



Presentation of infrequent clinical case of dental gemination of the permanent upper left lateral incisor

Presentación de un caso clínico infrecuente de geminación del incisivo lateral superior izquierdo permanente

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ABSTRACT

Introduction: Gemination is the division of a dental follicle that results in a tooth with two crowns, where the number of teeth in the arch does not vary. It constitutes an anomaly that is little diagnosed due to its presentation and therefore little treated, which requires an adequate study.

Objective: To present an infrequent clinical case of dental gemination of the permanent upper left lateral incisor.

Clinical case: 20-year-old patient with 30 weeks of gestational status treated for periodic review by appointment of her dentist. The intraoral examination revealed: the permanent upper left lateral incisor (tooth 22) with two crowns, one of which had lost the gingival wall and the other had second degree dental caries on the mesial side. Periapical radiography performed 1 year earlier showed tooth 22 with a

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partially divided pulp chamber and a broad, bifid, well-defined crown. Dental gemination of the permanent maxillary left lateral incisor was diagnosed. The geminated tooth was extracted, and the patient was referred to a dental prosthesis for rehabilitation.

Conclusions: Dental gemination of the permanent upper left lateral incisor in a pregnant patient, constitutes an anomaly of the shape of the teeth that is infrequent in consultations.

Keywords: abnormalities; incisor; tooth; crowns; fused teeth; oral medicine.

RESUMEN

Introducción: La geminación es la división de un folículo dentario que resulta en un diente de dos coronas, pero la cantidad de dientes de la arcada no varía. Constituye una anomalía poco diagnosticada por su presentación y por ende poco tratada, lo que necesita de un adecuado estudio.

Objetivo: Presentar un caso clínico infrecuente de geminación dentaria del incisivo lateral superior izquierdo permanente.

Caso clínico: Paciente de 20 años de edad, con 30 semanas de estado gestacional atendida para revisión periódica por citación de su estomatólogo. Al examen intraoral se detectó: el incisivo lateral superior izquierdo permanente (diente 22) con dos coronas, una de las cuales había perdido la pared gingival y la otra presentaba caries dental de segundo grado en cara mesial. La radiografía periapical realizada 1 año antes mostró el diente 22 con cámara pulpar parcialmente dividida y una corona ancha, bífida y bien definida. Se diagnosticó una geminación dentaria del incisivo lateral superior izquierdo permanente. Se realizó exodoncia del diente geminado y se remitió a la paciente a prótesis estomatológica para rehabilitación.

Conclusiones: La geminación dentaria del incisivo lateral superior izquierdo permanente en una paciente embarazada es una anomalía de forma de los dientes poco frecuente en las consultas.

Palabras clave: anomalía; incisivo; diente; coronas; dientes fusionados; medicina oral.



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INTRODUCTION

In the course of formation of the embryo, dissimilar alterations of the teeth can be produced, among which are those of number, size, shape and structure. The term gemination comes from the Latin *geminis*, that is, twins.⁽¹⁾

Gemination, fusion, conrescence, *dens in dente*, enamel pearls, taurodontism, tubercles and accessory roots among others classify as anomalies of tooth shape.^(1,2)

The division of a dental follicle that results in a tooth with two crowns or a bifid crown is known as gemination, and it also appears due to the union of a normal tooth and an accessory tooth, where the number of teeth in the arch does not vary.^(1,3)

The pathogenesis of gemination is complex, so any agent that promotes excessive development of the tooth germ causes this alteration.⁽²⁾

The primary dentition, the incisors and the lower anterior region are the most affected by gemination. It occurs more frequently unilaterally and its frequency ranges between 0,01% and 4% in both dentitions.⁽⁴⁾

It constitutes an anomaly little diagnosed due to its low presentation and therefore little treated, which requires an adequate study, as well as a precise treatment conduct. The records of this alteration in a pregnant patient are negligible.⁽⁵⁾

Geminated teeth cannot adequately perform the required function because they do not have the morphology of their dental group. In addition, the aesthetic of the patient is affected because the upper lateral incisor is a highly visible tooth.^(4,5)

The objective of the work is to report the infrequent clinical case of dental gemination of the permanent upper left lateral incisor.



CLINICAL CASE

A 20-year-old female patient with a history of good health and in a 30-week gestational state is presented, who attended the department of primary care at of the University Clinic of Stomatological Specialties, for periodic review by appointment of her dentist. Upon questioning, she stated that she had a gap and a fractured upper front tooth. Clinical examination reported:

Extraoral physical examination: ovoid face and convex profile; temporomandibular joint without alterations.

Intraoral physical examination: scant dental bacterial plaque was detected tooth 22 had two crowns, one of which had lost the gingival wall and the other had 2nd degree dental caries on the mesial side, with no variation in the total number of teeth (Fig. 1-A and B).

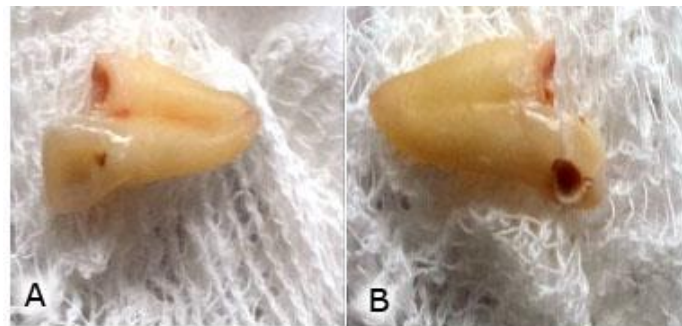


Fig. 1 - A: note postexodontic upper left lateral incisor and B: dental caries on the mesial side.

The periapical intraoral X-ray study that had been performed on the patient 1 year earlier showed: fine trabecular plates, horizontal bone loss between permanent upper central incisors (11 and 21) and tooth 22 and permanent upper left canine (23) that covers up to the middle third of the root. Tooth 22 with a partially divided pulp chamber and a broad, bifid, well-defined crown (Fig. 2).



Fig. 2 - Periapical intraoral X-ray. Partially divided pulp chamber and a wide, bifid and well-defined crown are observed.

The differential diagnosis can be made with dental fusion, which is the union of two or three tooth germs per dentin and up as a single tooth with divided pulp chambers. In addition, the number of teeth in the arch decreases according to the number of fused teeth, while in gemination it remains normal. Radiographically, two different pulp chambers are evidenced and in case of gemination, a single pulp chamber.^(5,6)

Also, with the concrescence that is the union of two or more teeth by cement, generally the maxillary molars.⁽⁷⁾

According to clinical and radiographic examination, they allowed the definitive diagnosis of dental gemination of tooth 22.

According to the patient's age, biological sex, anatomical position, clinical status of the tooth, available material resources and informed consent, extraction of the permanent upper left lateral incisor was performed and referral to the dental prosthesis specialty for rehabilitation.



COMMENTS

During the morphologic differentiation stage of tooth development and upon erroneous eruption, a single tooth splits and establishes as a tooth with two crowns.^(5,6)

Dental gemination occurs more frequently in the mandible and there is a similar predilection for both males and females. The temporary dentition is shown with a prevalence between 0,1% to 4% and being even rarer in the permanent dentition with 0,05%.^(5,8)

The etiology is difficult to identify, among the most significant factors are: dental trauma, human evolution, genetics, malnutrition, endocrine-metabolic alterations, infectious processes, unnecessary exposure to radiation and environmental factors, all of these acting during development of the tooth germ.^(4,9)

The therapeutic conduct varies from a restoration with the required dental materials, extraction, orthodontic treatment and even endodontics according to clinical and radiographic conditions of the tooth such as the presence of dental caries (extension and depth), anatomical position of the tooth, pain, dental anatomy, infectious processes, malocclusion and type of dentition among others.^(3,10)

Ben Salem et al.⁽¹⁾ reported in 2021 a case of a 6-year-old girl with dental gemination of the primary left upper central incisor (61). *Bakurji* et al.⁽²⁾ in their retrospective study on the prevalence and distribution of non-syndromic dental anomalies in children from eastern Saudi Arabia found that the prevalence of gemination was 0,3%. *Ramezani* et al.⁽³⁾ reported a rare case of a geminated maxillary right second molar (17) in a 23-year-old man. *Nandini* et al.⁽⁴⁾ reported a case of bilateral gemination with facial and palatal claw cusps in permanent maxillary canines. *Sandeep* et al.⁽⁵⁾ reported in 2020 the gemination of a right mandibular third molar (48) corroborated by radiographic examination (Orthopantomography). *Pereira* et al.⁽⁶⁾ presented the anomaly of a lower left first premolar where the total number of teeth was normal, while the radiographs revealed two roots and two well-differentiated pulp cavities, so it could be a gemination or fusion, they diagnosed it as double tooth.

A clinical case of a dental gemination of the permanent upper left lateral incisor in a pregnant patient is presented, which constitutes an anomaly of the shape of the teeth that is not very frequent in consultations.



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Conflict of interest

The authors declare no conflict of interest.