Case Report

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Management of Complex Erupting Odontoma in the Maxilla

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Introduction:

Odontomas are considered odontogenic hamartomas constituted by tooth-forming tissues laid down with variable degrees of organization and mineralization^[1] They are a benign tumor of odontogenic origin^[2] They are described as mixed tumors containing both epithelial and mesenchymal elements^[4] consisting of enamel, dentin, cementum and pulpal tissue^[1]. Odontomas are considered as hamartomas/ developmental anomaly rather than a true neoplasm.^[3] Most odontomas are detected during the first two decades of life and the mean age at the time of diagnosis is 14 years.^[5]

World Health Organization (WHO) classified it based upon their gross and radiographic features into compound or complex^[3]. Compound odontomas are recognizable as orderly tooth like structures^[2]. A complex odontoma appear as a disorganized amorphous mass of calcified hard tissues^[6]. Odontomas are characterized by their slow growth and nonaggressive behavior and are usually detected incidentally in the second or third decade of life.^[1,8]

Odontomas occur somewhat more frequently in the maxilla than in the mandible.^[5] Complex odontomas present less frequently than compound odontomas. In addition, eruption through the mucosa is rare^[2,9]. Odontomas are treated by simple local excision and the prognosis is excellent.^[5,8]

This article presents a rare case of a large complex odontoma involving the maxillary sinus, presenting clinical and radiographic features and treatment with conservative technique.

Case report

A 16 year old male patient presented to our oral and maxillofacial department in a tertiary referral center and presented with a left facial cellulitis, and a hard mass was

palpable in his right maxilla The patient reported that the symptoms had begun 3 week previously but that he had noticed a mass in the left maxillary molar area 6 months previously. The infection was treated with empirical intravenous

antibiotic therapy. Extraoral examination revealed a hard swelling over the left maxilla, with an associated intraoral calcified mass and missing 1st and 2nd molar teeth. There was no associated sensory nerve deficit. Plain radiographs and computed tomography demonstrated an extensive calcified lesion in the left maxilla, extending to the maxillary sinus (Figures 1 and 2). An incisional biopsy was taken and histopathological examination suggested the presence of odontoma. Surgical removal of the lesion was planned using a transoral approach with Caldwell-luc incision under general anesthesia.

One hour before surgery the patient was given 8mg dexamethasone IV and 1 g zenacef IV. A mucoperiosteal flap was raised with an intrasulcular incision, from the maxillary left first premolar until tuberosity. A releasing incision was performed on the mesial side to allow the proper exposure of the mass. The mass was identified and complete removal was made as one piece (figure 3), along with the malposed molar. Surgical cavity was smoothened with a bur. The flap was then repositioned and closed with interrupted suture.

Figure (1) : Panoramic view showing the lesion involving the left posterior maxilla.

Figure (2): Coronal & Axial cuts in CT SCAN of the head presenting a hyperdense lesion associated with displaced tooth in the left side of the maxilla

Figure (3) : the excised mass with the displaced molar tooth

Pt was discharged in the same day with prescribed analgesic (ibuprofen 400mg for 3 days) and antibiotic (amoclan 625mg for 7 days) and instructed to use chlorhexidine rinse twice daily for 1-week. The area healed uneventfully. Histopathological result revealed dental tissue show extensive deposits of enamel and dentin in form of tubular appearance forming disordered tooth tissue(cementum, enamel, dentin) compatible with complex odontoma. One year after lesion removal. OPG demonstrated good bone repair in the area with no sign of recurrence figure (4).

Figure (4) : panoramic view 1 year post excision

Discussion

Odontomas are benign tumors of odontogenic origin consisting of enamel, dentin, cementum and pulpal tissue, and constitute 22% of all odontogenic tumors [1].

Odontomas are considered to be developmental anomalies (hamartomas), rather than true neoplasms [5]. Odontomas are the most common odontogenic tumor. They are characterized by slow growth and nonaggressive behavior [2]. The etiology of odontoma has been attributed to various pathological conditions like local trauma, inflammatory and or infectious processes, hereditary anomalies (Gardner's syndrome, Hermann's syndrome) [3]. They usually present in children and young adults in the 2nd decade of life [2].

Odontomas are either complex or compound and are classified as:

- Intraosseous – these odontomas occur inside the bone and may erupt (erupted odontoma) into the oral cavity.
- Extra osseous or peripheral – odontomas occurring in the soft tissue covering the tooth-bearing portions of the jaws [1]

Odontomas occur more frequently in the maxilla than in the mandible, the compound type is more often seen in the anterior maxilla; complex odontomas occur more often in the molar regions of either jaws [5]. Odontomas are commonly asymptomatic, clinical indicators may include retention of deciduous teeth, no eruption of permanent teeth, pain, expansion of cortical bone, and tooth displacement [1]. Caboc et al. reported that odontomas in the maxillary sinus may cause pain, facial asymmetry and chronic congestion of the sinus [4,7]. This was observed in the present case in which the odontoma caused marked discomfort to the patient along with facial swelling.

Radiographic findings show either a small toothlike structures surrounded by radiolucent (low density) rim in compound type, or amorphous mineralized (radiopaque) mass surrounded by radiolucent (low density) rim in complex type [6,8,9]. This was seen in our case in the orthopantgram resembling complex odontoma

radiographic finding.

Odontomas are treated by simple local excision [5]. And there is little probability of recurrence [3].and diagnosis should be confirmed by histopathology [4].

The most common approach for management of maxillary odontogenic neoplasms is a transoral approach. Labial and palatal mucoperiosteal flaps may be raised to allow adequate exposure.[2]. this approach was used in our case to facilitate removal since it has a big size.

Impacted teeth related to odontoma in most of the cases can be preserved and allowed to erupt spontaneously or with orthodontic traction [8] . in cases of big odontoma with displaced or malformed teeth which are difficult to treat removal is done along with the odontoma [9]. as in our case.

Conclusion

This case highlights the extensive nature and rare presentation of erupting complex odontomas. They may increase in size after calcification and lead to complications following eruption. They may present with facial cellulitis or, more rarely, facial deformity. Surgical removal is the treatment of choice with removal of impacted malposed malformed teeth.

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