

# An Unusual Association of Odontomas with Primary Teeth

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## ABSTRACT

Odontomas generally appear as small, solitary or multiple radio-opaque lesions found on routine radiographic examinations. Traditionally, odontomas have been classified as benign odontogenic tumors and are subdivided into complex or compound odontomas morphologically. Compound odontomas commonly occur in the incisor-canine region of the maxilla and complex odontomas are frequently located in the premolar and molar region of both jaws. Occasionally, odontoma may cause disturbances in the eruption of teeth such as impaction, delay eruption or retention of primary teeth. In general, odontomas occur more often in the permanent dentition and are very rarely associated with the primary teeth. In this report; two cases of compound odontoma associated with primary teeth is presented. (Eur J Dent 2007;1:45-49)

Key words: Odontoma; Primary teeth.

## INTRODUCTION

Odontomas are developmental anomalies resulting from the growth of completely differentiated epithelial and mesenchymal cells that give rise to functional ameloblast and odontoblast.<sup>1</sup> Odontomas have been classified as benign odontogenic tumours and are subdivided into complex or compound odontomas morphologically.<sup>2</sup> Compound odontomas commonly occur in the incisor-canine region of the maxilla and complex odontomas are frequently located in the premolar and molar region of both jaws.<sup>3</sup>

Odontomas generally appear as small, solitary

or multiple radio-opaque lesions found on routine radiographic examination. Odontoma may cause disturbances in the eruption of teeth such as impaction, delayed eruption or retention of primary teeth.<sup>4</sup> There are very few reports of odontomas associated with primary teeth in the literature. In general, odontomas occur more often in the permanent dentition and are very rarely associated with the primary teeth.<sup>3,5,6</sup>

In this case report; odontomas in two child, which are very rarely diagnosed associated with primary teeth, are presented.

## CASE REPORTS

**CASE 1:** A girl aged 4 years presented with an unerupted right mandibular primary canine tooth and swelling in that region (Figure 1). Her medical story was clear. There was no history of trauma to her oro-facial region. There was no family history of unerupted teeth or hypodontia. Periapical radiograph of the lower canine region showed that multiple radio-opaque structures were present around the crown of the an unerupted canine (Figure 2). A provisional diagnosis of an odontoma was made, and the patient was scheduled for surgical removal of the lesion.

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The operation was performed under local anaesthesia. Buccal mucoperiosteal flap was raised in the lower canine region. Bone was removed with a bur (Figure 3) and then multiple odontomas were removed (Figure 4). Right primary canine was unerupted. The chance of re-eruption of impacted primary canine was not slim, but it was not extracted during the operation. The surgical wound was closed primarily with 3/0 Vicryl sutures. Histologically a diagnosis of compound

odontoma was made. Post-operative recovery was uneventful. The patient was followed up regularly to see eruption status of the tooth. At the end of the 2-year follow up visit, the primary canine tooth was in the dental arch (Figure 5).

**CASE 2:** A girl aged 13 years, was referred for management of swelling in the left mandibular primary canine tooth region. Her medical history was clear. Intraorally all the primary teeth were exfoliated except mandibular left primary canine and maxillary right primary second molar tooth. There were restorations in the permanent teeth. A panoramic radiograph was taken. Radio-opaque structure was seen overlapping the crown of the left permanent canine tooth (Figure 6). The provisional diagnosis was odontoma impeding the eruption of the left permanent canine tooth. Under local anaesthesia, odontoma was removed surgically (Figures 7, 8). Surgical procedure was the same as first patient. Histologic examination revealed a diagnosis of compound odontoma. The child's recovery was normal and intraoral healing was satisfactory. At the end of the 2-year follow-up visit, although the radiographic examination revealed that the left permanent canine's eruption level in the alveolar bone was higher than before

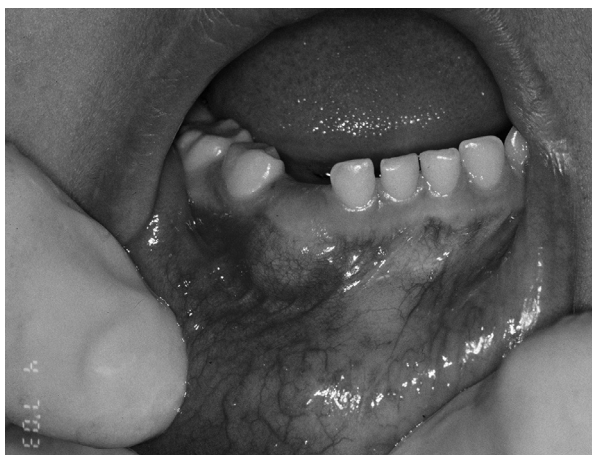


Figure 1. Intraoral view of Case 1.



Figure 2. Radiographic view of the odontomas.



Figure 3. View of the odontomas after a buccal mucoperiosteal flap was raised.

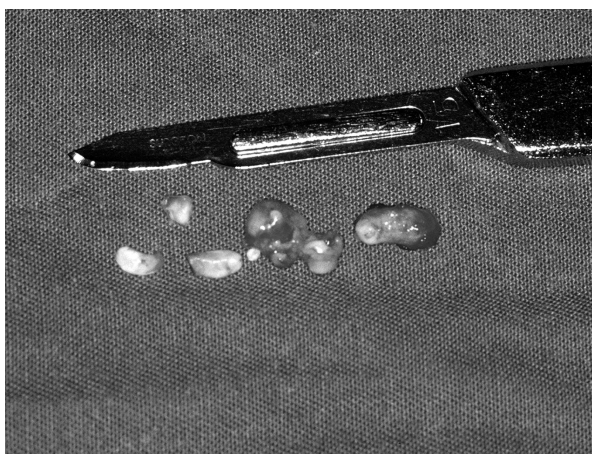


Figure 4. Odontomas after surgical removal.

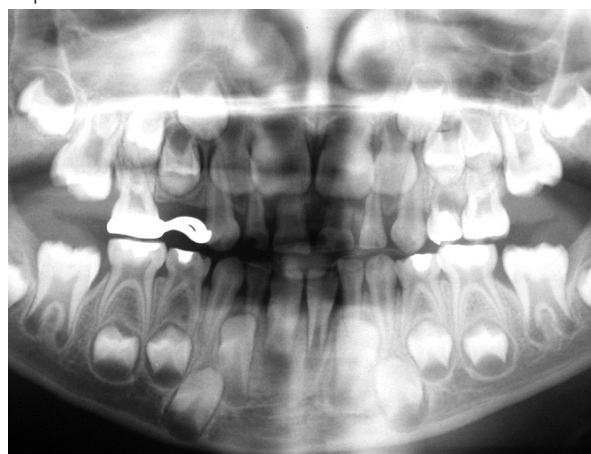


Figure 5. Panoramic radiograph taken two years after the operation.

in the following two years, it still was unerupted (Figure 9). In addition, there was inadequate space for the canine to erupt in the lower arch and she had some other orthodontic problems. Thus the patient was referred to department of orthodontics. She is still having an orthodontic treatment.

## DISCUSSION

Pediatric dentists often encounter the problem of impacted teeth. However, these are mainly permanent teeth and rarely primary teeth. "Tooth impaction" refers to situations where failure to erupt appears to be due to a mechanical blocking and the tooth remains unerupted beyond the normal time of eruption. The condition is caused by systemic or local aetiologic factors.<sup>7</sup> Factors contributing to impaction include developmental anomalies such as malposition, dilaceration, ankylosis, tumours, odontoma, dentigerous cysts, presence of supernumerary teeth and systemic-genetic in-

terrelation such as cleidocranial dysostosis and hypopituitarism.<sup>4,8</sup> Impaction of an anterior primary tooth is very rare. When it occurs it is most often associated with the presence of a supernumerary tooth or odontoma.<sup>9</sup> Most cases of impacted primary teeth reported in the past were found to be caused by odontomas.<sup>7</sup> In our first case, odontoma was the cause of the impaction of the primary canine tooth. Occasionally, odontoma may cause disturbances in the eruption of teeth such as impaction, delayed eruption or retention of primary teeth.<sup>3,4</sup> In our second case, odontoma was the cause of retention of the primary canine tooth. Diagnosis of odontomas associated with primary teeth, as in the present cases, is unusual. A summary of cases diagnosed in the primary dentition is shown in Table 1.<sup>3,8-22</sup>

When impacted primary teeth have enough space to erupt in the dental arch, surgical exposure with removal of the overlying gingiva or any

**Table 1.** Odontomas associated with the primary dentition.

| Age of patients      | Location   | Type of odontoma | Publication                       |
|----------------------|------------|------------------|-----------------------------------|
| 4-year-old           | Maxillary  | Compound         | Axel <sup>10</sup>                |
| 4-year-old           | Maxillary  | Compound         | Aimes <sup>11</sup>               |
| 3-year, 6 month-old  | Maxillary  | Compound         | Aimes <sup>12</sup>               |
| 4-year-old           | Mandibular | Complex          | Hitchin and White <sup>13</sup>   |
| 4 year, 11 month-old | Maxillary  | Compound         | Hitchin and Dekonor <sup>14</sup> |
| 8 year, 7 month-old  | Maxillary  | Compound         | Hitchin and Dekonor <sup>14</sup> |
| 5-year-old           | Maxillary  | Compound         | Noonan <sup>15</sup>              |
| 6-year-old           | Maxillary  | Compound         | Stajic <sup>3</sup>               |
| 2-year-old           | Maxillary  | Not stated       | Brunetto et al <sup>9</sup>       |
| 1 year, 2 month-old  | Maxillary  | Compound         | Haishima et al <sup>16</sup>      |
| 1 year, 8 month-old  | Maxillary  | Compound         | Haishima et al <sup>16</sup>      |
| 3 year, 6 month-old  | Maxillary  | Compound         | Bacetti <sup>17</sup>             |
| 3-year-old           | Maxillary  | Compound         | Olivero et al <sup>18</sup>       |
| 30 month-old         | Maxillary  | Compound         | Long et al <sup>19</sup>          |
| 3-year-old           | Maxillary  | Complex          | Motokawa et al <sup>8</sup>       |
| 4-year-old           | Maxillary  | Compound         | Yassin <sup>20</sup>              |
| 2 year, 5 month-old  | Maxillary  | Compound         | Yeung et al <sup>21</sup>         |
| 4 year, 8 month-old  | Maxillary  | Complex          | Sheehy et al <sup>22</sup>        |

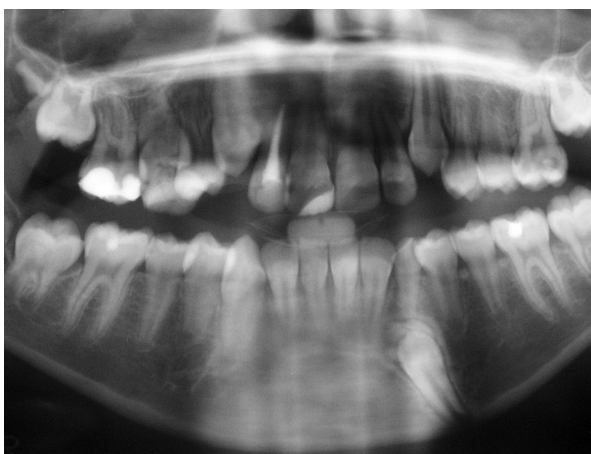


Figure 6. Panoramic radiograph of Case 2.



Figure 7. View of the lesion after flap was raised.

overlying odontoma should be performed and the impacted teeth kept under observation for three months. When the tooth fails to erupt, orthodontic traction should be applied. When there is insufficient space for the tooth to erupt, it may necessary to increase the space by uprighting inclined neighbouring teeth. If there is no expectation of eruption, the teeth should be extracted.<sup>7</sup> In our first case impacted primary canine tooth normally started re-erupt spontaneously one month after the operation but long-term observation is necessary until the tooth erupt. At the end of the 2-year follow up, primary canine tooth was seen in its normal position in the dental arch. In our second case, permanent canine tooth was impacted because of inadequate space for eruption. For that reason and the other orthodontic problems; she was referred to department of orthodontics.

The degree of calcification of odontoma in the primary dentition is sometimes less than is seen in relation to permanent teeth and radiographic features are therefore more weakly radio-opaque. It is important therefore, to examine the radiographs carefully.<sup>16</sup>

Paediatric dentists and oral and maxillofacial surgeons often encounter the problem of impact-

ed teeth. However, these are mainly permanent teeth and rarely primary teeth. In this case report, odontoma was the cause of impaction and retention of primary tooth. If there is an impacted or retentive primary teeth, odontoma can be the cause. If the cause is odontoma, detailed radiographic examination and the treatment must be done.

## CONCLUSIONS

Early diagnosis and management of odontomas in the primary dentition are essential in order to prevent later complications, such as failure of eruption of the primary and permanent teeth.

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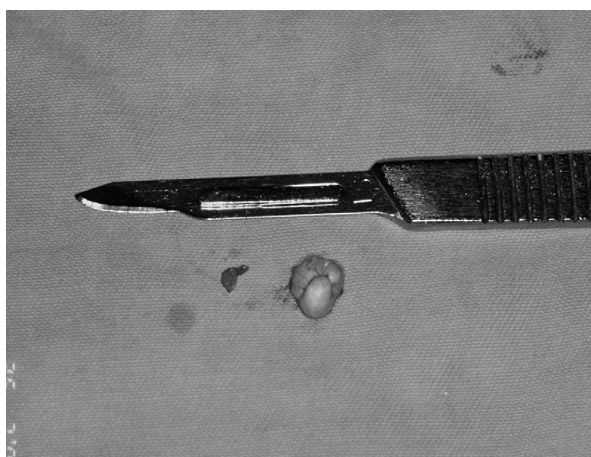


Figure 8. Removed odontoma.

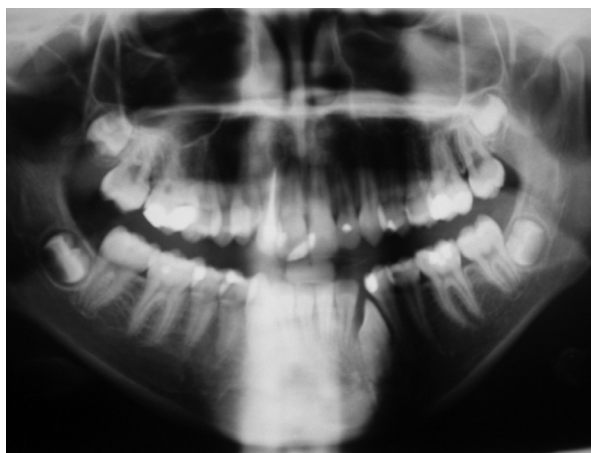


Figure 9. View of the canine tooth two years after the operation.

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