

Compound Odontomas In Saudi Child – A Case Report

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Abstract:

Odontomas are odontogenic lesions with occurrence rate of 22% in the oral Cavity. They generally appear as small, solitary or multiple radio-opaque lesions on routine radiographic examinations and are subdivided into complex or compound odontomas morphologically. Compound odontomas occur commonly in the incisor-canine region of the maxilla and complex odontomas are located frequently in the premolar and molar region of both jaws. This paper describes a case of compound odontoma in anterior maxilla blocking the eruption of upper incisors and canine in a eight years old child. The surgical excision of the lesion was performed to allow the eruption of permanent teeth. In present case three years follow up indicate no sign of recurrence. Early detection of odontomas allows the adoption of a less complex expensive treatment, eruption of permanent teeth and ensures better prognosis.

Keywords: Odontomas, Compound Odontoma, Complex Odontoma, Odontogenic Lesions.

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Introduction:

Odontomas are odontogenic tumors formed basically of enamel and dentin but they can also have variable amounts of cementum and pulp tissue (Neville BW et al., 1995). They are generally small but occasionally grow to large size causing bone expansion (Bordini J et al., 2008). Odontomas are detected mostly in the first two decades of life and there is no gender predilection (Brenda L et al., 2010). Clinical symptoms are uncommon and most lesions are detected on routine radiographs, however, an affected patient may present when a permanent tooth or multiple teeth fail to erupt (Nagaraj K et al., 2009). These odontogenic tumors can be found anywhere in the dental arches but majority of them which are located in the anterior maxilla are compound, while those located in the posterior region especially in the mandible are complex odontomas (Bengston AL et al., 1993 & Budnick SD et al., 1976). The canines followed by upper central incisors and third molars, are the most frequent teeth impacted by odontomas (Katz RW et al., 1989). In few cases these tumors are related to missing teeth (Branca H et al., 2001). Usually, these malformations are intraosseous, but occasionally they may erupt into the oral cavity (Ginuta JL et al., 1983). The exact etiology of the odontoma is unknown, however it has been proposed that trauma and infection at the place of the lesion can offer ideal conditions for its appearance (Shafer WG et al 1983 & Areal Lopez et al., 1993). Odontomas can be subclassified based on the radiographic appearance alone. Compound odontoma appear as a collection of small teeth leaving few entities in the radiographic differential diagnosis except a supernumerary tooth. Complex odontomas appear as a radio dense mass of hard tissues which may result in a broader differential diagnosis (Serra-Serra G et al., 2009). Histologically odontomas often show the presence of enamel matrix, dentin, pulp tissue and cementum that may or may not exhibit a normal relationship. The histopathological examination is mandatory for an accurate diagnosis (Swan RH 1987). Odontomas are treated by conservative surgical removal and there is very little chance of recurrence.

Case Report:

An eight years old male child was referred to the department of oral and maxillo-facial surgery Buraidah Central Hospital with complaint of hard mass and swelling in premaxilla. Intraoral examination revealed retained left upper deciduous central, lateral and canine teeth with bulge in this region. On palpation hard mass was evident (Fig 1). Panoramic radiograph was taken which showed a well defined radiopaque mass with unerupted incisors and canine (Fig 2). Preoperative diagnosis of odontoma was made. Under general anaesthesia lesion was removed in total along with retained deciduous teeth. Lesion containing six pieces and permanent central incisor crown became visible (Fig 3, 4, 5). After healing impression was taken and partial denture was made which served as space maintainer (Fig 6, 7, 8). Histopathological examination of excised mass confirmed the preoperative diagnosis of compound odontoma. Central incisor, lateral incisor and canine erupted into the oral cavity after three years of surgery (Fig 9). Case was sent to orthodontist for further management.



Fig:1 Retained upper left incisors and canine



Fig: 2 Panoramic view showing odontoma



Fig:5 Six mineralized structures removed from the lesion

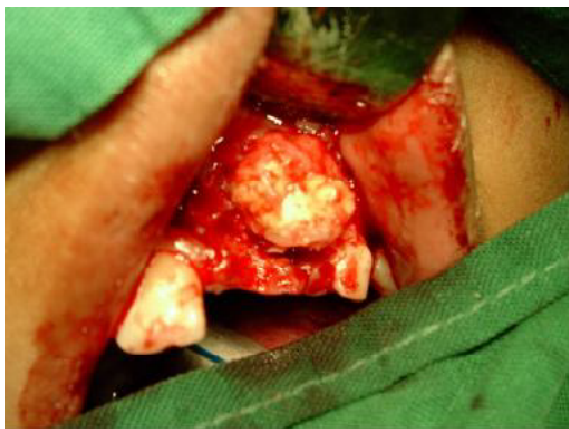


Fig: 3 Exposure of Odontoma



Fig: 6 Postoperative View

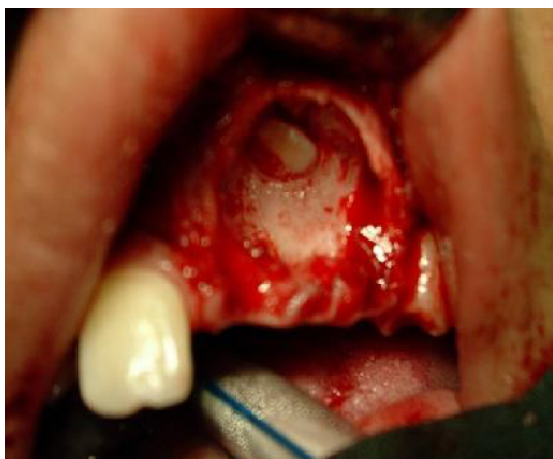


Fig:4 Complete excision and visibility of permanent incisor



Fig: 7 Prosthesis used as space maintainer



Fig: 8 Space maintainer in place

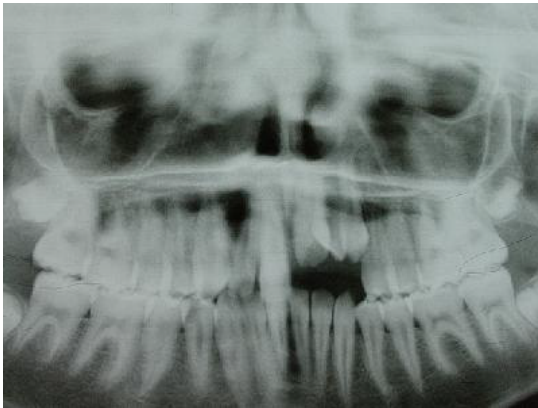


Fig: 9 Panoramaic view after two and half year



Fig: 10 Central incisor, lateral incisor and canine erupted

Histopathology

Histopathological examination of odontomas reveals the presence of enamel spaces, dentine and pulp tissue. Tooth like structures resembling pulp tissue in the central portion surrounded by a dental shell and partially covered by enamel (Fig 11).



Fig: 11 H and E stained section of the lesion

Discussion:

Odontomas are the most common odontogenic tumors and are considered to be hamartomas rather than neoplasms and are composed of tissues native to teeth (Brenda L. Nelson et al. 2010). Tooth impaction refers to situations where failure to erupt appears to be due to a mechanical blocking and tooth remains unerupted beyond the normal time of eruption. The condition is caused by systemic or local etiological factors (Otsuka Y et al., 2001). Factors contributing to impaction include developmental anomalies such as malposition, dilacerations, ankloysis, tumors, odontomas, dentigerous cysts, presence of supernumerary teeth and systemic genetic interrelation such as cleidocranial dysostosis and hypoptiuitarism (Snawder KD et al., & Motokawa W et al., 1990). In our case, odontoma was the cause of retention of primary teeth by blocking the eruption of permanent incisors and canine. Surgical excision was performed and at the end of two and half year follow up permanent teeth erupted in the dental arch. Teeth were not in proper position, for that reason case was refer to orthodontist. The degree of calcification in primary teeth is less than permanent because

of this radiographic features are less radio-opaque. Therefore it is important to examine the radiographs carefully (Haishima K et al., 1994).

Conclusion:

Early diagnosis and management of odontomas are very important to avoid the later complications such as retention of primary teeth and failure of eruption of permanent teeth.

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