

CLINICAL CASE REPORTS

Surgical approach to rare and atypical odontomas in pediatric age

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ABSTRACT

Odontomas are classified as benign tumors of the jaws.

In pediatric patients, they typically present as solitary intraosseous lesions. These anomalies may be triggered by traumatic, infectious, or genetic factors, and are often associated with the retention of deciduous teeth, delayed eruption of permanent teeth, agenesis, tooth displacement, occlusal changes, and cortical bone expansion.

Radiographically, they appear as radiopaque lesions with well-defined external margins, sometimes surrounded by a radiolucent halo, reflecting their slow growth and non-aggressive behavior.

Surgical planning should be performed with the aid of intraoral and panoramic radiographs, complemented when necessary by computed tomography. Due to the possibility of interfering with normal tooth eruption and the (reduced) risk of associated cystic lesions or secondary tumors, such as ameloblastomas, enucleation with bone curettage is recommended.

The present study aims to describe two cases of atypical presentations of odontomas, along with their surgical approach and follow-up.

Keywords: agenesis; benign tumors; odontoma; radiograph

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INTRODUCTION

Odontomas are benign tumors of the jaws, also referred to as hamartomas. Hamartomas are malformations that will rarely have the potential to become malign. It can grow in any part of the body, in the same proportion as neighboring cells, but it develops disorganized.⁽¹⁾

Odontomas originate from the odontogenic epithelium and ectomesenchyma, with reports describing abnormally excessive growth of organic enamel cells with a characteristic structural derangement. The most frequent types are compound odontoma, formed by material identical to small teeth, and complex odontoma, composed of disorganized dental tissue.^(2,3)

The compound odontoma typically presents radiographically as a jaw lesion containing small tooth-like structures (denticles), with a predilection for the anterior maxilla (second sextant). Complex odontoma, characterized by an amorphous radiopaque mass of disorganized dental tissue, is usually found in the posterior sextants (fourth and sixth), often requiring differential diagnosis from other benign tumors or bone lesions.^(3,4)

CLINICAL CASES

We present two clinical cases of odontomas, with special interest due to their atypical location, number and presentation.

Case 1: A healthy ten-year-old female presented with slight bulging of the jugal mucosa in the canine region (third quadrant). A panoramic radiograph was taken (**Figure 1**). On clinical examination, no additional alterations were observed.



Figure 1 - Lesion in the 3rd quadrant that conditions delay in the progression of the definitive canine eruption, compared to the contralateral canine.

Case 2: A twelve-year-old male with a history of multi-relapsing nephrotic syndrome seeking care for abnormal dental positioning. Clinical examination revealed mixed

dentition with the persistence of teeth 75 and 85 in the lower arch. Panoramic radiography and computed tomography were performed (**Figures 2 and 3**).



Figure 2 - Bilateral lesions in the lower arch conditioning the eruption of teeth 35 and 45, suggestive of supernumerary teeth or odontomas.



Figure 3 - Computed tomography that corroborates the diagnostic hypothesis.

In both cases, surgical enucleation of the lesion was planned under general anesthesia. The procedure included raising a mucoperiosteal flap, exposure of the vestibular cortical region with visualization of the mental nerve, followed by osteotomy to access the lesion. The tooth-like structures were removed, and alveoloplasty was carried out to regularize the alveolar bone ridges. Gingivoplasty was then performed for flap closure (**Figures 4 and 5**).



Figure 4 - Image sequence of the operative moment of clinical case 1



Figure 5 - Photographic record of the lesions removed from the lower arch in clinical case 2

DISCUSSION AND CONCLUSION

In most cases, odontomas are suspected based on imaging findings, however, definitive diagnosis requires intraoperative examination and histopathological confirmation. Histology allows for identification of the dental tissue components present and the degree of structural disorganization.^(4,5)

In Case 1, the lesion was located in the fifth sextant, an atypical site. Histological examination identified fragments of fibrous connective tissue consistent with dental pulp, along with cementum-like material. These findings supported the diagnosis of compound odontoma.

In Case 2, lesions were observed bilaterally, also in an atypical presentation. Computed tomography suggested the presence of supernumerary or rudimentary teeth. Histopathological examination confirmed organized dental structures resembling small teeth, but with no eruptive potential. These findings supported the diagnosis of compound odontoma. Postsurgical imaging revealed successful removal of the odontomas and proper eruption of the second premolars.

Odontomas can lead to several complications, including mucosal bulging resembling ectopic eruption, retention of deciduous teeth, delayed eruption of permanent teeth, agenesis, dental displacement, malocclusion, cortical bone expansion, pain, sensory disturbances, and a (reduced) risk of cystic or tumoral transformation. For these reasons, enucleation combined with bone curettage is recommended.⁽⁵⁾

This procedure remains the standard treatment for odontomas; however, careful preoperative imaging and surgical planning are essential to preserve adjacent permanent teeth.

The two cases reported highlight the clinical significance of recognizing atypical presentations and the value of imaging and histopathological examination to confirm the diagnosis

and guide appropriate treatment.

AUTHORSHIP

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