

Silent Obstacle to Eruption - A Case Report of Compound Odontoma.¹Dr. Simran Minhas, Himachal Dental College, Sundernagar.²Dr. Akshat Sharma, Himachal Dental College, Sundernagar.³Dr. Ankita Gaur, Himachal Dental College, Sundernagar.⁴Dr. Vasundhara Pathania, Himachal Dental College, Sundernagar.⁵Dr. Ishant Sood, Himachal Dental College, Sundernagar.**Corresponding Author:** Dr. Simran Minhas, Himachal Dental College, Sundernagar.**Citation of this Article:** Dr. Simran Minhas, Dr. Akshat Sharma, Dr. Ankita Gaur, Dr. Vasundhara Pathania, Dr. Ishant Sood, “Silent Obstacle to Eruption - A Case Report of Compound Odontoma”, IJDSIR – August– 2026, Volume –9, Issue – 4, P. No. 53 – 58.**Copyright:** ©2026, Dr. Simran Minhas, et al. This is an open access journal and article distributed under the terms of the creative common’s attribution non-commercial License. Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given, and the new creations are licensed under the identical terms.**Type of Publication:** Case Report**Conflicts of Interest:** Nil**Abstract**

Odontomas are the most common odontogenic tumors and are regarded as Hamartomatous malformations originating from odontogenic epithelial and Mesenchymal tissues. They commonly interfere with the normal eruption of teeth and are often discovered incidentally during routine radiographic examination. A 13-year-old male patient reported to the Department of Pediatric and Preventive Dentistry with a retained deciduous maxillary right lateral incisor in the anterior maxillary region. Radiographic investigations, including intraoral periapical radiographs, orthopantomogram, and cone beam computed tomography, revealed the presence of a compound odontoma obstructing the eruption of the permanent maxillary right canine.

Surgical enucleation of the lesion was performed under local anesthesia, during which 13 Denticles were retrieved. Histopathological examination confirmed the

diagnosis of compound Odontoma. Complete excision of the lesion was achieved without damage to adjacent anatomical structures.

Postoperative healing was uneventful, and follow-up radiographic evaluation demonstrated complete removal of the Odontoma. This case highlights the rare presentation of multiple Denticles in a non- syndromic pediatric patient and emphasizes the importance of early radiographic diagnosis and timely surgical intervention to prevent eruption disturbances and ensure favorable clinical outcomes in children.

Keywords: Compound Odontoma, Denticles, Impacted Canine, Pediatric Dentistry, CBCT, Pediatric Surgery**Introduction**

In 1867, Paul Broca introduced the term Odontoma, referring to a pathological entity arising from an abnormal proliferation of all components of dental tissue. Currently, Odontoma are regarded as developmental

malformations arising from fully differentiated odontogenic epithelial and mesenchymal tissues. These components differentiate into ameloblasts and odontoblasts, leading to the production of all dental hard and soft tissues¹. These lesions constitute approximately 22% of all odontogenic tumors and are currently regarded as hamartomatous malformations associated with disrupted tooth development rather than true neoplastic entities².

Odontogenic tumors are relatively rare, with reported prevalence varying from 0.002% to 0.1%. Among these lesions, Odontoma constitute the most frequently encountered type, contributing approximately 20–67% of all odontogenic tumors. They are most frequently diagnosed during the first two decades of life and show no significant gender predilection. Although the exact etiology of Odontoma remains unclear, several factors have been proposed, including chronic infection during Odontogenesis, inflammatory processes, and localized trauma. Genetic influences such as odontoblastic hyperactivity and inherited conditions, including Gardner's syndrome and Hermann's syndrome, have also been suggested as possible contributing factors³.

The World Health Organization (WHO) classifies Odontoma into three distinct types: compound odontoma, complex Odontoma, and ameloblastic fibro-odontome⁴.

Complex Odontoma are most commonly found in the premolar and molar areas of the jaws, while compound Odontoma usually present in the anterior maxillary incisor–canine region. These lesions may interfere with normal tooth eruption, resulting in impaction, delayed eruption of permanent teeth, or prolonged retention of primary teeth, and may develop either before or after tooth eruption⁵.

Clinically, odontomas are generally asymptomatic and are often detected incidentally on routine radiographic

examination. However, when they attain considerable size, they may cause cortical bone expansion, pain, facial asymmetry, obstruction of erupting teeth, or compression of adjacent neurovascular structures such as the inferior alveolar nerve. Diagnosis is established through a combination of radiographic and Histopathological findings, and complete surgical removal remains the treatment of choice with an excellent prognosis⁶. In the absence of early detection, odontomas may continue to increase in size before clinical symptoms prompt the patient to seek treatment⁷.

The present report highlights an unusual case of multiple odontomas in a 13-year-old male child, diagnosed based on radiographic findings. This case is particularly noteworthy due to the unusually large number of Odontomas identified and surgically removed, with a total of 13 Denticles, making it a distinctive finding in pediatric dental literature.

Case Description

A 13 year male visited the Department of Pediatric and Preventive Dentistry, with the chief complaint of retained tooth in upper front region of mouth. There was no contributing medical history. Clinical history revealed the absence of orofacial trauma and no familial association with unerupted dentition or hypodontia. Extraoral examination showed no evidence of facial asymmetry. Intraoral clinical assessment (Fig. 1) revealed the presence of a retained deciduous lateral incisor in the maxillary right anterior region. Routine periapical radiograph [Fig.2, a, b] was performed showing a compound odontoma characterized by multiple small, tooth-like radio opaque structures (Denticles) surrounded by a thin radiolucent halo in the maxillary anterior region, associated with an unerupted right permanent canine. Orthopantomogram, [Fig.2, c] revealed a radiopaque well-defined mass above the impacted right

maxillary permanent canine, of similar intensity of calcified dental tissue.

A cone beam computed tomography [Fig.3] image of upper jaw revealed an irregular radio opaque mass preventing the eruption of the upper right permanent canine and retained deciduous right lateral incisor. The nasal floor was not involved. Semi vertically impacted and rotated maxillary permanent right canine was seen below the nasal floor with complete root apex formation. The collective clinical and investigative findings supported a provisional diagnosis of Odontoma.

Ethical approval for this case report was obtained from the Institutional Ethical Committee Board. Written informed consent was obtained from the patient's parents prior to clinical examination, radiographic investigations, and surgical intervention.

Surgical procedure was planned in association with the Department of Oral and Maxillofacial surgery. All the required investigations were carried out before the surgery. Under local anesthesia the surgery was performed by team consisting of Oral surgeon and Pediatric Dentist.

A full thickness muco periosteal flap [Fig.4 a] was raised after a crevicular and vertical releasing incision. Proper care was taken to preserve greater palatine and nasopalatine nerve and vessels. The thin overlying bone was carefully removed using a carbide bone-cutting bur under copious saline irrigation, which allowed clear exposure of a well-defined compound Odontoma [Fig.4.b,c] and 13 Denticles [Fig.5] were removed leaving a cavity [Fig.4.d]. The wound was washed with saline and povidone-iodine solution and sutured by 3/0 silk [Fig.4,e].

Postoperative CBCT was performed to confirm the complete removal of Odontoma. Postoperative instructions were given to the patient. Histopathologic

examination confirmed the provisional diagnosis of compound Odontoma. Follow up was done after one month [Fig 7a, Fig. 7b]

Discussion

Currently, odontomas are recognized as the predominant odontogenic lesions in children and adolescents and are regarded as developmental hamartomas instead of true neoplastic growths. They arise from fully differentiated odontogenic epithelial and mesenchymal cells that give rise to enamel, dentin, cementum, and pulp tissue arranged in an abnormal pattern^{1,2}. Based on WHO criteria, odontomas are grouped into compound, complex, and ameloblastic fibro-odontoma variants, and the compound form shows a predilection for the anterior maxillary region⁴.

Clinically, odontomas are usually asymptomatic and are often discovered accidentally during routine radiographic examination, most commonly when investigating delayed eruption or retention of primary teeth^{2,3}. This finding is consistent with the present case, where the chief complaint was retained deciduous right lateral incisor associated with an impacted right maxillary permanent canine. Several studies have reported that odontomas commonly interfere with eruption pathways, leading to impaction, delayed eruption, or mispositioning of permanent teeth^{3,5}.

Radiographically, compound odontomas present as multiple, well-defined radio opaque tooth-like structures (Denticles) surrounded by a narrow radiolucent zone representing the connective tissue capsule.

In the present case, orthopantomogram and CBCT imaging revealed a radiopaque mass obstructing the eruption of the right maxillary permanent canine. CBCT proved invaluable for precise localization of the lesion, evaluation of its relationship with adjacent structures such as the nasal floor, and surgical planning.

Advanced imaging modalities are particularly beneficial in pediatric patients to minimize surgical morbidity and ensure complete lesion removal ^{3,6}. In the present case, no history of trauma, infection, or hereditary disorder was reported, suggesting an idiopathic origin.

Surgical excision is the treatment of choice for odontomas and generally carries an excellent prognosis with minimal risk of recurrence⁶.

Early removal is recommended to prevent further complications such as cystic degeneration, resorption of adjacent teeth, or prolonged eruption disturbances. In this case, complete surgical enucleation was achieved without damage to adjacent anatomical structures, and postoperative CBCT confirmed total removal of the lesion. Histopathological examination further validated the diagnosis of compound Odontoma.

A particularly remarkable feature of the present case is the presence of multiple Denticles (13 odontomas) in a non-syndromic pediatric patient, which is extremely rare. Most reported cases describe a single odontoma or a limited number of Denticles ^{1,5,7}.

The unusually high number of odontomas in this case adds to its clinical significance and highlights the importance of thorough radiographic assessment in children presenting with eruption disturbances.

This case underscores the need for early diagnosis, routine radiographic evaluation, and a multidisciplinary approach involving pediatric dentists and oral and maxillofacial surgeons to achieve favorable outcomes in managing odontomas.

Conclusion

Odontomas are common odontogenic developmental anomalies that can significantly interfere with normal tooth eruption, particularly in pediatric patients. The present case describes a rare occurrence of a compound Odontoma with an unusually high number of Denticles in

a non-syndromic child, leading to impaction of the permanent maxillary canine. Comprehensive radio graphic evaluation, including CBCT, played a crucial role in accurate diagnosis and surgical planning. Timely surgical enucleation resulted in complete removal of the lesion without complications. Early detection and intervention are essential to prevent eruption disturbances and ensure optimal functional and esthetic outcomes in growing children.

References

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Legends Figures

Fig 1: Pre-operative intraoral photographs

- Frontal intraoral view
- Right lateral intraoral view
- Left lateral intraoral view
- Maxillary occlusal view
- Mandibular occlusal view

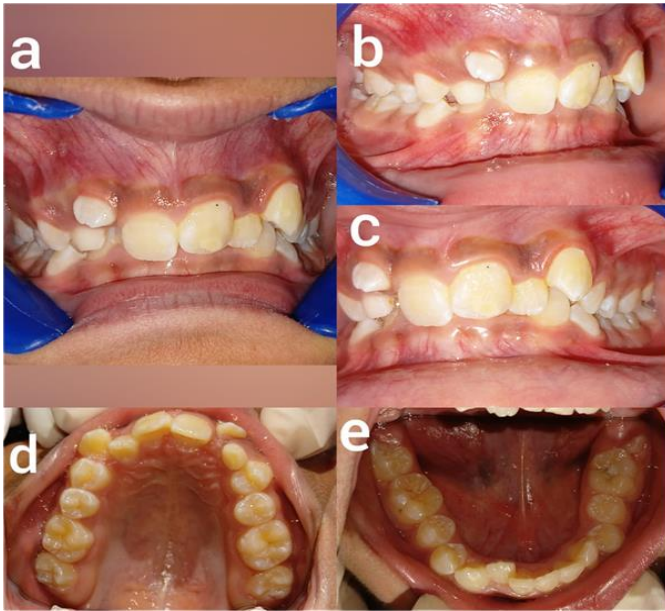


Fig 2: Pre-operative radiographic findings of the present case

- Intraoral periapical radiographs showing multiple Denticles with a surrounding radiolucent rim in the maxillary anterior region.
- Orthopantomogram revealing a cluster of denticles consistent with a compound Odontoma in the maxillary anterior region, and unerupted maxillary right permanent canine

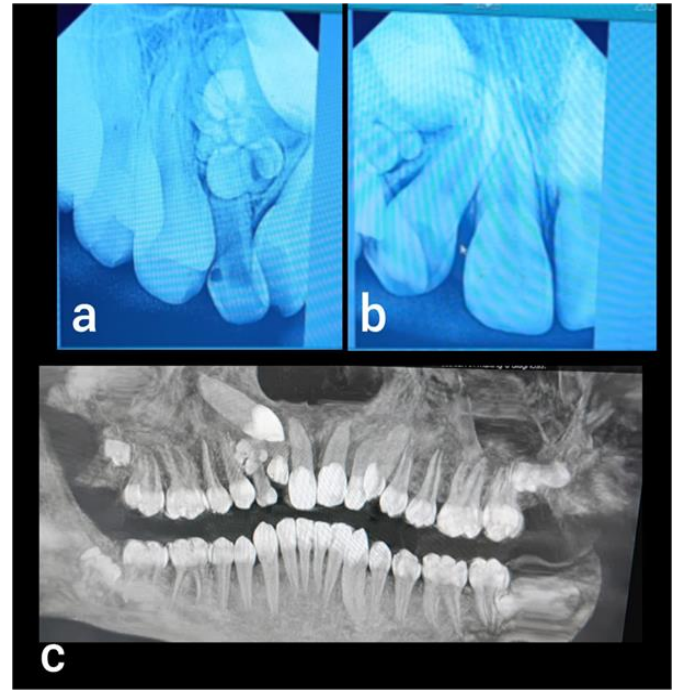


Fig 3: CBCT imaging of compound Odontoma

- CBCT panoramic view showing a cluster of Denticles in the maxillary anterior region.
- CBCT sagittal section demonstrating Denticles with a surrounding radiolucent rim.
- CBCT multiplanar reconstructions confirming the extent and location of the Odontoma.

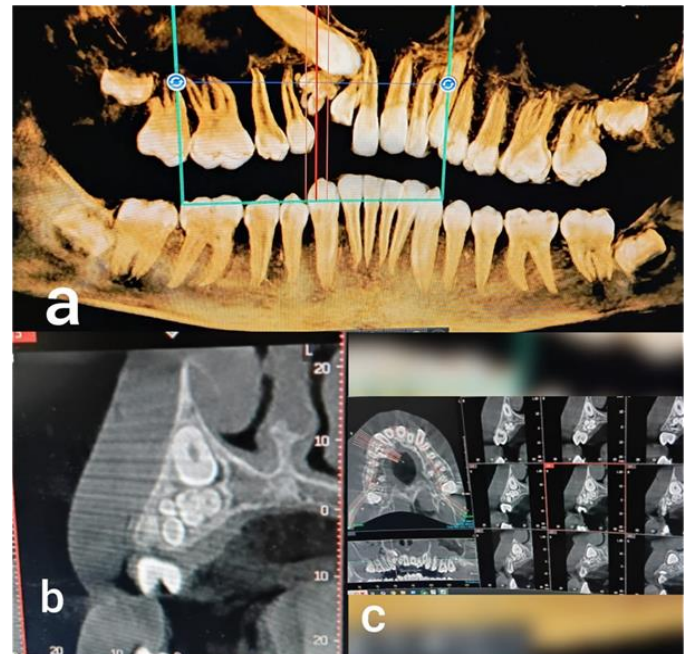


Fig 4: Surgical management of compound Odontoma

- mucoperiosteal flap elevation
- surgical exposure of the lesion
- enucleation of the compound odontoma with removal of Denticles
- inspection of the surgical cavity
- primary closure of the surgical site.

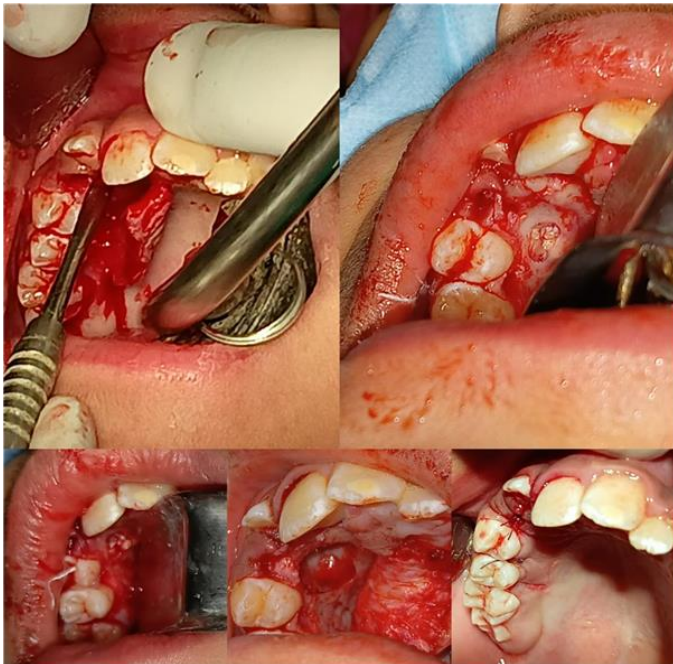


Fig 5: Excised compound Odontoma with multiple Denticles



Fig 6: Postoperative CBCT showing hollow cavity after removal of Odontoma

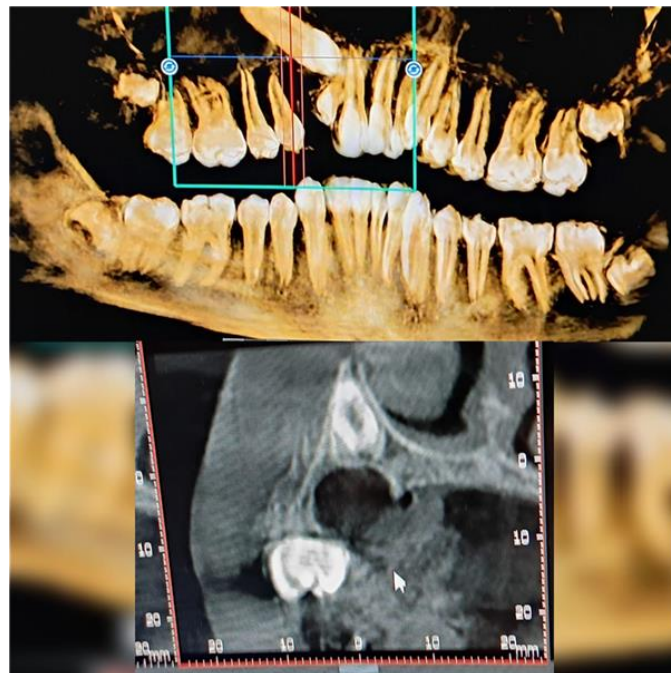


Fig 7: One-month follow-up IOPA showing satisfactory bone healing at the surgical site with no evidence of residual lesion or recurrence.

