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Mesiodens in primary dentition: A case report

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Abstract
Mesiodens, supernumerary teeth located between the upper permanent central incisors, are common, affecting 0.15%-1.9% of the population.
Report of the Case: A 6 year old male patient with deciduous dentition attended the pediatric dentistry postgraduate course at the Universidad Autonoma de Nuevo Leon for general evaluation. At the time of taking radiographs mesiodens were observed between 5.1 and 6.1. Diagnosis: Panoramic and periapical radiographs showed mesiodens near the floor of the nasal cavity. Treatment: Surgical approach by incision in the palatal area of the maxilla for the correct lifting of the flap in addition to the exodontia in dental organ 5.1, 6.1.
Results: After local anesthesia, incision was made to expose the mesiodens, using an elevator for its displacement and extraction, followed by silk suture.
Conclusion: Early identification and treatment of mesiodens are crucial to avoid future complications. This case highlights the importance of early diagnosis and accurate surgical intervention to ensure proper oral development and prevent potential problems.

Keywords: Mesiodens, supernumerary teeth, mesiodens extraction

1. Introduction
Mesiodens are the most common additional teeth and are present in a proportion that varies between 0.15% and 1.9% of the population. The etiology of mesiodens has not been fully elucidated, although dental lamina proliferation and genetic factors have been implicated. Mesiodens can cause late or ectopic eruption of the permanent incisors, which can affect occlusion and esthetics [1].
Supernumerary teeth located in the midline region of the maxilla are known as mesiodens. They are the most prevalent type of supernumerary teeth, constituting approximately 90-98% of all cases. These extra teeth often occur during the mixed dentition, with an incidence ranging from 0.6% to 1.7%. This developmental anomaly is commonly observed in the field of pediatric dentistry [2, 3].
Mesiodens can occur singly or in multiple forms, can appear unilaterally or bilaterally, and often these additional teeth fail to erupt into the oral cavity. Their presence can have a considerable impact on the way permanent incisor teeth emerge and position themselves, which in turn can affect both tooth position and appearance [4].
Early identification and surgical intervention in patients with mesiodens is crucial to avoid the occurrence of potential complications [5].
Due to the changes and new techniques that have been developed nowadays, it is important to be updated in dentistry topics, therefore, the aim of this article is: to present a clinical case with the surgical technique of palatal gingival margin that is commonly used in the treatment of mesiodens in the upper jaw.

2. Report of the case

A 6 year old male patient, with no pathological clinical data, attended the Pediatric Dentistry postgraduate course at the Universidad Autónoma de Nuevo León for general evaluation. Initial intraoral and panoramic radiographs were taken, where a mesiodens was found in the palatal region of the maxilla.

Due to the above mentioned, a panoramic radiographic study was indicated to precisely locate the conical supernumerary tooth. It was found to be in the palatal region of the maxilla.

Local anesthesia was used in the palatal and anterior vestibular areas of teeth 5.3 to 6.3. A scalpel incision was made in the palatal area of the maxillary area for flap lifting. The low speed handpiece was used to uncover the tooth, a syndesmotomy was performed and the mesiodens was extracted, besides dental organ 5.1, 6.1 was extracted. Finally, it was sutured with 4-0 silk thread.

3. Results

After infiltrative local anesthesia, an incision was made in the vestibular and palatal area of the maxillary incisor area with a number 15 scalpel. 171, 172 and 7 dental ball burs were used to uncover the mesiodens. Also, a straight elevator was used to displace the dental organ. Once the tooth was removed, 4-0 silk suture thread was used performing simple sutures. Postoperative indications for surgery were provided and naproxen sodium, amoxicillin and dexamethasone were prescribed.

Fig 1: Photograph of the upper arch before treatment

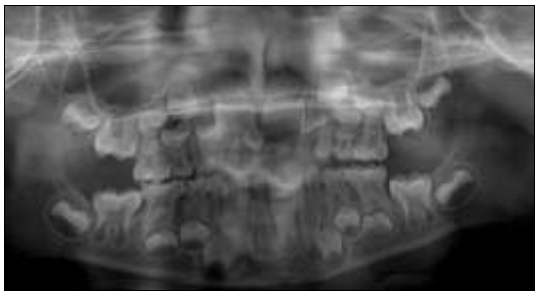

Fig 2: Panoramic radiography

Fig 3: Digital radiography

Fig 4: Nasopalatine and infiltrative anesthesia

Fig 5: Mucoperiosteal flap lifting

Fig 6: Envelope. The mesiodens is observed

Fig 7: Dislocation of the mesiodens

Fig 8: Surgical bed curettage

Fig 9: Exodontics O.D 5.1, 6.1

Fig 10: Placement of simple silk stitches 4-0

Fig 11: From left to right 5.1, mesiodens, 6.1

Fig 12: Two weeks post mesiodens surgery

4. Discussion

A 6-year-old male patient with deciduous dentition attended the Pediatric Dentistry Clinic of the Universidad Autonoma de Nuevo Leon for a comprehensive evaluation. During the radiographic examination, the presence of a mesiodens located between 5.1 and 6.1 was identified. Consequently, it was decided to perform a surgical approach involving an incision in the palatal area of the maxilla, in order to carry out the proper extraction of the mesiodens, as well as the extraction of teeth 5.1 and 6.1.

It is important to note that the mesiodens represents the most frequent type of supernumerary tooth, located between the upper central incisors [6]. Although the etiology of this phenomenon is not yet fully understood, theories have been formulated, such as genetics, supported by the observation of a higher prevalence of hyperdontia in related families [7].

The article entitled "Mixed reality for extraction of maxillary mesiodens" supports our surgical approach, noting that palatal extraction did not generate intraoperative or postoperative complications. Our experience, based on a similar approach in the palatal area, has been successful, supporting this technique as the preferred option [8].

Occasionally, incidental detection of mesiodens is performed during radiographic studies due to its asymptomatic nature [9]. This coincides with the findings of the study "Intraoral transnasal approach for surgical extraction of bilateral deeply impacted mesiodens", where the supernumerary tooth was identified during intraoral examination and panoramic radiography [10].

It is crucial to highlight that the choice of surgical approach is based on several factors, such as the patient's age, the specific location of the dental crown and the relative position of the mesiodens. These elements are decisive in establishing a treatment approach to effectively address the presence of mesiodens [11].

The treatment of choice for mesiodens is the surgical approach, considering the age of the patient, the location of the dental crown and the position of the mesiodens, the treatment approach can be improved to more effectively address the presence of mesiodens [11].

5. Conclusion

The importance of an accurate diagnosis in each patient lies in the ability to identify the mesiodens, that is, the supernumerary teeth located between the central incisors, in their early stages. Timely treatment at this early stage can prevent possible complications in the future. The relevance of an adequate radiographic diagnosis for accurate treatment is also emphasized, especially when these teeth are in complex positions. The use of panoramic and periapical radiographs and, if necessary, Cone Beam Computed Tomography (CBCT) images becomes essential for effective therapeutic planning.

5.1 Conflict of Interest

Not available.

5.2 Financial Support

Not available.

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