma. The intruded tooth into the anterior hard palate region following a trauma presented as if the tooth was buried within the bony mass. Radiographically, peripheral osteomas present as an oval to round, well circumscribed radio-opaque mass, and attached to the adjacent cortical bone with a broad base or pedunculated with a narrower stalk.⁸ Jaw bones exostoses as they do not grow beyond puberty, patients presenting with long standing and progressively growing bony masses should be examined for other lesions to rule out any associated syndromes. Asymptomatic osteomas or jaw bone exostoses are usually managed conservatively until they impede with function or esthetics. Complete surgical excision remains as gold standard treatment modality for symptomatic cases.⁹

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5. Conflicts of Interest

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6. Informed Consent

Written informed consent was obtained from a legally authorized representative for anonymized patient information to be published in this article.

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