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Management of multiple compound odontomas in maxillary anterior region of jaw: case report

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Abstract

Background: Odontomas are most common odontogenic tumors present in the oral cavity. They are classified as complex, compound, and meroblastic fibro-Odontomas. Although they are usually smaller in size, odontoma interfere in eruption of permanent teeth.

Case report: Here presenting a case of multiple compound odontomas in 9-year-old boy in maxillary anterior region of jaw. Management includes surgical removal of odontoma. Clinical and histopathological examination confirmed a diagnosis as a compound odontoma.

Conclusion: Early diagnosis and management of odontoma prevents further complications related to that.

Keywords: Odontoma, pediatric dentistry, maxillary, anterior

1. Introduction

In 1866 'Odontoma' term was first invented by Paul Broca. This concept was used originally for tumor like lesion which are of odontogenic origin^[1]. Odontomas are hamartomatous developmental malformations which consist of enamel, dentin, cementum, and pulpal tissue^[2]. During development of Odontoma, enamel and dentin may be deposited in such a way that the resulting structures show anatomically similar structures to normal teeth^[3]. WHO classified, Odontomas as complex, compound, and meroblastic fibro-Odontomas^[4]. Most common site of Compound odontomas is maxillary anterior region and complex odontoma in posterior region of maxillary, mandibular jaw. Radiographically, Compound odontoma seen as tooth like radio-opaque lesions of various shape and size,^[5] while complex odontomas looks like radiopaque solid mass with occasional nodular elements and surrounded by a fine radio transparent zone.

Etiological factors of odontoma are not clearly mentioned in the literature but local trauma, infection, hereditary anomalies, odontoblastic hyperactivity, or alterations of the genetic components can be contributing factors for arresting tooth development^[6]. There is no gender predilection. According to Budnick, odontomas are mainly present in males as compared to females. Odontoma causes disturbances in the eruption of teeth such as impaction, delayed eruption, or retention of primary teeth. Histologically, compound odontoma have the tooth-like structures which are arranged in a uniform manner similar to the normal tooth and most of the lesions are detected on routine radiographs^[7]. So here presenting a case of multiple compound odontomas in maxillary anterior region.

Case report

A 9-year-old boy reported to the department of Pediatric and Preventive dentistry of GDC Mumbai with chief complaint of missing tooth i.e., maxillary left central incisor (Fig 1). On intraoral examination maxillary right central incisor was present and dentition's stage was mixed. There was no presence of any eruption bulge in the area of maxillary left central incisor. No history of trauma was present. Also the medical history of the patient was found to be non-significant. So as to evaluate the etiology of missing central incisor, investigation was done by using orthopantomogram and intraoral periodicals radiograph. On radiographic examination there was presence of ill-defined radio-opacity similar structures of tooth above.

The crown region of maxillary left central incisor (Fig 2). On the basis of radiographic examination, compound odontoma diagnosis was finalized. Treatment was decided to undergo surgical removal of odontomas under local anesthesia, followed by spontaneous eruption of the impacted tooth.

The surgery was conducted under local anesthesia using 2% lignocaine with adrenaline. A horizontal incision was made by using number 11 blade (Fig 3). A full thickness labial mucoperiosteal flap was raised. With the help of carbide bur and irrigation of the saline solution, the thin overlying of

cortical bone was removed. Pathology was exposed (Fig. 4). The three compound odontomas were completely removed (Fig. 5). The bone edges were rounded, and the wound was washed with saline and sutured with 4/0 silk (Fig. 6). The postoperative instructions were given and patient was kept under follow up for two years. Histopathology examination confirmed the final diagnosis of compound odontoma. After 1 year there was spontaneous eruption of the impacted tooth i.e. maxillary central left incisor (Fig. 7).



Fig 1: missing tooth



Fig 2: radiographic examination

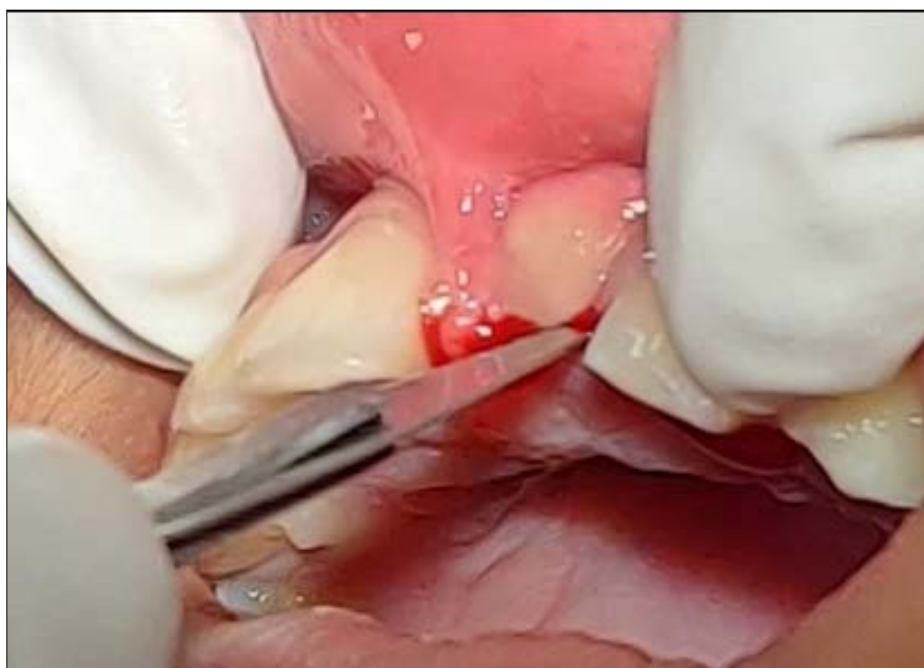


Fig 3: horizontal incision by no. 11 blade



Fig 4: exposure of odontoma

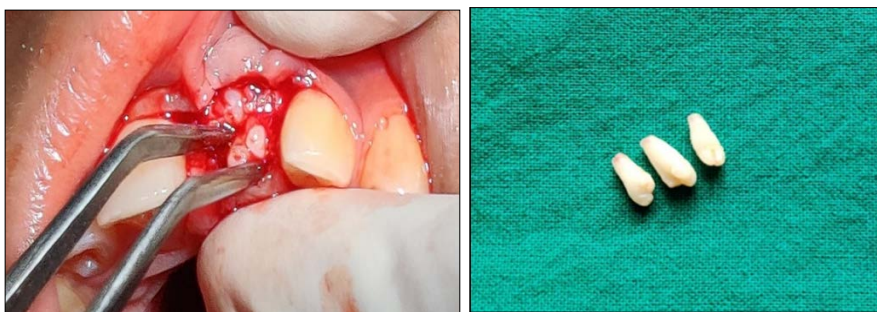


Fig 5: removal of odontoma



Fig 6: suturing



Fig 7: follow up after 1 year, erupted 21

Discussion

In this case, three compound odontomas were seen above the crown of maxillary left central incisor. Because of that there was impaction of permanent maxillary left central incisor. Most commonly, compound odontoma found in the maxillary anterior region. In the literature, cases of multiple compound odontomas have been rarely reported. In this case, odontomas were diagnosed by using radiographic examination to find out the cause of missing tooth. It is recommended to remove that to allow the spontaneous eruption of missing tooth [8-11].

Odontomas are the most common odontogenic tumors. Odontomas account for 22% of all odontogenic tumors. Compound odontoma present twice as compared to complex odontomas, still some studies have reported an equal prevalence of them [12-13].

Usually odontomas are asymptomatic, but sometimes it can be associated with erupted or impacted tooth, swelling, pain in the oral cavity. Radio graphically, odontomas are classified as complex, compound and cystic. Most commonly compound odontomas present in the anterior region of jaw, while complex odontoma in the posterior region of jaw. Compound odontomas present as multiple small tooth-like structures, while complex odontomas present as a conglomerate mass. In both types, enamel, dentin, cemented and dental pulp is present surrounded by a dental follicle or cyst [6, 7, 14-19].

Histologically, odontoma is composed of enamel, dentin, and pulp, cemented. Compound odontoma resembles a normal tooth, while the complex odontoma presents as a disorganized mass of hard odontogenic tissue.

In one of the studies, which is conducted by Tomizawa, et al., there was spontaneous eruption of impacted teeth after surgical removal of odontomas in 8 of 25 cases [20]. Early diagnosis and management of odontoma helps to preserve the impacted tooth caused by odontoma.

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