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Case Report

Compound odontoma - A case report

Supriya Bhat, Subhas Gogineni Babu, Renita Lorina Castelino, Medhini Madi, Sonika Achalli, Ananya Madiyal

Department of Oral Medicine and Radiology, A.B Shetty Memorial Institute of Dental Sciences, Nitte University, Mangalore, India

Abstract

Odontomas are a common type of odontogenic tumors which are regarded as developmental anomalies (hamartomas) rather than a true neoplasm. They occur more commonly in the permanent dentition and are rarely associated with the primary dentition. An odontome comprises of the hard tissues which are laid down in an abnormal pattern. They are considered to be hamartomas rather than neoplasms as they contain the tissues which are native to teeth i.e. enamel, dentin, cementum and pulp tissue. In this context, we present the case of a compound odontome in the maxillary left posterior region, which posed as an obstacle to the erupting canine, thus causing its impaction.

Keywords: Odontoma; Maxilla; Hamartoma; Canine.

INTRODUCTION

Odontomas are a common type of odontogenic tumors which are regarded as developmental anomalies (hamartomas) rather than a true neoplasm (1). Broca in 1866, coined the term odontoma who defined it as a tumor formed by an overgrowth of complete dental tissue. They constitute about 22% of all odontogenic tumors of the jawbones. They are considered to be hamartomas rather than neoplasms as they contain the tissues which are native to teeth i.e. enamel, dentin, cementum and pulp tissue. They can be found in any region of the dental arch (2). They are benign tumours which are slow-growing and are nonaggressive(3, 4). An odontome comprises of the hard tissues which are laid down in an abnormal pattern as the organisation of odontogenic cells fails to reach a normal state of morpho differentiation (5). They occur more commonly in the permanent dentition and are rarely associated with the primary dentition (6).

According to WHO classification of odontogenic tumors (2005), Odontomes are categorized into two types, compound and complex odontomas (7). Further Odontomas can also be classified as central odontoma i.e. inside the bone, peripheral odontoma, which is present in the soft tissue envelope of the tooth-bearing areas of the jaws, and erupted odontoma based on their clinical presentation (7).

CASE REPORT

A 28 year old male patient complained of a swelling on the upper left back tooth region since 1 month (Figure 1). The swelling was initially small in size, which was gradually progressing with no pain or other associated symptoms. The past medical history, family history and history of drug allergy were non contributory. Patient had visited a dentist for oral prophylaxis 2 yrs ago. Hard tissue examination revealed generalized extrinsic staining and missing 23. (Figure 2) 47 was also missing and 36 was found to be decayed.

Figure 1. Clinical photograph showing a diffuse swelling corresponding to 24, 25 and 26

Intra oral periapical radiograph revealed a radiopacity resembling a tooth like structure, suggestive of impacted 23. Adjacent to the impacted 23, a mixed radiopaque-

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Corresponding Author: Supriya Bhat, Department of Oral Medicine and Radiology, A.B Shetty Memorial Institute of Dental Sciences, Nitte University Mangalore, India E-mail: dr.supriyabhat@gmail.com

radiolucent area of varying densities was seen corresponding to the periapical areas of 24, 25. (Figure 3) Panoramic radiograph revealed a radiopaque tooth like structure suggestive of an impacted tooth (23) and also missing 47. (Figure 4) Based on the radiographic findings, a differential diagnosis of compound odontome was given. The lesion was surgically excised under local anaesthesia and sent for histopathologic examination.

Figure 2. Clinical Photograph showing missing upper left canine

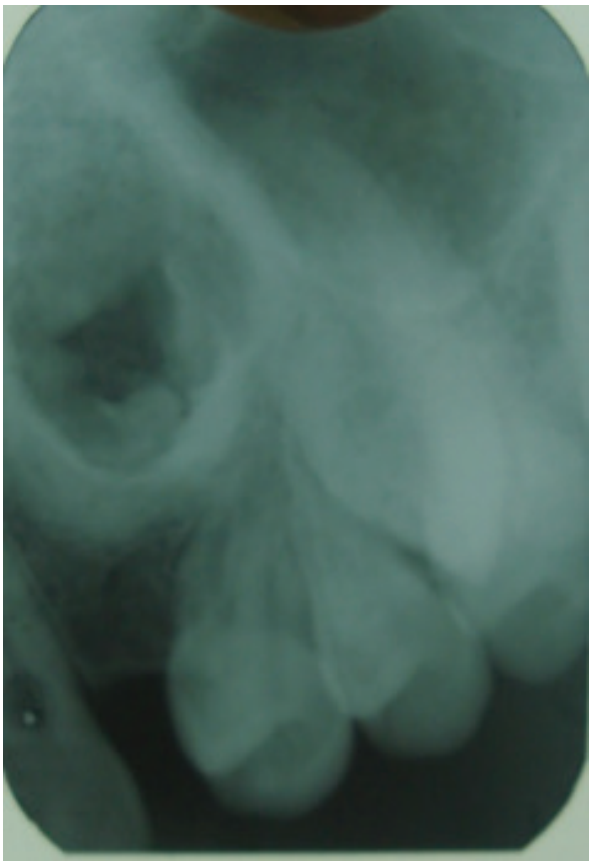

Figure 3. Intra oral periodical radiograph showing a radiopaque structure resembling a tooth

Figure 4. Panoramic image showing a radiopaque tooth like structure suggestive of impacted 23

Histopathological examination of H&E stained sections shows dentin in cross section as well as in longitudinal section with pulpal spaces. (Figure 5) Ground sections showed enamel and dentin arranged in an irregular manner suggestive of a compound odontome. (Figure 6).

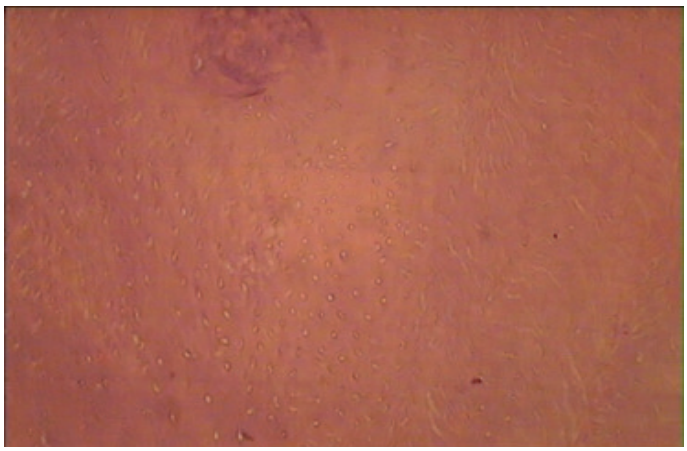

Figure 5. Histopathological picture

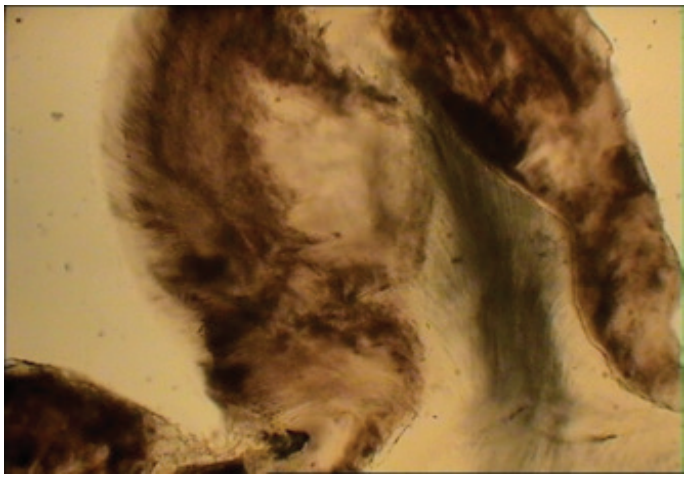

Figure 6. Ground section

DISCUSSION

Odontoma is a condition in dental medicine that is mostly undetected until the occurrence of clinical symptoms such as delayed eruption, or incidental detection on routine radiographic examination (8). They are generally

asymptomatic odontogenic lesions, which are rarely detected before the second decade of life. They often lead to impactions and delayed eruption of permanent teeth (9,10). The exact cause is unknown. However, previous dental trauma and infection have been hypothesized as the potential factors in the development of odontogenic tumor (8). They are mixed tumours, consisting of both epithelial and mesenchymal cells that present a complete dental tissue differentiation (11).

Odontomas often appear concurrently with unerupted/ impacted teeth. In general, they are asymptomatic, slow growing and rarely exceeding the size of a tooth. They can cause expansion of the cortical bone if they are large. The most frequent teeth to be impacted by odontomas are the canines, upper central incisors and third molars (12).

According to literature, the treatment of odontoma is surgical removal along with complete excision of any affiliated soft tissues because there is a risk of odontoma interfering with eruption of the permanent tooth, displacement of the adjacent teeth and give rise to dentigerous cysts. Odontomas, complex as well as compound are known to be well encapsulated and hence easily enucleated from the surrounding bone tissue (7). They can also manifest as part of syndromes, like Gardner syndrome, familial colonic adenomatosis, Gorlin syndrome,Tangier disease or Hermann syndrome (13).

CONCLUSION

Odontomas can be largely incidental and rarely symptomatic unless they are progressive in size, and their detection can be based on incidental radiographic findings. In our case, it was progressive in nature and it posed as an obstacle in the eruption of the respective canine (23), hence causing its impaction. Although it is a rare entity, it is important to detect odontomas and treat them accordingly. They usually do not recur, thus making the prognosis favourable.

REFERENCES

1. Neville BW, Damm DD, Allen CM, Bouquot JE. Odontoma. In: Neville BW, Damm DD, Allen CM, Bouquot JE, Eds. Oral and maxillofacial pathology. 2nd ed. Philadelphia: Saunders; 2005. p. 631-33.
2. Nelson BL, Thompson LDR. Compound Odontoma. Head Neck Pathol 2010;4(4):290-1.
3. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and maxillofacial pathology. 2nd edition. Philadelphia, Saunders, 2002;631-2.
4. Vengal M, Arora H, Ghosh S, Pai Km. Large erupting complex odontima: A case report. J Can Dent Assoc 2007;73(2):169-73.
5. Shafer WG, Hine MK, Levy BM. Shafer's Textbook of Oral Pathology. 5th ed. Philadelphia: Elsevier, 2006. p. 405-6.
6. Teruhisa U, Murakami J, Hisatomi M, Yanagi Y, Asaumi J. A case of unerupted lower primary second molar associated with compound odontoma. Open Dent J. 2009;3:173-6.
7. Patil S, Rahman F, Tipu SR, Kaswan S. Odontomas: Review of literature and report of a case. Oral Maxillofac Pathol J. 2012;3(1):224-7.
8. Nammalwar RB, Moses J. A rare association of compound odontome with missing lateral ıncisor. Int J Clin Pediatr Dent 2014;7(1):50-3.
9. Neville BW, Damm DD, Allen CM, Bouquot JE: Oral and Maxillofacial Pathology. Philadelphia: Saunders, 1995. p. 531-3.
10. Cawson RA, Binnie WH, Eveson JW. Color Atlas of Oral Disease. Clinical and Pathological Correlations. Hong Kong: Mosby-Wolfe. 1993, p. 6-19.
11. Isler SC, Damircan S, Soluk M, Cebi Z. Radiological evaluation of an unusually sized complex odontoma involving the maxillary sinus by cone beam computed tomography. Quintissence Int 2009;40(7):533-5.
12. De Oliveira BH, Campos V, Marçal S. Compound odontoma--diagnosis and treatment: three case reports. Pediatr Dent 2001;23(2):151-7.
13. Hidalgo-Sánchez O, Leco-Berrocal MI, Martínez-González JM. Metaanalysis of the epidemiology and clinical manifestations of odontomas. Med Oral Patol Oral Cir Bucal 2008;1;13(11):E730-4.