Journal on Surgery
www.journalonsurgery.org

Case Report

Open Access, Volume 2

Compound Odontoma: Current Clinical Problem

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Introduction

Odontomas are among the most common odontogenic tumors found in the oral cavity, corresponding to between 21% and 67% of such lesions. Majority of authors divide them into complex and compound odontomas. Their etiology is not fully understood. Most authors point to traumatic or infectious etiology or genetic disorders. Most odontomas appear in the first two decades of life. Compound odontomas are most often found in the anterior segment of the maxilla, without any gender predilection. Complex odontomas are typically observed in the lateral section of the maxilla, slightly more frequently in male patients. These are nontender tumors, characterized by slow growth. The most frequent symptom suggesting the occurrence of an odontoma can be the disturbance in permanent tooth eruption. Such lesions are often detected accidentally during basic radiological diagnostics.

The study objective was the presentation of a patient diagnosed with compound odontoma.

Case study

A 7-year-old patient visited the Dental Surgery Clinic for consultation and treatment of the impacted tooth 11 and a painless lesion visible on an orthopantomographic image. The persistent deciduous tooth 51 was detected in intraoral examination. On palpation a tumor perceptible with hard consistency, nontender, located in the buccal vestibule above the persistent tooth 51. The mucosa surrounding the tumor with normal coloration, smooth and glossy.

The pantomographic image showed the presence of an oval lesion, surrounded by a thin brightening border, containing small formations resembling miniature teeth (Figure 1), which may correspond to a compound odontoma.

The procedure of enucleation of the tumor and histopathological examination as well as the extraction of the persistent tooth 51 was planned. The retained tooth 11 was left for observation and autonomous eruption.

Deciduous tooth 51 was completely removed under 4% Articaine anesthesia. The lesion was entirely enucleated and comprised of numerous formations reminiscent of small teeth (Figure 2). The macroscopic appearance of the lesion enabled a preliminary clinical identification - compound odontoma. The wound was stitched. The obtained material was sent for histopathological examination. After 7 days of normal healing the stitches were removed. The patient was referred for orthodontic clinic for the purpose of treatment continuation.

Manuscript Information: *Received: Aug 03, 2022; Accepted: Sep 02, 2022; Published: Sep 07, 2022*

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Citation: *Trzcinka- Guźlińska J, Woźniak L, Zarmach J, Borys J, Antonowicz B. Compound Odontoma: Current Clinical Problem. J Surgery. 2022; 2(2): 1048.*

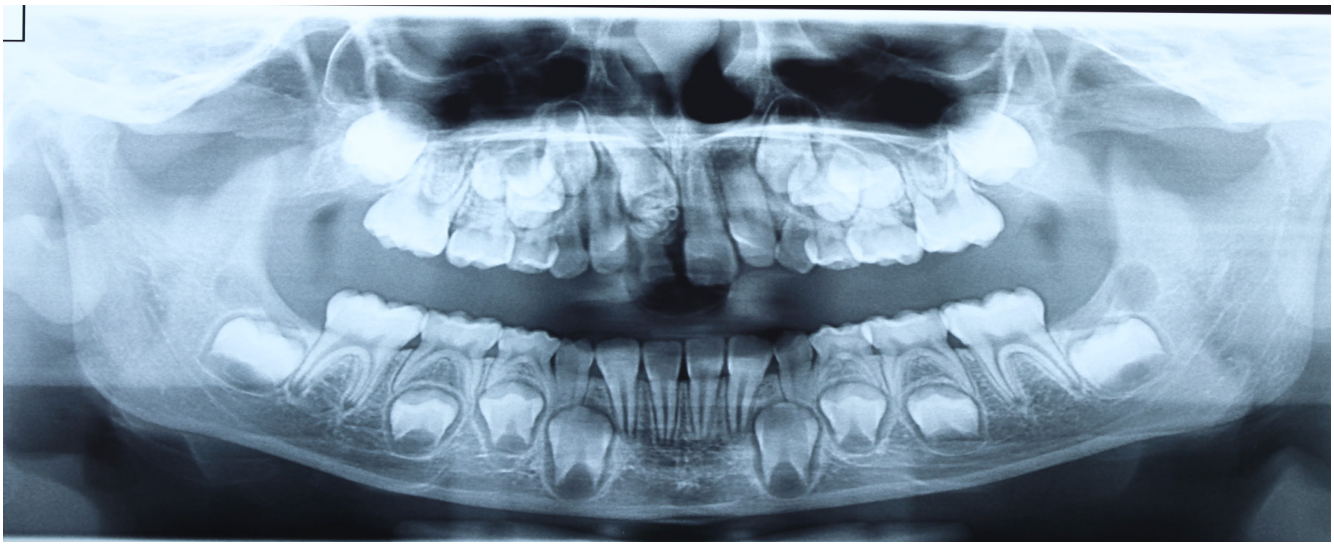

Figure 1: The pantomographic image of maxilla and mandible.

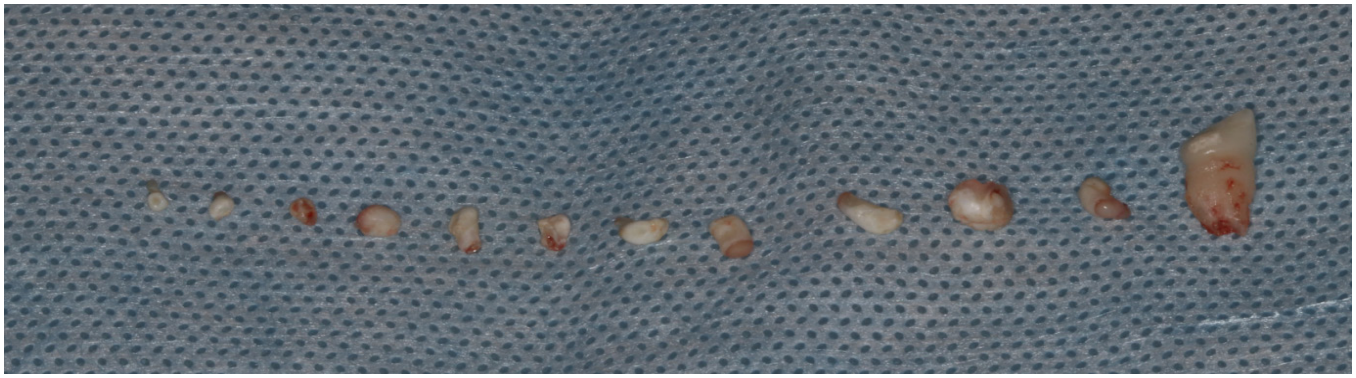

Figure 2: Photo of the removed teeth and tumor.

Histopathological examination confirmed the preliminary clinical identification - compound odontoma.

Discussion

The article emphasizes the need to observe and control the eruption of permanent teeth in children, as disturbances in this process are often the only symptom indicating the possibility of an odontoma. Making an accurate diagnosis is necessary to select the proper treatment form.

Odontomas belong to neoplastic tumors of odontogenic origin, hamartomatic malformations of developmental nature, classified as mixed tumors, containing an epithelial and mesenchymal component. They are some the most common odontogenic tumors found in the oral cavity, constituting between 21% and 67% of such lesions.

The significant majority of authors, as well as the World Health Organization (WHO) distinguish two odontoma types. Tumors in which the tooth tissues: enamel, dentin, and cementum, are visible as a chaotic, disordered mass are called complex odontomas, while those with a concentration of many tiny structures resembling miniature teeth - odontoids, with an ordered arrangement and ratio of tooth tissues called they are compound odontomas. The radiographic image provided by the patient shows visible changes in the shape of miniature teeth, which suggested compound odontoma identification.

In clinical terms, a mixed form of odontoma can be distinguished, which is a combination of complex and compound odontoma. Erupted odontoma has also been discussed, which is a variant of compound odontoma that was subject to eruption.

The etiology of odontomas remains unknown. Traumatic or infectious etiology or genetic disorders are most commonly suggested. In the case of our patient, no correlation was found between the occurrence of odontoma and a traumatic or infectious etiology, therefore we suspect that the cause of its formation may have been genetically determined.

Odontomas appear at any age, however most of such lesions are observed in the first two decades of life. Occurrence of an odontoma in a patient aged 7 confirms the fact that odontomas are typically found in younger patients.

The most common location for compound odontomas is the anterior section of the jaw, similar to the presented case. Odontomas are nontender tumors with slow growth, causing disturbances in the proper eruption of permanent teeth, most often detected during routine radiological examinations. However, in some cases they can lead to bone distention, or displacement of

neighboring teeth, cyst formation or malignant transformations. In the presented case, the patient did not report any symptoms, and the only disturbing symptom was the asynchronous eruption of the upper central incisors.

The first step to make an accurate diagnosis is a radiological control. On a radiological image, an odontoma appears as a round or oval lesion surrounded by a brightening border, filled with fine, deformed teeth (compound odontoma). In our patient, OPG image demonstrated a typical lesion reminiscent of a compound odontoma.

The treatment of choice is a complete enucleation of tumor. A non-definitive removal of the lesion may result in an occurrence of inflammatory complications. Depending on the clinical situation, an impacted tooth can be left for spontaneous eruption or inserted into the dental arch in cooperation with an orthodontist. In this case, decision was made to enucleate the tumor and retaining the tooth for autonomous eruption. At the same time, the patient was informed on the need to introduce orthodontic treatment in the event tooth 11 would not erupt.

Conclusions

In the case of a disturbance in the eruption of permanent teeth, radiological diagnostics is necessary, allowing to establish the diagnosis and select the appropriate method of treatment. Untreated odontoma- type tumors can cause dental disorders, cysts and even neoplastic transformations, which is why early diagnosis and definitive surgery as well as histopathological examination of the removed tumor are so important. After complete removal of the tumor the prognosis is good and recrudescence is rarely observed.

Conflict of interest: The authors declare no conflicts of interest.

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