

Unerrupted Complex Odontoma of the Posterior Mandible: A case report

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Abstract

Odontomas represent most common odontogenic tumours. They are usually clinically asymptomatic and are diagnosed mostly on routine radiographic examinations. We hereby report a case of complex odontome in relation to posterior mandible in a 23 year old male patient. This case is significant as the occurrence of complex odontomes are comparatively rare.

Introduction

Odontomas are benign odontogenic tumours composed of various dental tissues including enamel, dentin, cementum and sometimes pulp^[1]. It constitutes 22% of all odontogenic tumours of the jaw. Incidence of compound odontome ranges from 9-37% and complex odontome is between 5-30%^[2]. Complex odontome is slightly less common than compound odontome. Lesions are invariably asymptomatic and are usually discovered on routine radiological examination mostly during the second and third decade of life. We report a case of complex odontome in relation to posterior mandible which did not erupt into the oral cavity.

Case Report

A 23year old male patient reported to the dental out-patient department of Oral Medicine department of our institution with a chief complaint of pain on lower left back teeth region of the jaw since 1year [Fig. 1]. Pain is gradual in onset, intermittent by nature, dull type of pain of moderate intensity which aggravates on chewing hard food and relieves on its own after about 10-15 minutes. Patient has visited a dental surgeon for the same about 6months back, was advised surgery and was unwilling for it.



Fig. 1: Extraoral photograph of patient

- On extraoral examination palpation, a bony prominence felt on left side inferior border of mandible which is tender. On intraoral examination inspection [Fig. 2], a well-defined swelling noted in the left side buccal vestibule, oval in shape, approximately 1.5x1cms in greatest dimension extending anteriorly from distal of 35 till 0.5cms distal to 36. Superiorly extending 1cm above the gingivobuccal sulcus till the gingivobuccal sulcus inferiorly. Surface mucosa appears erythematous. On hard tissue examination, missing teeth noted irt 37, 38. On palpation, tenderness noted on buccal vestibule in relation to 36 & distally till the retromolar trigone. Tenderness on vertical percussion noted in relation to 36. Based on the clinical findings, dentigerous cyst in the region of 37, 38 was considered as provisional diagnosis. Differential diagnosis considered was Keratocystic odontogenic tumour. Intraoral periapical radiograph [Fig. 3] taken in relation to the same region revealed the presence of 37 and 38. The coronal portion of 37 appears below the occlusal plane, almost at the middle one third of the root portion of 36. A single homogenous mass of radiopacity (measuring approximately 1cm in greatest dimension) with almost the same density as that of tooth structure present covering the crown of 37 extending from the cemento enamel junction of 37 to about 1cm coronally covering the entire crown. Dilacerated roots noted irt 37 and 38 appears to be below the alveolar bone. Panoramic radiograph confirmed the same findings [Fig. 4]. Presence of a radiolucent rim was noted inferiorly surrounding the radiopaque mass with obliteration of inferior border of mandible by dilacerated roots of 37. Long axis of 38 appear to be at an angulation mesially irt long axis of 36 with alveolar bone coverage coronally indicating mesioangular impaction. Radiographic differential diagnosis considered were complex odontome and cystic odontoma. Surgical excision and enucleation of odontome with extraction of 38 was performed and the mass and was submitted for histopathologic

examination [Fig. 5]. Hematoxylin eosin sections [Fig. 6] under 4X revealed dentin matrix with pulp tissue arranged haphazardly. Under 10X presence of odontogenic epithelium with dentin and pulp tissue in a matrix of collagen fibers with blood vessels are revealed. Enamel would have been lost during decalcification. Based on all these, a final diagnosis of complex odontome in relation to 37 was established. Patient is currently under follow up [Fig. 7].



Fig. 2: A well-defined swelling noted in the left side buccal vestibule

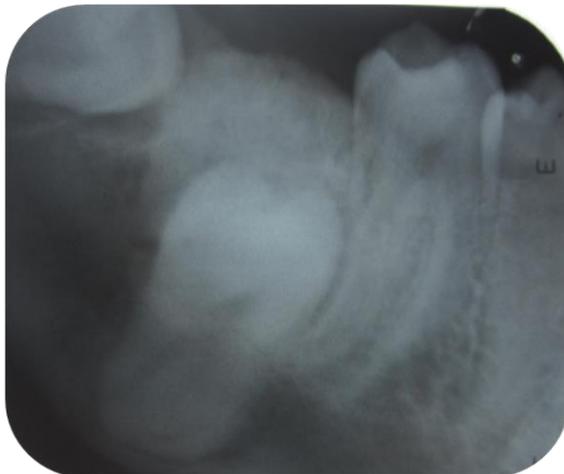


Fig. 3: Intra Oral Periapical radiograph reveals a single homogenous mass of radiopacity (measuring approximately 1cm in greatest dimension) with almost the same density as that of tooth structure present covering the crown of 37



Fig. 4: Panoramic radiograph reveals long axis of 37 appears to be parallel to long axis of 36 with coronal portion well below the alveolar ridge, almost at the middle one third of root portion. A single radiopaque mass internally with mottled appearance with lobulated margins & surrounded by a radiolucent rim inferiorly seen covering the coronal aspect of 37. Density of radiopacity appears similar to that of the tooth structure measuring approximately 1x1.5cms in greatest dimension. Roots of 37 appear dilacerated with obliteration of the inferior border of mandible. Long axis of 38 appear to be at an angulation mesially irt long axis of 36 with alveolar bone coverage coronally suggestive of mesioangular impaction

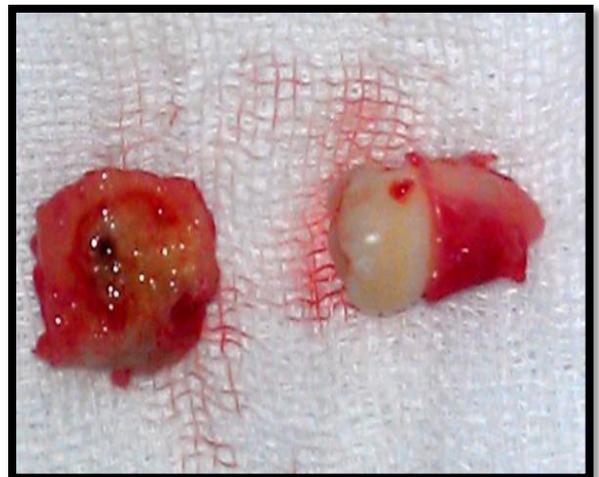


Fig. 5: Tissue specimen showing extracted tooth and the excised tissue

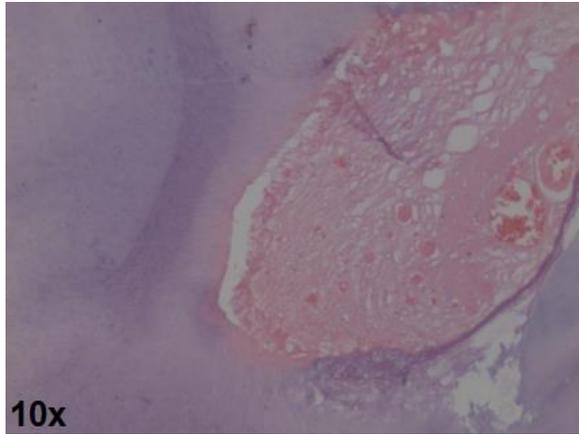


Fig. 6: photomicrograph under 10x reveals presence of dentin with pulp tissue, odontogenic epithelium, collagen fibres with blood vessel, enamel has been lost during decalcification



Fig. 7: Post-operative panoramic radiograph

Discussion

Term Odontoma was coined by Paul Broca in 1867. On a histopathological perspective, odontomes can be grouped as: i) Complex odontome: dental tissues are well formed but disorderly arranged. ii) Composite odontome: dental tissues are normal, but their size and conformation are altered giving rise to multiple small tooth like structures called denticles^[3]. Compound odontomes are usually located in the anterior portion of maxilla and are usually unilocular. Complex odontomes are found in the posterior mandible and usually appear unilocular with occasional nodular elements and are separated from normal bone by well-defined cortication^[4]. Radiological appearance of complex odontomes depend on stages of development and degree of mineralisation. Initially appears as radiolucency due to lack of calcification. Partial calcification observed in intermediate stage, while it appears as radiopaque in the third stage with amorphous masses of dental tissue which are surrounded by a thin radiolucent zone which corresponds to the connective tissue capsule histologically^[5]. Microscopically

odontomes consist of haphazard conglomerates of dentin, enamel, cementum and pulp tissue. Radiologic differential diagnosis of cementoblastoma, osteoid osteoma, cemento-ossifying fibroma can be ruled out clinically as these are not associated with impacted teeth^[6]. Considering the small dimension of the lesions and its uneventful biological behaviour, a conservative surgical enucleation is recommended and no case of recurrences have been reported so far^[7].

Conclusion

Odontomes are common in general, but complex odontomes are rare when compared to other odontomes. Diagnosis of odontomes cannot be made by visual or manual examination. It has to be done in coordination with radiographic as well as histologic examination. Recurrence of the lesion is very low.

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