Case Report :

3D CBCT analysis of a rare case of bilateral complex odontomas in a Geriatric Patient

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Abstract:

Odontomas are the most common odontogenic tumors of the jaw bones which are benign, slow growing and asymptomatic. They are usually diagnosed on routine radiological examination during second decade of life. We report a rare case of bilateral compound odontomas in a geriatric patient.

Keywords: Hamartoma, compound odontoma, odontogenic tumors.

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Introduction

Odontomas are regarded as developmental anomalies which results from the growth of fully differentiated epithelial and mesenchymal cells giving rise to ameloblasts and odontoblasts.¹ These entities are primarily composed of enamel and dentin but they may also contain considerable amounts of cementum and pulpal tissue. In the formative phase of the odontomas, enamel and dentin can be deposited in a way manner which structural resembles a normal tooth, this type of tumor is categorized as a compound odontoma. In another entity, the enamel and dentin tissues deposits as a irregular mass in a disorderly pattern, which is called as a complex odontoma.² Complex odontomas are known to occur less frequently than compound odontomas. Both the types of odontomas are reported to be occur anywhere in the dental arches. Most of the compound odontomas which are reported to be found in the anterior maxillary region and majority of complex odontomas were observed in the posterior quadrant, more commonly in the lower jaw.³ The etiology of the odontoma is not clearly established till date. It has been proposed that traumatic injuries and infectious focus at the site

of the lesion may provide ideal conditions for the formation of odontomas.⁴ Generally odontomas are symptom free, having slow growth character, rarely exceeding the size of a tooth, but they may lead to expansion of the cortical bone when enlarged to considerable size.⁵

The majority of compound odontomas are known occur before the age of the age of 30 with a peak in second decade, in the present report a rare occurrence of bilateral complex odontoma in a geriatric patient is presented.

Case Report

A 65-year-old male patient reported to us with a complaint of difficulty in chewing food because of loss of his teeth. The patient gave history that he does not any systemic illness. Extraoral examination revealed no significant finding. Mouth opening of the patient was adequate. Intraorally, the patient was examined and found that the teeth 13,14,15,16,17,24,31,32,33,34,41,42,43 were present with poor periodontal status. No any soft tissue abnormality was noted. A panoramic radiograph was obtained to know the bone status of the remaining teeth and we found a bilateral well defined radioopaque structure in the mandible.

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To further analyze the lesion, it was decided to perform CBCT. CBCT images revealed bilateral well defined radiopaque lobulated structures in the posterior region of the mandible. Both the masses were observed with a radiolucent halo and a covering of cortical borders over it (Figures 1-4).

Figure 1

Figure 2

Figure 3

Figure 4

No expansion or cortical thinning was noted with both the masses. These lesions were planned to be removed with surgical excision followed by prosthodontic rehabilitation of the patient

Discussion

Odontomas are relatively common hamartomatous malformations, usually asymptomatic, and are commonly diagnosed during the second decade of life. Majority of odontomas are asymptomatic and occasionally may lead to cortical expansion, swelling and in rare cases cases, infection or lymphadenopathy may be observed. Odontomas may lead to impaction or delayed eruption of permanent teeth, the most commonly involved are the canines, followed by maxillary central incisors and third molars.⁶ Odontomas possess characteristic Radiographic features, the complex odontoma presents as an irregular mass comprising calcified material surrounded by a thin radiolucent line with a smooth periphery, and the compound type shows miniature calcified structures similar to teeth in the middle of a well-defined radiolucent lesion.⁷

Radiographically three different development phases can be observed depending on the amount of odontoma calcification. In the formative stage the lesion can be seen as radiolucent due to absence of calcification, during the intermediate stage, partial calcification may be observed; and in the mature stage the odontoma appears completely radio-opaque surrounded by a radiolucent halo.⁸

Histologically, odontomas are seen with presence of enamel matrix, dentin, pulp tissue, and cementum that can, but need not, exhibit a normal arrangement or deposition. Compound odontomas consists of tooth-like structures similar to pulp in the central portion surrounded by a dentinal tissue and incompletely covered by enamel. Complex odontomas composed of dentin, enamel, and pulp tissue arranged in a haphazard fashion. The connective tissue capsule surrounding the odontoma resembles to the follicle that covers a normal dental follicle.⁹

Odontomas are generally treated by conservative surgical removal and there are minimal chances of recurrence, as these masses are encapsulated. The ideal time for the excision of odontoma is when the adjacent permanent teeth to the odontoma is about one half of its root development. This would establish the apparent eruption of the permanent teeth with limited intercession.¹⁰

Conclusion

This report constitutes rare case of bilateral compound odontomas in a geriatric patient. Since odontomas comprises a large proportion

of jaw tumours, a thorough knowledge of their characteristics is necessary for establishment of proper diagnosis and treatment.

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