

# Compound Odontome: A Case Report

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## ABSTRACT

One of the most common odontogenic tumors are odontomes. The term refers to tumors which are of odontogenic origin. Odontomes are basically of two types; compound odontomes and complex odontomes. Mostly they are asymptomatic. Presenting a case report of an odontome in a 10 year old female child in maxillary left anterior tooth region.

**KEY WORDS:** compound odontome, impacted lateral incisor, odontogenic tumour, surgical excision

## INTRODUCTION:

The term *odontome* was coined in 1867 by Broca. Paul Broca defined odontome as “tumors formed by the overgrowth or transitory of complete dental tissues.”<sup>[1]</sup> WHO also defined compound odontome as “A malformation in which all dental tissues are represented in a more orderly pattern than in the complex odontome, so that the lesion contains many tooth like structures. Most of these structures do not morphologically resemble the teeth in the normal dentition; however enamel dentin cementum and pulp are arranged as in the normal tooth.”<sup>[2]</sup> Of all the odontogenic tumours, Odontomes are found to be in the range of 20-22%<sup>[3]</sup>. The occurrence of compound odontome is between 9-37% and the incidence is between 5-30%<sup>[4]</sup>. The predilection of occurrence of odontome is slightly higher in males (59%) than in females (41%)<sup>[5]</sup>. Here we present a case report of compound odontome in a 10 year old female patient in her maxillary left lateral incisor and canine region.

## CASE REPORT:

A 10 year old patient reported to the Department of Pediatric and Preventive Dentistry with a chief complaint of painless swelling in the maxillary left lateral incisor region (Figure 1). The swelling was hard in consistency and without any signs of inflammation on the overlying soft tissue. Also the

swelling was consistent in size. The orthopantomogram and the occlusal radiograph revealed multiple radio opaque tooth-like structures. The swelling was measuring 10 mm mesiodistally and 6 mm vertically (Figure 2 & 3). After thorough examination of the hard swelling, surgical removal of the lesion/ overgrowth was planned. Blood investigation was advised before the surgery. Antibiotics and analgesics were prescribed for 5 days. Written consent was taken by the parents of the patient. The patient was recalled after 2 days for surgery under local anesthesia. After administration of local anaesthesia, the periosteal flap was raised using the Modified Widman Flap technique (Figure 4). After raising the flap, the overlying periosteum was removed using a micromotor borne cutting bur and irrigation was continuously carried out during the process of bone cutting to avoid production of heat. During the procedure it was observed that the hard tissue was attached with the periosteum from the labial side, however it was unattached from the palatal aspect. Hence it was easy to detach it from the palatal side. When the hard tissue lesion became completely free from the attachments, it was elevated and removed with the help of a periosteal elevator (Figure 5 & 6). After removal of the hard tissue, suture was given and patient was recalled after 1 week for suture removal (Figure 7). The specimen was sent for histopathological examination. The specimen was subjected to decalcification using 5% nitric acid. A portion of the specimen was studied by preparing a ground section. On microscopic examination of H and E stain section, normal enamel spaces, dentin and pulp tissue were observed which exhibited a normal relation to one another. Cementum presence was not evident. Thus it was confirmed that the hard tissue lesion was a compound Odontome. Follow up was

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Figure 1: Hard swelling in left maxillary incisor region.

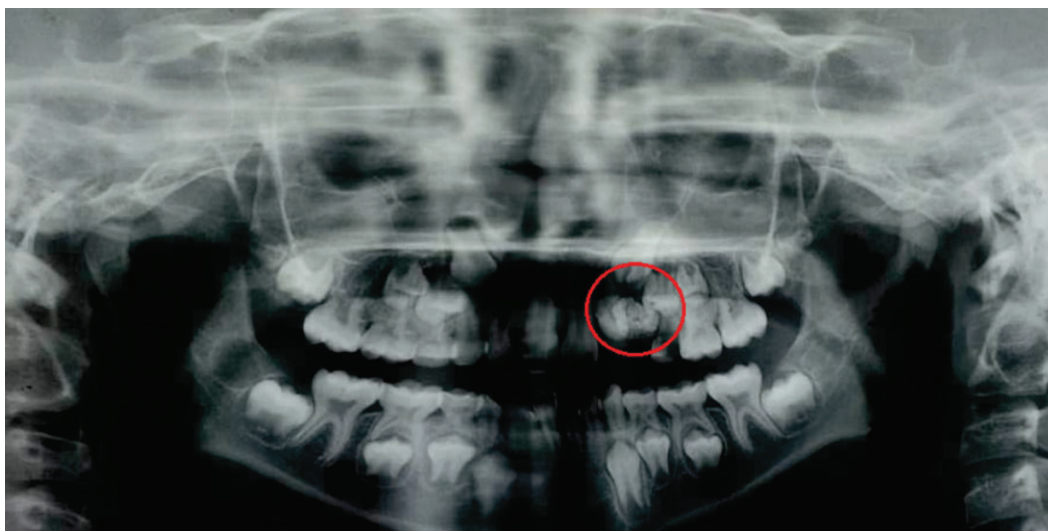


Figure 2: OPG showing multiple radio-opacities



Figure 3: Occlusal Radiograph



Figure 4: Exposed swelling after the flap.





Figure 5: Exposed odontome.



Figure 6: Excised hard tissue.



Figure 7: Application of suture



Figure 8: Follow up after 6 months.



Figure 9: IOPA of follow up after 6 months.

done after 6 months. Intra oral examination revealed eruption of 21 (Figure 8 and 9).

#### DISCUSSION:

Odontomes are usually seen in the first and second decades of life, and are vaguely accepted as being more of a developmental anomaly (hamartoma) rather than a true neoplasm<sup>[6]</sup>. Although the exact etiology of Odontome remains unknown, however various probable etiological factors have been proposed. Satish V *et al* proposed local causes, infection, mature ameloblasts, cell rests of serres, extraneous odontogenic epithelial cells, and trauma as the probable etiological factors<sup>[7]</sup>. Sometimes there are inadequate restricted spaces which creates growth pressures which result in the formation of odontomes. It was also proposed that pyogenic infection caused by treponema palladium during the stage of tooth development causes division of tooth germ which can

result in formation of odontomes. Mature ameloblasts are specialized cells that have the potential to develop tumors. These cells can also result in the formation of Odontomes. Cell rests of serres (also known as dental lamina remnants) of the retained tooth with some epithelial bands undergo proliferation which develop into odontomes. Previous history of any trauma can also result in the formation of a hard tissue odontome. A study by Syed MR *et al* has revealed that the incidence of odontome is more common in the maxillary arch(67%) than in the mandibular arch (33%) with a marked predilection for the incidence in the anterior region<sup>[8]</sup>. In this present case, there was a compound Odontome which was painless in nature. The only treatment option in this case according to the available literature was the surgical extraction of the odontome with complete removal of any associated soft tissue which was successfully performed. Further orthodontic treatment will be required for the correction of the malocclusion. Also, in our case we extracted the odontome via the conventional surgical method. But as per newer literature, surgical extraction of the odontome using Lasers is a recent advancement in the management protocol of odontomes. Angiero F *et al*<sup>[9]</sup> presented a retrospective study of recent clinical experience using Lasers for the surgical treatment of lesions of this kind and scored postsurgical pain. They concluded that a laser surgery reduces pain, having an excellent clinical outcome and minimizes treatment time.

### CONCLUSION:

Early diagnosis and treatment can result in better occlusion and aesthetics.

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