

Molariform Mesiodens and Supplementary Supernumeraries Teeth: Case Report

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Abstract

Introduction: The multiple supernumerary teeth are an anomaly in the number of teeth that could be one, two or three teeth and could be present in a person who has not systemic alteration. The objective of these study is to show the definitive diagnosis made by tomography cone beam and a different way to treat with removable appliance in a young patient.

Case Report: Male of 10-year-old who was diagnosed by multiple teeth; one mesiodens (tuberculated), other, supplementary (right lateral incisor) and a conic located in the other side of the maxilla. The treatment was, the mesiodens had a surgery extraction at the same moment the deciduous teeth and the supplementary were eliminated, subsequently the conic teeth. Next, the central incisor was pulled out by means of ligature and springs placed towards the attachments in the removable device and after the teeth erupted, then fixed apparatus was placed to level and close spaces.

Conclusion: The use of cone beam volumetric tomography allows supernumerary teeth to be located more accurately improving surgical times. The interceptive treatment reduces the cost and duration of conventional bracket treatment.

Keywords: *Diagnosis; Treatment; Multiple Supernumerary; Teeth*

Introduction

Supernumerary teeth or also known as hyperodonty, is a dental anomaly in which there is an alteration in the number of teeth, of multifactorial etiologic with a predisposition to hereditary and hyperactivity of the dental lamina and dichotomy [1]. Due to their size and shape, they are classified as eumorphic teeth (normal size and shape) and dysmorphic (different size and shape) [2]. It may occur in the maxilla or mandible, with a 98% predisposition for the maxilla and with a predilection for the premaxilla (65 - 90%) [3]. In some people, up to three supernumerary teeth may occur without them presenting any systemic alteration, while in syndromes such as cleidocranial dysplasia, there are usually up to 5 teeth distributed in the maxilla or mandible. Supernumerary teeth sometimes present an identical shape or nearly similar to the permanent organ (supplementary), making diagnosis difficult; the most common are conical teeth, and finally the one with morula or tuberculate shape [4,5].

Some of the causes that origin the appearance of supernumerary teeth are midline diastemas, displacement of adjacent teeth (this being the most common), delayed dental eruption, rotations of adjacent teeth, and rarely root resorption of neighbouring teeth. The diastema in the midline does not cause any complications when the mesiodens is removed, as the remaining space is physiologically closed, or reinforced by fixed or removable appliances, depending on the case [6]. The most frequent supernumerary found in the oral cavity is the mesiodens, with a prevalence of 0.15 to 3.9%, in mixed and secondary dentition, however, it is rarely found in primary dentition [2,7], followed by premolars with a prevalence of 0.01 to 1% depending on the population where the study is conducted and predisposed by the mandible; they are generally of the supplementary type [8,9], lateral incisors, and finally, the molar quarters with a prevalence less than 1%. Some authors report that mesiodens teeth cause diastemas of 10 to 38% of the analysed cases [10].

Sometimes this anomaly can be associated with different syndromes such as cleidocranial dysplasia, Crouzon, cleft lip and palate and Gardner syndrome among others [11-15].

Clinical Case

A male patient (10 years 9 months) presented to consultation without any systemic disease. The reason for the consultation was that temporary teeth have not exfoliated. In the clinical examination, the presence of 61 and 62 was observed, while two teeth 22 (of the second dentition) presented crowding and clinical malposition (Figure 1).



Figure 1: Front and lateral view.

The child's mother informed of a previous panoramic radiography (taken at another clinic) recorded at 6 years 3 months, where a diffuse area was observed in the anterior area with a slight delay of the eruption of 21 and 22. She was advised to keep the child under observation (Figure 2).

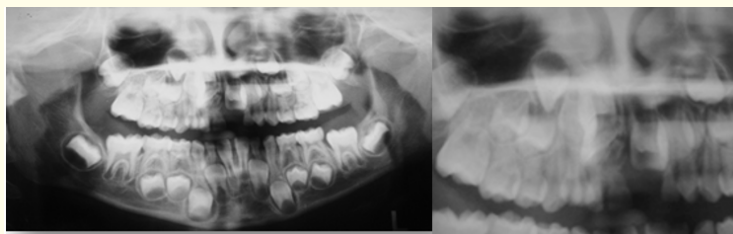


Figure 2: Panoramic radiography at 6 years and 3 months.

At age 10 the patient was submitted to the UNAM's Faculty of Dentistry clinic, and based on a volumetric tomography the following was observed: A mesiodens of molariform (or tuberculate form) of the right side diverting the guide normal eruption of the upper right central and preventing eruption; consequently it presented retention of the deciduous tooth. In the tomography analysis, the presence of two laterals was additionally observed, one supplementary on the right side and on the other side one in a conical shape (Figure 3).

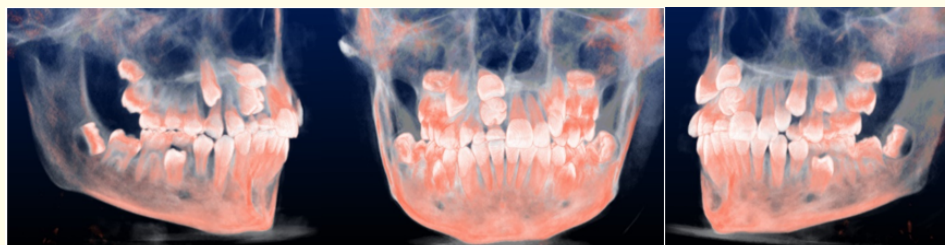


Figure 3: Tomography, posterior and frontal view.

The definitive diagnosis was "multiple supernumeraries"; mesiodens (molariform), supplementary and conical, with displacement of the upper central incisor and prolonged retention of 51 and 52.

The treatment consisted on the removal of the temporary teeth, of the supernumerary (molariform) by surgery, placing a button on the 21 to carry out traction towards the occlusal plane; the supplementary tooth; it was decided to extract, the 22 that was more mesial; by the following criteria: the length of the root of the two teeth was measured, corroborating that both had the same root size, however, one was slightly smaller in the mesiodistal distance of the crown, however, that one It was closer to the midline, which would facilitate the dental movement towards mesial, for choose the mesial teeth that was selected that the crown showed enamel spots in the incisal third with slight dilaceration in the apical part of the root, despite that, it was decided to extract the one that was not close to the midline.

Subsequently, the conical supernumerary located on the left side could erupt in a normal way, so that it was then extracted as done habitually. Afterwards, a removable orthodontic apparatus was placed to which special attachments were added so that the elastic ligation can be placed there, and thus be able to make the traction of the upper central, in addition, of the mesialization of the right lateral at the same time.

The treatment was carried out in two phases; the first consisted of the design of the removable device with the placement of necessary attachments for traction. Simple extractions of the temporary, supplementary teeth, and molar mesiodens were performed through surgery at the same surgical time (Figure 4).

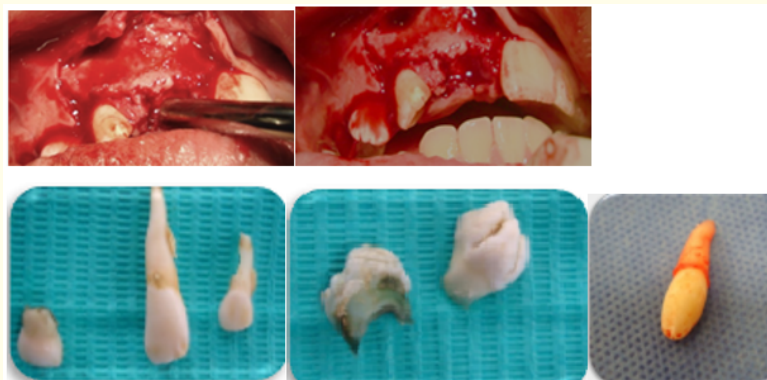


Figure 4: *Surgical procedure, temporal teeth and supernumeraries.*

Subsequently, the removable device and its attachments was placed to begin mesialization of the lateral to create enough space for the physiological eruption of the canine of the second dentition and the traction of the upper right central to the occlusal (Figure 5).



Figure 5: *One week before surgery and Interceptive treatment.*

The interceptive treatment lasted approximately a year and a half; the buttons were subsequently removed as treatment continued, in this phase the fixed apparatus was placed only in the upper arch while in the lower one only the bands were placed on the molars (in case it was necessary to put brackets) and all the missing teeth were allowed to erupt by itself (Figure 6).



Figura 6: Front and lateral vieww of teeth erupted, maxilar and mandibular shapes.

After the eruption of the teeth, orthodontic appliances were placed, with ROTH prescription, slot .022, self-ligating for the corresponding alignment. First, the round wire '014 of nitinol was placed, then a .016; In order to achieve the alignment of the maxillary arch (Figure 7).



Figure 7: Maxilla alignment.

Subsequently, elastic modules were placed to close the spaces and conclude the case. The corrective treatment lasted approximately 7 months (Figure 8).



Figure 8: Space closure, maxilla shape.

In the mandible, no brackets were placed since the patient did not present crowding, only the space was controlled to achieve a good occlusion while the missing teeth erupted and the spaces in the mandible closed.

Conclusion

The use of the volumetric Cone Beam tomography for definitive diagnosis, was of great help as it allowed to visualize the structures and localization with more precision compare than a conventional radiography.

The interceptive treatments in Orthodontics must be carried out at an early age, in order to avoid more severe malocclusions and therefore complications which might require a longer treatment, increasing duration and cost to the patient. The Removable appliances allowed the physiological eruption of missing teeth erupt making the corrective orthodontic treatment shorter.

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