

## CASE REPORT

### COMPOUND ODONTOMA WITH UNUSUAL NUMBER OF DENTICLES- A CASE REPORT

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#### ABSTRACT

The term odontoma refers to hamartomatous lesions (malformations) rather than true neoplasms. They are the most common odontogenic tumour of jaws. They are slow growing in nature. Missing permanent tooth or retained deciduous tooth brings the patient to the clinician usually during second decade of life. Two types of odontomas has been described: complex and compound. The compound type is more common and frequently found in the anterior maxilla. A 15-year-old male patient reported to department Oral and Maxillofacial Surgery, with missing permanent right central and lateral incisor with retained deciduous in place. Intraoral radiographs were done and multiple small denticles were seen. A total of 39 denticles of various sizes were enucleated from the lesion making this case very unusual.

#### INTRODUCTION

Odontoma are mixed odontogenic tumour with both epithelial and ectomesenchymal components but with deficit structural arrangement making it a hamartomatous lesion.<sup>1</sup> Odontomas are either inherited or an interference with genetic control of tooth development. Trauma, infection, and disturbance in growth pressure may alter the biological mechanism that controls the development of tooth which may lead to development of an odontoma.<sup>2</sup> There are two types of odontomas: the complex and the compound. The distinction is somewhat arbitrary, as it is based on the appearance of either well-organized tooth like structures (compound odontomas) or on a mass of disorganized odontogenic tissues (complex odontomas).<sup>1</sup> Compound odontomas commonly occur in the anterior region of the maxilla and complex odontomas are frequently located in the posterior region of both jaws.<sup>3</sup> Compound odontomas are twice as common as the complex odontomas. Upon histopathologic examination, both odontomas contain enamel, dentin, cementum, and pulpal tissues.<sup>4</sup>

These lesions are mostly diagnosed during the second decade of life. Odontomas are generally asymptomatic, the most fre-

quent clinical signs being delayed eruption, persistence of the temporary tooth, and the presence of a tumor.<sup>5,6</sup>

Radiographically, compound odontomas appear as well-defined lesions with a radiolucent halo and containing radiodense zones. Multiple follicular formations are seen, separated by fibrous septae, and the denticles are clearly distinguished. In complex odontomas, the radiodense elements appear as irregular and disorderly masses with no similarity to dental structures.<sup>7</sup>

The differential diagnosis includes ameloblastic fibroma, ameloblastic fibroodontoma and odontoameloblastoma. Odontomas has sometimes been a part of syndromes, such as basal cell nevus syndrome, Gardner syndrome, familial colonic adenomatosis, Tangier disease or Hermann syndrome.<sup>6,7</sup>

Treatment is mainly aimed at conservative surgical enucleation allowing the impacted tooth to erupt.<sup>3</sup>

While most odontoma have few denticles, this case report presents a case with unusually large number of denticles being 39 in number.

#### CASE REPORT

A 15-year old boy reported to the Department of Oral and

Maxillofacial Surgery, Nobel Medical College and Teaching Hospital, Biratnagar, Nepal with the chief complaint of retained milk teeth in upper front region of jaw. An intra-oral examination revealed a retained deciduous right central and lateral incisor (Figure 1). On palpation minimal hard bony swelling was seen in relation to the retained deciduous tooth on the labial side (Figure 1).



**Figure 1: Pre-operative picture showing retained deciduous teeth**



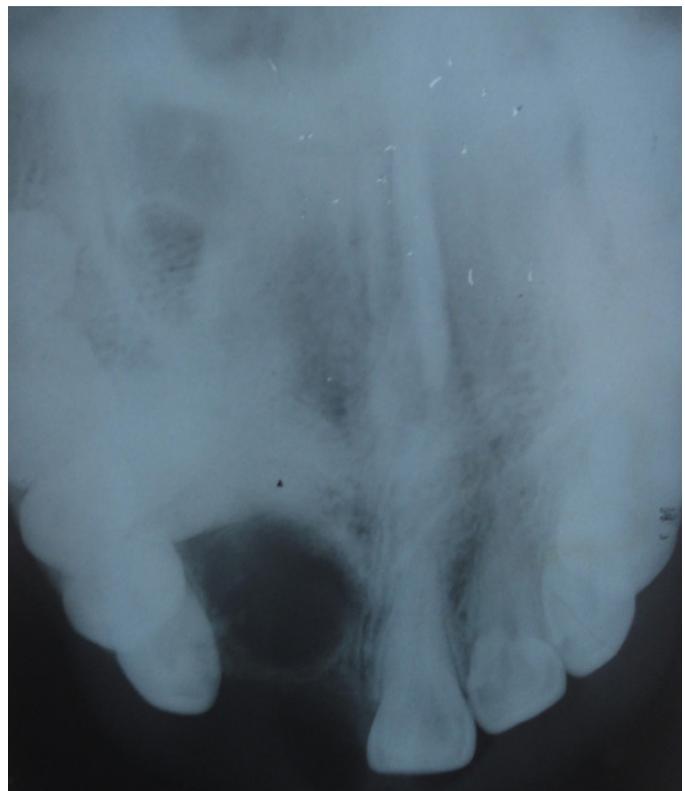
**Figure 2: Pre-operative radiograph showing multiple denticles**

It was non-tender and the overlying gingiva was of normal colour and consistency. The medical and family history was

non-contributory. An intra-oral periapical radiograph was taken (Figure 2) which revealed multiple denticles of different shapes and sizes in relation to the root of the deciduous incisors along with an impacted tooth. Although both the permanent incisors were missing, only one incisor was seen in the radiograph. Upon the clinical and radiographic findings, a provisional diagnosis of a compound composite odontoma was made. It was decided to extract the deciduous maxillary incisors and to surgically enucleate the tumour under local anaesthesia. After perioral paint of 5% betadine, a trapezoidal mucoperiosteal flap was elevated and the thin bone overlying the odontoma removed. A total of 39 denticles were removed (Figure 3).



**Figure 3: Denticles removed from the lesion**



**Figure 4: Intra-operative check radiograph to confirm removal of all denticles**

An intraoperative check intraoral radiograph was done to confirm removal of all the denticles (Figure 4). Surgical site was debrided and closed with 4-0 Vicryl suture. Patient was placed on oral Amoxicillin 500 mg TID for 5 days and Ibuprofen 400 mg SOS. Soft diet was advised for few days. A follow up was planned for observing the eruption of impacted permanent tooth and orthodontic consultation.

## DISCUSSION

Odontomas are the most common odontogenic neoplasm reported in literature but is considered hamartomatous in nature due to deficit structural arrangement of epithelial and ectomesenchymal components.<sup>1</sup>

Odontomas are commonly diagnosed before the age of 20 years.<sup>5,6</sup> Complex odontoma has been known to have a slight predilection towards females, whereas compound odontoma is more common in males.<sup>7</sup> The case reported in this article was 15 years male.

Variable number of denticles removed during enucleation of odontomas have been reported ranging from 4 to 37; however, a recent case reported the removal of 232 denticles from a patient.<sup>6,8,9</sup> A total of 39 denticles were retrieved from the lesion in this reported case which makes it among one of the highest numbers of denticles enucleated.

Retained deciduous teeth or missing permanent teeth brings the patient to the clinician most of the time. In most cases, it is found to be associated with an impacted tooth which was also seen in this case.<sup>9</sup> In this case, an intra-oral radiograph was taken to rule out missing permanent central and lateral incisor.

The radiograph revealed several tooth-like structures underneath the root of the deciduous tooth and above the crown of the unerupted permanent incisor. One permanent incisor was missing.

Studies have shown that compound odontomas are seen more frequently in the anterior maxilla.<sup>7</sup> In the present case, compound odontoma was also found in the anterior maxilla.

Surgical exposure under local anesthesia followed by enucleation of the odontoma is the accepted choice of treatment. If there is an impacted tooth in association with the odontoma it is prudent to wait for three months and wait for its eruption. If the impacted tooth does not erupt in three months, the impacted tooth should be surgically exposed with or without orthodontic traction.<sup>10</sup> In the present case, the retained 51 and 52 was extracted, and the odontoma was enucleated to allow the eruption of the permanent tooth. A follow-up was recommended to plan for the management of the unerupted permanent incisor.

## CONCLUSION

Among the reported cases, a compound odontoma with 39 denticles makes this patient, the case with one of the highest numbers reported in literature. A clinical finding of retained deciduous teeth should arise a suspicion of underlying odontoma with impacted permanent tooth. So, a regular checkup during the early childhood with timely radiographs is warranted. A timely detection and surgical enucleation of odontoma followed by curettage is recommended to prevent complications such as over-retention, impaction and delayed eruption of permanent teeth.

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