

Unusual Form of Complex Odontome: A Case Report

Sunny S Deshmukh¹, B Vidya², Sneha Sharma³, Suresh Babu Bommai¹, Sunil Kumar Gupta⁴

¹Fellow, Department of Oral and Maxillofacial Surgery, Calcutta Institute of Maxillofacial Surgery and Research, Kolkata, West Bengal, India, ²Associate Professor, Department of Oral and Maxillofacial Surgery, The Oxford Dental College, Bengaluru, Karnataka, India, ³Senior Lecturer, Department of Oral and Maxillofacial Surgery, Sudha Rustagi College of Dental Sciences and Research, Faridabad, Haryana, India, ⁴Professor & Head, Department of Oral and Maxillofacial Surgery, Divya Jyoti College of Dental Sciences and Research, Modinagar, Uttar Pradesh, India

Odontomas are the most characteristic among odontogenic tumors of the jaws, which are benign, slow-growing and non-aggressive. There are various theories, or etiological factors were quoted for occurrences of odontomas. Being asymptomatic in nature sometimes it may interfere with the eruption of the associated tooth leading to impaction or delayed eruption. Most of the lesions are diagnosed accidentally on routine radiological examination in the second and third decades of the life. The sole management mainly depends on the early diagnosis, histopathological examination and surgical removal of the lesion. Here, we were presenting an interesting case of unusually large complex odontoma associated with pain, as well as missing molar is reported.

Keywords: Complex odontomas, Odontoma, Unerupted odontoma

INTRODUCTION

Odontome in medicine and dentistry was formerly used for tumor or tumor like lesion, like neoplastic cyst originating from tooth forming tissues.¹ In the literature, 22% of odontogenic tumors are hamartomas of aborted tooth formation, which we name as odontomas.² The term "odontoma" was coined by Paul Broca in 1867. It is considered as a developmental anomaly resulting from the growth of completely differentiated epithelial and mesenchymal cells that give rise to ameloblast and odontoblast. The composition of these tumors were only enamel and dentin, but even they consists of a variable amount of cementum and pulp tissue.^{3,4} Odontomas were generally associated with unerupted or impacted teeth and retained deciduous teeth. According to WHO classification of odontogenic tumors, there were two types of odontomas, complex and compound odontomas.⁵ They have been further classified according to their clinical presentation as central odontoma (which is present within the bone), peripheral odontoma (which occur in the soft tissue covering the tooth bearing portions of the jaw) and erupted odontomas.⁶

CASE REPORT

A 17-year-old man reported to our Department of Oral and Maxillofacial surgery with a chief complaint on pain and swelling in lower left posterior region of the mouth since 3 months. He denied any complaints other than swelling, which started insidiously since its onset, not followed by trauma. He experienced dull pain since the onset of the swelling without any pus discharge. After the consumption of medications pain and swelling reduce slightly. Other histories of him were not noteworthy.

Extra-oral examination disclosed an ill-defined, diffuse swelling of the left cheek. Swelling was ovoid in shape, approximately 2 cm × 1 cm in size, with no secondary changes or local rise in temperature. Swelling was a little tender, non-reducible, non-compressible and non-mobile and hard to palpation. Overlying skin was smooth insignificant, freely movable with no evidence of regional lymphadenopathy. Intraoral examination revealed missing 37, 38 with no evidence of swelling associated with it (Figure 1).

There were many lesions similar to this condition but for evaluation of proper diagnosis we should know the clinical differential diagnosis, which includes a benign cementoblastoma, benign osteoblastoma odontogenic keratocyst, dentigerous cyst, ameloblastoma, odontoma, calcifying epithelial odontogenic cyst, and central ossifying fibroma. The lesion was completely excised (Figure 2). Grossly, the specimen did not show any morphological

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Corresponding Author:

Dr. Sunny S Deshmukh, S/O Mr. Sudhakar N Deshmukh, Near Cotton Market, Opp. Police Station, Nandura Road, Malkapur, Buldhana - 443 101, Maharashtra, India. Phone: +91-8378058099. E-mail: drsunny.bond@gmail.com

resemblance to tooth of the typical series. Histopathological evaluation confirmed the lesion to be a complex odontoma consisting of a thin layer of enamel, dentin and pulp having no semblance to normal tooth (Figure 3).

DISCUSSION

The term “odontoma” by definition alone means any tumor of odontogenic origin. Odontoma is considered to be the hamartomas of aborted tooth development and accounts for 22% of the odontogenic tumours.⁷ The World Health

Organization (2005) defines odontomas being of two types; complex and compound odontomas, the former being rare as compared to latter which was seen in our case having a frequency of occurrence 5-30%.⁷ Both odontomas represent malformation of dental tissues in which compound has resemblance to normal teeth, whereas, Complex has a disorganized pattern having no resemblances to teeth of a typical series. Odontomas occurs at any age but mean the age of occurrence is the second decade with no sex predilection. It is of interest to note that the majority of odontomas in the posterior segment, are complex composite odontoma whereas in anterior segment are compound composite in type (61%). Interestingly, both types of odontomas occur more frequently on the right side of jaw than left, but the presentation were seen in our case was opposite.

Radiologically, when there was a collection of tooth like structures then it is said to be compound odontoma while composite type appears as a calcified mass, both are further surrounded by a narrow radiolucent zone, followed by outer thin sclerotic border. Unerupted teeth are more commonly associated with compound composite, however in our condition presence of unerupted tooth is related with complex composite odontoma. In a very rare situation odontomas form peripheral or soft tissue lesions so they arise outside alveolar bone to exfoliate or erupt,⁷ such a rare erupted odontoma was present in our case. The etiology of formation of odontoma is not so clear. Several theories proposed trauma and inflammatory or infectious anomalies to be the cause. Lopez Areal has concluded in his study that if the injury occurs in early childhood, it is more likely to form odontomas.⁸ Hitchin suggested that odontomas are inherited or due to a mutagene or interference possibly postnatal with the genetic control of tooth development.⁹ The mechanism of odontoma eruption appears to be different from tooth eruption because of the lack of periodontal ligament and root in odontoma. Therefore the force required to move the odontoma is not linked to the contractility of the fibroblasts, as in the case for teeth. Although it's increasing size along with no root formation, it may lead to the sequestration of the overlying bone hence occlusal movement or eruption. Bone resorption is due to force produced over time by an increase in the size of the odontoma.¹⁰ Treatment of odontomas is conservative surgical excision followed by histological analysis for confirmatory diagnosis.

CONCLUSION

Odontomas are the odontogenic tumors, which are rare to erupt into the mouth or tend to be associated with impacted teeth. Despite their benign nature pain, inflammation and infection with different clinical appearance might be

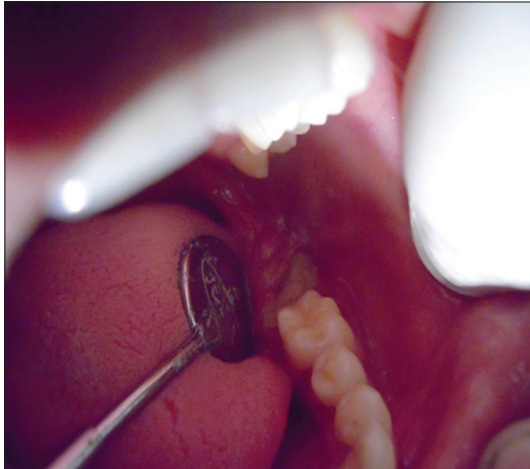


Figure 1: Pre-operative view



Figure 2: Gross feature of excised mass

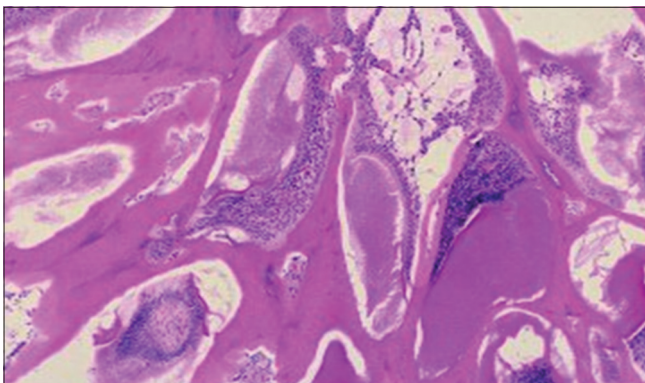


Figure 3: Histopathological view

associated with it. The only sole treatment of choice till now is surgical removal of the odontoma, followed by histological analysis.

REFERENCES

1. Kharbanda OP, Saimbi CS, Kharbanda R. Odontome – A case report. J Indian Dent Assoc 1986;58:269-71.
2. Bhaskar SN. Odontogenic tumors of jaws. In: Synopsis of Oral Pathology. St. Louis: Mosby; 1986. p. 292-303.
3. Shafer WG, Hine MK, Levy BM. A Text Book of Oral Pathology. 4th ed. Philadelphia: W.B. Saunders and Co.; 1993. p. 308-12.
4. Neville B, Damm DD, Allen CM, Bouquot J. Oral and Maxillofacial Pathology. 2nd ed. Philadelphia: Saunders; 2004. p. 631-2.
5. Barnes L, Eveson JW, Reichart P, Sidransky D, editors. World Health Organization Classification of Tumours. Pathology and Genetics of E558 Head and Neck Tumours. Lyon: IARC Press; 2005. p. 310.
6. Junquera L, de Vicente JC, Roig P, Olay S, Rodríguez-Recio O. Intraosseous odontoma erupted into the oral cavity: An unusual pathology. Med Oral Patol Oral Cir Bucal 2005;10:248-51.
7. Chandra S, Bagewadi A, Keluskar V, Sah K. Compound composite odontome erupting into the oral cavity: A rare entity. Contemp Clin Dent 2010;1:123-6.
8. Sood PB, Patil B, Godhi S, Shetty DC. Multiple supernumerary teeth and odontoma in the maxilla: A case report. Contemp Clin Dent 2010;1:45-6.
9. Shekar S, Rao RS, Gunasheela B, Supriya N. Erupted compound odontome. J Oral Maxillofac Pathol 2009;13:47-50.
10. Serra-Serra G, Berini-Aytés L, Gay-Escoda C. Erupted odontomas: A report of three cases and review of the literature. Med Oral Patol Oral Cir Bucal 2009;14:E299-303.

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