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Compound Odontoma: A Case Report

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Abstract

Odontoma is the most common odontogenic tumour of the jaw. They are benign, slow growing and non-aggressive. Odontomas are usually asymptomatic, but in some cases they can prevent the associated tooth from erupting, causing impaction or delayed eruption. These lesions are usually diagnosed during routine radiological examinations during the first 20 years of life. It is imperative to diagnose and treat odontomas appropriately in order to avoid subsequent craniofacial complications and other developmental issues.

Keywords: odontoma, impaction, calcified

Introduction

Odontomas, which are lesions or developmental malformations of nonaggressive hamartomatous origin that are of odontogenic origin and comprise pulpal tissue, cementum, enamel, and dentin[1] Enamel and dentin can be deposited during odontoma development in a way that produces structures that are anatomically similar to those of normal teeth.[2]

The most prevalent benign tumors are odontogenic tumors, which originate from mesenchymal and epithelial cells3. In 1867, Paul Broca coined the term "odontoma".[4] According to Broca, an odontoma is a tumor that results from the increased growth or conversion of the entire tooth tissue.[5]

Odontomas usually appear as small, single or multiple radiopaque lesions found on routine x-ray examinations.

Odontomas can cause tooth eruption problems such as impaction, delayed eruption, and retention of primary teeth. [6]

The etiology of odontoma is not clear, but local trauma, infection, genetic abnormalities, odontoblast hyperactivity, or changes in genetic factors are responsible for controlling tooth development. [7,8]

odontomas can be found at any age. However, most of them are found in the first 20 years of life.[9]

There is no gender preference and most lesions are detected on routine radiographs.[10]

However, Budnick found that the incidence was slightly more common in men (59%) compared to women (41%).

When all odontomas were combined, 67% occurred in the maxilla and 33% in the mandible.[11]

Compound odontoma tended to the anterior part of the jaw, whereas complex odontoma tended to the posterior part of the jaw. The right side of the jaw experienced both types of odontomas more frequently than the left.[12]

Case Report

A 23-year old female patient reported to Sree Balaji medical college and hospital with the complaint of pain in lower left tooth region, the pain was throbbing in nature and it aggravated on mastication and intake of cold beverages. Intra -oral examination revealed retained deciduous teeth 83 and there was localised chronic gingivitis in the lower anterior tooth region. Patient was advised to take an OPG. OPG revealed multiple radio opaque tooth like structure in the lower right anterior region of the mandible. This led to the diagnosis of compound odontoma

Figure 1: (Shows an orthopantomogram which reveals findings of radio-opaque structures in the right anterior region of the mandible)

Surgical Procedure

General anaesthesia was induced followed by nasotracheal intubation. 2% lignocaine with 1:80,000 adrenaline was administered in relation to 18, 28, 38, 48. Modified ward's incision was placed in relation to 48. Mucoperiosteal flap was raised and bone guttering was done. 38 was surgically removed followed by the extraction of 28. Wound irrigation was done using metrogyl. Wound closure was done using 3-0 vicryl. LA was administered in relation to 42,43,44,45,46 and mucoperiosteal flap was raised. Retained deciduous teeth 83 was extracted. A bony window was created using carbide round bur. Impacted canine and odontome were removed surgically. Metrogyl wash was given and wound closure was done using 3-0 vicryl sutures. Fig 2-6 (represents the pre-op images of the patient)

Figure 2:

Figure 3:

Figure 4:

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Figure 5:

Figure 6:

Figure 7 & 8: (represents the creation of bony window using carbide bur and saline irrigation)

Figure 9: (surgical removal of impacted canine)

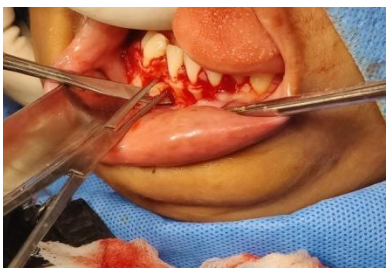

Figure10: (surgical removal of odontoma)

Fig.11-13(represents the post-op images of the patient)

Figure 11:

Figure12:

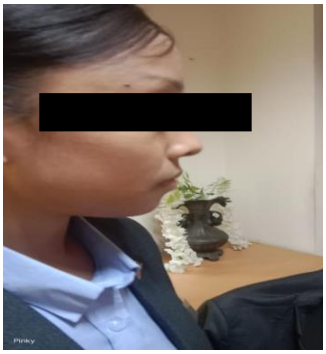

Figure 13:

Figure 14: (represents wound closure using 3-0 vicryl suture)

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Figure 15: (represents the removed specimen which includes structures resembling teeth and other calcified structures)

Figure 16: Represents the post-op OPG of patient

Discussion

The cause of odontomas is unknown. A significant group of benign odontogenic tumors are odontomas. Most patients don't feel any pain. Odontomas are inadvertently discovered during routine examinations, when permanent teeth take longer to erupt, or, in rarer cases, when milk teeth erupt.

odorogenic tumors can be experienced in any stage of life. It can originate from ectomesenchyme, epithelial tissue, or both, with or without the development of hard tissue. At first, odontomas could be perceived as radio transparent. Radio transparency steadily decreases as mineralization increases and calcifications increases. Mature complex odontomas take the shape of ovoid or round radio-opacities with distinct borders. The radio-opacities that make up the compound odontoma are of various sizes and resemble tiny dental structures.[13]

Odontomas have been associated with trauma during primary dentition, as well as with inflammatory and infectious processes, hereditary anomalies like Gardner syndrome & Hermann's syndrome, odontoblastic hyperactivity and alteration in the genetic components responsible for controlling dental development. When a primary tooth is retained or does not erupt fully, radiographic examinations are done and this is frequently the reason for the discovery of an odontome. In over half of the cases, there is an impacted tooth. Eighty-seven percent of the 26 odontoma cases examined by Iatrous et al. included permanent tooth impaction.[14]

Conclusion

Compound odontoma and complex odontoma are odorogenic tumors that can occur at any stage of life and can originate from ectomesenchyme, epithelial tissue, or both. They can be radio transparent initially but decrease as mineralization and calcifications increase. Mature complex odontomas have ovoid or round radio-opacities with distinct borders, while compound odontomas have radio-opacities of various sizes and resemble tiny dental structures.

References

1. Santosh BS, Anuradha V, et al. Erupting complex odontoma: Coronal to impacted second molar associated with dentigerous cyst. J Oral Health Comm Dent 2011;5(2):100–102.
2. Kumar BR, Shazia Q, et al. Odontomas and related lesions. Int J Biomed Investig 2011 Dec;3(1):24–29.
3. Bhaskar, SN. Odontogenic tumors of jaws. In: Synopsis of oral pathology. 7th ed. US: Elsevier Mosby Year Book 1986. pp.292- 303.
4. Budnick SD. Compound and complex odontomas. Oral Surg Oral Med Oral Pathol Karnataka

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1976;42(4):501–506. DOI: 10.1016/0030-4220(76)90297

5. Sprawson E. Odontomes. Br Dent J 1937;62:177–201
6. Gloria L, and Singer SR. Concomitant occurrence of cemental dysplasia and compound odontoma in anterior mandible: report of case. J Orofac Sci 2010;2(2):37–40.
7. Snawder KD. Delayed eruption of the anterior primary teeth and their management: report of a case. ASDC J DentChild 1974;41:382–384.
8. Shafer WG, Hine MK, et al. Cysts and tumours of the jaws. A Textbook of Oral Pathology, 4th edn. Philadelphia, PA, USA: WB Saunders, 1997; pp. 308–311.
9. Dagstan S, Goregen M, et al. Compound odontoma associated with maxillary impacted permanent central incisor tooth: a case report. The Internet Journal of Dental Science 2007;5(2).
10. Nelson BL, and Thompson LDR. Compound odontoma. Head Neck Pathol 2010 Jun;4(4):290–291. DOI: 10.1007/s12105-010-0186-2.
11. Sreedharan S, and Krishnan IS. Compound odontoma associated with impacted maxillary incisors. J Indian Soc Pedod Prev Dent 2012 Jul–Sep;30(3):275–278. DOI: 10.4103/0970-4388.105025.
12. Kannan KS, Prabhakar R, et al. Composite compound odontoma- A case report. J Clin Diagn Res 2013 Oct;7(10):2406–2407. DOI10.7860/ JCDR/2013/7432.3540.
13. Gedik R, Müftüoğlu S. Compound odontoma: differential diagnosis and review of the literature. West Indian Med J. 2014; **63**(7): 793-795
14. I. Iatrous, E. Vardas, N. Theologie-Lygidakis, M. Leventis. A retrospective analysis of the characteristics, treatment and follow-up of 26 odontomas in Greek children

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