



Lingually placed Complex Odontome in the Mandibular Posterior Region: A Case Report

Authors

Dr Anita R. Pal¹, Dr Sunita R. Pal^{2*}

¹Consultant, Oral & Maxillofacial Surgeon, 32 Pearls Dental Care & Cure Multi-speciality Hospital,
Navi Mumbai, Maharashtra-400708

²Post graduate, Department of Periodontology, Rajarajeswari Dental College and Hospital,
Bangalore-560074

*Corresponding Author

Dr Sunita R. Pal

Post graduate, Department of Periodontology, Rajarajeswari Dental College and Hospital,
Bangalore-560074, India

Tel: +91 9611654096; Email: sunitarpal1989@gmail.com

Abstract

The odontomas are malformations of the development of dental tissue, generally called hamartomas. Patients are usually asymptomatic and is a random finding. The case reported here is a case of a 42-year-old man who was diagnosed with odontoma in his lower right back tooth region i.e. with respect to first and a second molar. The removal of Odontome was performed under Local Anaesthesia.

Keywords: *Odontoma, Molars, Tooth eruption, inferior alveolar nerve.*

Introduction

Odontomas are considered anomalies of hamartomatous development. According to the WHO (2005) there are two types of odontomas: Complex composite odontome and Compound composite odontome¹. The term is now used to denote lesions that contain all dental tissues and include two types, compound odontoma and complex odontoma, which contains tooth-like structures. Most of these tissues do not resemble any morphological similarity with normal dental structures; however, enamel, dentin, pulp and cement are arranged as it is in the normal dental structures. The compound odontoma is more common in the anterior maxilla, while the complex odontoma is usually found in the

posterior mandibular region. Compound odontoma is more commonly found than the complexodontome¹. They are usually found until the second decade of life. The etiologies of the odontomas includes various factors such as growth pressure, local traumas, infections, developmental and hereditary influences². The odontoma found in the third and fourth decades of life is usually rare. The patient usually presents with routine dental problems such as pain, swelling and pus secretion.

Case Report

A patient named Mr. Shivanna. R. aged 42yrs, reported to dental OPD in Rajarajeswari Dental College and hospital, Bangalore with the complain

of pain in the right lower back tooth region. Extraorally, no gross facial asymmetry present. Left submandibular lymph nodes were palpable, non-tender and not fixed. There was grade I mobility and periodontal pocket present in respect to 46 which was also tender on percussion. On palpation, a bulge was felt in respect to the lingual aspect of the mandible in the region of 46 and 47. Radiographic examination revealed a radiopaque mass in the periapex of the distal root of 46 and mesial root of 47. No periodontal space widening was seen. Further CBCT was done to locate the exact position of the mass which revealed it to be near the apical third of the 46 and 47.

Differential diagnosis was made on the basis of clinical and radiographical examination as:

- 1) Ameloblastic fibro-odontoma
- 2) Calcified odontogenic cyst
- 3) Pindborg's tumor
- 4) Complex odontoma.

A gingival crevicular incision was given on the lingual aspect from the mesial of 48 to distal of 43 and subperiosteal elevation was done to expose the odontome which was removed with the help of dental bur (702) and hand piece in 3 parts. The wound was closed after placing Ab-GEL by 3-0 silk sutures.



Fig 1: Clinical presentation of the odontome in the 4th quadrant.



Fig 2: Radiograph showing the radiopaque mass in the periapex of 46 and 47



Fig 3: A CBCT was done and the extent of the radiopacity was confirmed.



Fig 4: Lingual flap elevation



Fig 5: Exposure of the Odontome



Fig 6: After removal of the odontome



Fig 7: Final closure

Discussion

Paul Braco gave the term odontoma in 1867. He defined the term as tumors formed by the excessive growth or transition of the complete dental tissue. It is a growth in which both epithelial and mesenchymal cells show complete differentiation which results in the formation of enamel and dentin from functional ameloblasts and odontoblasts, although these cells are well-differentiated, but odontogenic cells are generally disorganized and the enamel, dentin and pulp tissue is placed in an abnormal pattern³. The etiology of ODC is not clearly known. Many theories have been presented that associate them with infections, trauma and even syndromes³. The odontomes show a female predilection in its appearance. The relative frequency of occurrence varies between 5% and 30%. They can occur at any age, but usually occur within the third decade of life. With a peak in the second decade of life, less than 10% is found only in patients aged over 40 years. In our case, the patient's age was 42 years. Impacted teeth are associated with 10-44% of complex odontoma and the delayed eruption of at least one permanent tooth, most of which are canine i.e.74%⁴. The odontomas are classified by the WHO as complex and compound odontomes. Compound odontomes resemble structures involved in tooth formation, while complex odontomas, on the other hand, have little or no resemblance to teeth⁵.

H.M. Worth in 1937 gave classification of odontomas as following:

A) Epithelial odontomas arising from dental epithelium: eg. Dentigerous cyst, Dental cyst, Adamantinoma (multilocular cyst)

B) Composite odontomas arising from the dental epithelium and dental mesoblastic tissues: e.g. Complex, compound, geminated and dilated.

Thoma and Goldman in the year 1946, gave a classification as following:

A) Geminated composite odontomas: nearly well-developed fused teeth (Two or more teeth).

B) Compound composite odontomas:made up rudimentary teeth.

C) Complex composite odontomas: Calcified structures having no resemblance to the normal anatomical arrangement of dental tissues.

D) Dilated odontomas: Enlargement of crown or root portion of tooth.

E) Cystic odontomas: Odontoma encapsulated normally by fibrous connective tissue in a cyst or in the wall of the cyst⁵.

Complex odontomes are more common in the posterior segment (59%), with a greater incidence on the right side than on the left³. In our case, the complex odontoma was present in the right posterior mandibular region. Due to the lack of periodontal ligament, its eruption varies from the eruption of a normal tooth. Odontomes have no roots therefore, when the size of the odontoma increases, exerts a pressure on the overlying bone. This in turn leads the bone to undergo reabsorption. The occlusal movements therefore cause the explosion. The odontoma is usually detected accidentally during a routine radiograph. Common signs and symptoms include permanent and inflated teeth. Complex odontomes appear as ill-defined radiopacity surrounded by a radiolucency may or may not be associated with any bony expansion. The radiographic aspect also depends on the calcification phase. In the first phase, calcification does not occur and therefore only radiolucency is observed. In the second phase, calcification occurs partly that's why the radiopacity is seen. In the third phase, the calcification is complete and, therefore, appears as a radiopacity surrounded by a radiolucent edge⁴. Odontome appears to be in the final stage in this case, which is a radiopacity surrounded by a radiolucent edge. If the lesion is at the pericoronal level, presenting as mixed radiolucencies, it must be differentiated from adenomatoid Odontogenic tumors, calcifying epithelial odontogenic tumors, Ameloblastic fibro dentinoma or Odontoameloblastoma⁴. The odontoma resembles other pathologies like Ameloblastic fibro odontomas and odonto-ameloblastomas. Therefore, the diagnosis is confirmed with the help of the histological examination of the

samples⁴. Histologically, odontomes include a variable amount of enamel, pulp tissue, enamel organ and cementum. The connective tissue capsule of the odontomes is identical to that of the dental follicle. Ghost cells are often seen together with spherical dystrophic calcification, enamel concretions and dentin dysplastic sheets⁷.

Conclusion

Although the odontomes are rare, they can be formed in association with the impacted and missing teeth. The authors emphasize the importance of the routine use of panoramic radiography for the early detection of these dental abnormalities and the prevention of adverse effects.

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