Multiple compound odontomas in mandible: A rarity

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Abstract

Odontomas are benign odontogenic tumors composed of enamel, dentine, and cementum and pulp tissue. They are usually clinically asymptomatic, but often associated with tooth eruption disturbances. The present study reports an unusual case of eleven odontomas in the left lateral incisor-canine region of lower jaw. A 26 years old female presented to the department of orthodontics and dentofacial orthopedics in H.P. Govt. Dental College and Hospital Shimla for the treatment of misaligned teeth. Clinical examination revealed that the lower left lateral incisor was missing. Patient was advised for radiographs, which revealed a mixed radiopaque lesion associated to impacted lower left canine. The histological report in this case indicated a compound odontoma.

Keywords: Delayed tooth eruption, mandibular, odontoma

Introduction

Odontomas are the most common of odontogenic tumors of the jaws. They are mixed tumors, consisting of both epithelial and mesenchymal cells, that present a complete dental tissue differentiation (enamel, dentin, cementum, and pulp).[1,2] According to the latest classification of the World Health Organization (WHO, 2005), two types of odontomas can be found: Complex odontomas and compound odontomas – the latter being twice as common as the former. Compound odontomas are usually located in the anterior sector of the upper maxilla, over the crowns of unerupted teeth, or between the roots of erupted teeth. The lesions are usually unilocular and contain multiple radiopaque, miniature tooth-like structures known as denticles.[3] Complex odontomas in turn are found in the posterior mandibular sector, over impacted teeth, and can reach several centimeters in size. Radiologically, these lesions manifest as a radiopaque solid mass with occasional nodular elements, and surrounded by a fine radiotransparent zone. The lesions are unilocular and are separated from the normal bone by a well-defined corticalization line. No individual tooth-like structures are seen.[1] Clinically, these are asymptomatic lesions often associated to alterations in permanent or temporary tooth eruption. The diagnosis is usually established on occasion of routine radiological studies (panoramic and/or intraoral radiographs), or on evaluating the cause of delayed tooth eruption. The treatment of choice is surgical removal of the lesion in all cases, followed by histopathological study to confirm the diagnosis.[1-3] This report describes a case of multiple odontomas in the mandible in the anterior region leading to impaction of the canine.

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Case Report

A 22-year female reported to the department of orthodontics and dentofacial orthopedics for the treatment of her crooked teeth. She was examined clinically and had all the tooth erupted except the third molars in the upper arch with crowding in the maxillary anterior region. In the lower arch, all the teeth had erupted except third molars bilaterally and lower left lateral incisor. There was a mild space between the lower left central incisor and the canine. There was no history of extraction of the teeth. Other significant findings were Class-II Div-1 malocclusion with crowding in the maxillary anterior region. She was advised for Orthopantomogram and true occlusal radiography, which revealed that there was a radiopaque lesion in the mandibular left lateral incisor region that led to the impaction of mandibular left lateral incisor [Figures 2]. The differential diagnosis contemplated was radiopaque lesions: Odontomas, adenomatoid odontogenic tumor, calcifying epithelial odontogenic tumor, odontoameloblastoma, ameloblastic fibrodentinoma, and osteoma.

The treatment consisted of total removal of the radiopaque lesion along with the impacted lateral incisor as the position of lateral incisor was unfavorable to be aligned

through orthodontic means. The patient was referred to the department of oral and maxillofacial surgery where her routine blood examination was done before undergoing surgery. The surgical procedure was performed under local anesthesia [Figures 3]. The lesion was removed and consisted of eleven tooth-like masses [Figure 1] which were sent for histopathological examination, which confirmed the lesion being a well-formed odontoma [Figures 4 and 5].

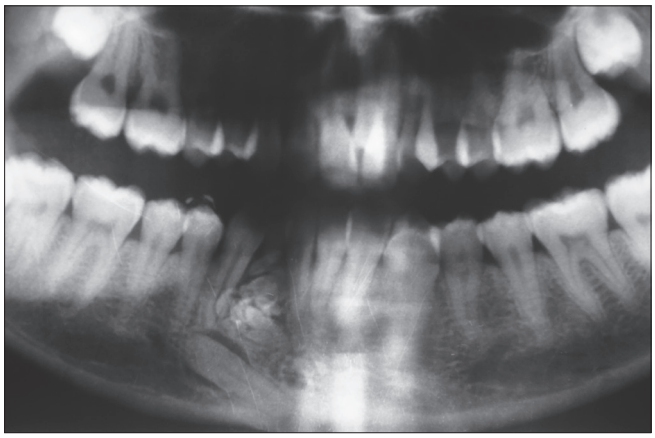

Figure 1: OPG showing the odontoma

Figure 2: Surgical exposure of the odontoma

Discussion

Odontomas are the most frequent benign odontogenic tumors in the oral cavity. They are generally asymptomatic and constitute casual findings in the course of routine radiological studies, particularly in the second and third decades of life. Some signs and/or symptoms are occasionally seen – the most common condition being delayed tooth eruption. There are two types of odontomas: Complex odontomas and compound odontomas – the latter being twice as frequent as the former.[4] Compound odontomas show a predilection for the anterior sector of the upper maxilla, while complex odontomas are typically found in the posterior mandibular region.

The treatment of choice is surgical removal of the lesion in all cases, followed by histopathological study to confirm the diagnosis. Radiologically, odontomas manifest as a dense radiopaque lesion surrounded by a thin radiotransparent halo. Three developmental stages can be identified, based on the radiological

Figure 3: Multiple odontomas after surgical removal

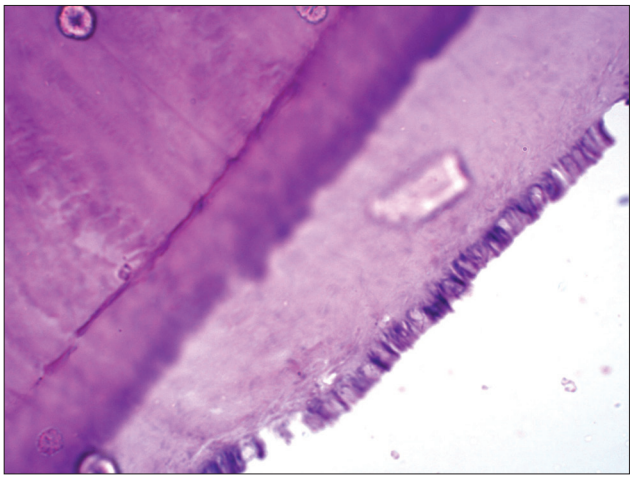

Figure 4: Histological section of the odontoma showing enamel, dentin and pulp

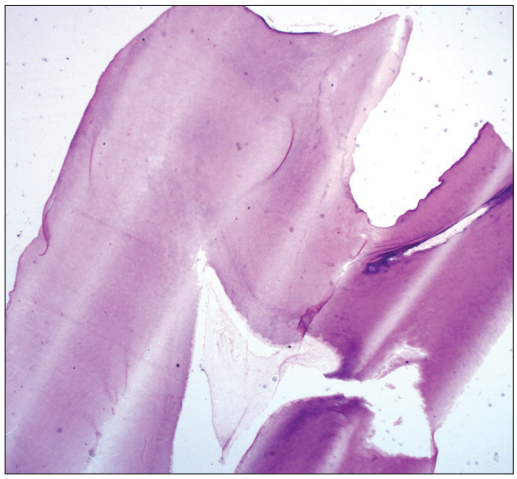

Figure 5: Histological section of the odontoma showing enamel and dentin

features and degree of calcification of the lesion at the time of diagnosis. Thus, the first stage is characterized by radio transparency due to the absence of dental tissue calcification, while the second or intermediate stage presents partial calcification, and the third or classically radiopaque stage exhibits predominant tissue calcification with the aforementioned surrounding radiotransparent halo.[5] Compound odontomas show an irregular radiopaque image with variations in contour and size, composed of multiple radiopacities corresponding to the so-called denticles. In the complex type of lesion, radiopacity is not specific; rather, a disorganized, irregular single or multiple mass is identified. In both cases (compound and complex odontomas), a radiotransparent halo corresponding to the connective tissue capsule is present.[6-8] Microscopically, compound odontomas consist of a fibrous connective tissue sac surrounding the denticles. The dental tissues that conform these denticles comprise a central core similar to pulp tissue, surrounded by primary dentin and covered with partially demineralized enamel and primary cement. [7,8] Most authors coincide that these lesions effectively appear more often in the upper maxilla,[6,8-12] though some sources make no distinction between the two maxillas.[8,10-12] The reported tendency of odontomas to arise in the region of the incisors and canines[6,8,9,13-16] is confirmed in our own series (54% of cases), followed in order of frequency by the posteroinferior region (26.2%).[6,8,9] However, some studies have reported a similar incidence of odontomas in the anterosuperior zone and posterior mandibular region, or even describe an increased proportion of these lesions in the molar zone.[12,17] Odontomas are benign tumors frequently seen in oral cavity that sometimes produce no symptoms and constitute casual findings of routine radiological studies. However, they usually tend to cause signs and/or symptoms such as delayed eruption. If no signs or symptoms appear, and the lesions go undetected, they can remain within bone for many years without producing clinical manifestations.

References

1. Philipsen HP, Reichart PA, Praetorius F. Mixed odontogenic tumours and odontomas. Considerations on interrelationship. Review of the literature and presentation of 134 new cases of odontomas. Oral Oncol 1997;33:86-99.
2. Amado Cuesta S, Gargallo Albiol J, Berini Aytés L, Gay Escoda C. Review of 61 cases of odontoma. Presentation of an erupted complex odontoma. Med Oral 2003;8:366-73.
3. Tomizawa M, Otsuka Y, Noda T. Clinical observations of odontomas in Japanese children: 39 cases including one recurrent case. Int J Paediatr Dent 2005; 15:37-43.
4. Amado Cuesta S, Gargallo Albiol J, Berini Aytés L, Gay Escoda C. Review of 61 cases of odontoma. Presentation of an erupted complex odontoma. Med Oral 2003; 8:366-73.
5. Giunta JL, Kaplan MA. Peripheral, soft tissue odontomas. Two case reports. Oral Surg Oral Med Oral Pathol 1990; 69:406-11.
6. Patiño Illa C, Buenechea Imaz R, Berastegui E, Gay Escoda C. Odontoma compuesto: Aplicación de la regeneración ósea guiada con membrana absorbable de colágeno en un defecto de dos corticales. Odontoestomatol 1997;13:447-52.
7. Kaneko M, Fukuda M, Sano T, Ohnishi T, Hosokawa Y. Microradiographic and microscopic investigation of a rare case of complex odontoma. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1998; 86:131-4.
8. Patiño Illa C, Berini Aytés L, Sánchez Garcés MA, Gay Escoda C. Odontomas complejos compuestos: Análisis de 47 casos. Med Oral 1995; 11:423-9.
9. Chaparro A. A report of five cases and review of the literature.In: Shafer WG, Levy BM, editors. Tratado de patología bucal. México DF: Interamericana; 1987. p. 313-5.
10. Shafer WG, Levy BM, Hine MK. Revisión de 61 casos de odontoma. Presentación de un odontoma complejo erupcionado. Tratado de Patología Bucal. México DF: Interamericana; 1986. p. 313-5.
11. Amparo PB, Maria VG, Jorge LG. Manifestaciones Buccals en Pacientes con Leucemias Agudas. Bascones A, Llanes F, editors. Medicina Bucal. 2nd edición. Madrid: Avances; 1995. p. 532.
12. Philipsen HP, Reichart PA, Praetorius F. Mixed odontogenic tumours and odontomas. Considerations on interrelationship. Review of the literature and presentation of 134 new cases of odontomas. Oral Oncol 1997; 33:86-99.
13. Faus Llecer VJ, Camps Alemany I, Pascual Moscardo A, Paricio Martín J. Diagnosis of compound odontoma, Apropos of 2 cases. Rev Eur Odontoestomatol 1990; 2:325-8.
14. Kaugars GE, Miller ME, Abbey LM. Odontomas. Oral Surg Oral Med Oral Pathol 1989; 67:172-6.
15. Serrano de Haro Martínez B, Martínez González JM, Baca Pérez-Bryan R, Donado Rodríguez M. Estudio clínico-epidemiológico de los odontomas. Odontoestomatol 1992; 8:689-98.
16. Susana AC, Jordi GA, Leonardo BA, Cosme GE. Tumores odontogénicos. In: Gorlin RJ, editor. Patología Oral. Barcelona: Salvat; 1973. p. 526-62.
17. Calatrava L. Lecciones de patología quirúrgica oral maxilofacial. Ma-drid: Oteo; 1979. p. 455-60.

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