Concomitant hypohyperdontia

Simultaneous occurrence of a mesiodens and agenesis of a maxillary lateral incisor

Juan J. Segura, DDS, MD, PhD and Alicia Jiménez-Rubio, DDS, MD, PhD
UNIVERSITY OF SEVILLA

A 13-year-old boy appeared for evaluation with a missing maxillary left lateral incisor. He also had an abnormally shaped tooth in the midline between his maxillary central incisors. This mesiodens had an incompletely developed root. The unusual association of these 2 anomalies is discussed as a possible transposition of the lateral incisor to the mesiodens position. (Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1998;86:473-5)

Teeth formed in excess of the normal number are termed supernumerary. Such supernumerary teeth may occur alone or in multiples, be unilateral or bilateral, and occur in the maxilla, the mandible, or both.1

A supernumerary tooth in the central incisor region is termed a mesiodens; this is the most common, followed by supernumeraries in the maxillary lateral incisor region2 and in the mandible as a third "premolar."3 The prevalence of mesiodentes has been estimated at 0.15% to 1.0% of the population, and they occur more frequently in boys than in girls, the ratio being approximately 2 to 1.4 Mesiodentes range in appearance from those that have a complicated crown shape with a number of tubercles to those that have a simple conical shape. Tuberculate mesiodentes tend to develop later and manifest incompletely developed roots.1 Their presence may lead to local disorders, such as delay in or prevention of eruption (26% to 52%), displacement or rotation of adjacent teeth (28% to 63%), development of dentigerous cysts, resorption of adjacent roots, crowding, diastema, dilaceration of permanent teeth, and occasional eruption into the nasal cavity.1 Several attempts have been made to explain the etiology of mesiodentes; among the theories are extra division of the proliferating dental lamina (normally shaped mesiodens), palatal offshoot from continued activity of the dental lamina after the normal number of tooth buds has formed, dichotomy of the tooth bud, and proliferation of odontogenic cell rests.3,4

Tooth transposition is the positional interchange of 2 adjacent teeth or the development and eruption of a tooth in a position occupied normally by a nonadjacent tooth.5 As such, tooth transposition is an extreme type of ectopic eruption, causing a change in the natural order or sequence of the permanent teeth. Five types of maxillary tooth transpositions have been identified: canine–first premolar (71%), canine–lateral incisor (20%), canine to first molar site (4%), lateral incisor–central incisor (3%), and canine to central incisor site (2%).6 Six single-case reports describe the uncommon anomaly of maxillary lateral incisor–central incisor transposition.6 These reports indicate early and severe trauma to the affected incisors: misshapen crown form, gross incisor rotations, or displacements in the presence of adequate space.7,8 No evidence exists to suggest any origin for this rare transposition type other than accidental causes.9

Our case report describes the unusual association of 2 dental anomalies: (1) an abnormally shaped tooth with an incompletely developed root that erupted between the maxillary central incisors and (2) congenital absence of the maxillary left lateral incisor. The interpretation of this association may be a possible maxillary lateral incisor–central incisor transposition.
Further discussed is the possibility of the abnormally shaped supernumerary tooth considered to be a mesiodens and the absence of the maxillary left lateral incisor considered to be an agenesis.

CASE REPORT

A healthy 13-year-old boy came for a complete dental evaluation. His medical and dental history was uneventful, and there was no history of previous trauma. Clinical examination revealed the absence of the maxillary left lateral incisor and the striking presence of a tooth in the midline between the central incisors. The crown morphology of this midline tooth was unusual; it was incisiform, with 3 tubercles situated buccally, centrally, and palatally (Fig 1). Further clinical examination revealed that the anomalous tooth was located to the left of the incisive papilla (Fig 2). A periapical radiograph showed an incompletely developed root and location to the left of the midpalatal suture (Fig 3).

The patient expressed dissatisfaction with his dental appearance, and treatment options were discussed. The tooth in the midline was extracted, and orthodontic therapy was performed to close the diastema between the maxillary central incisors.

DISCUSSION

This case report presents the rare association of 2 dental anomalies: an abnormally shaped tooth with an incompletely developed root situated between the maxillary central incisors, and the congenital absence of the maxillary left lateral incisor.

The combination of these dental abnormalities could possibly be considered a maxillary lateral incisor-central incisor transposition. This interpretation is supported by the location of the anomalous tooth to the left of the midpalatal suture, indicating its origin in the left maxilla, the same side as the absent lateral incisor.

However, this is not sufficient evidence of a transposition, inasmuch as the occurrence may be coincidental. Moreover, there are several facts that could refute the transposition interpretation: (1) no evidence exists to suggest an origin for this rare transposition type other than from an injury, but in this case there was no history of trauma and the intraoral inspection showed no signs of dental trauma; (2) the unusual tuberculate morphology of the crown and the incompletely developed root are characteristic of premaxillary supernumerary teeth; and (3) congenital absence of maxillary lateral incisors is common, although its association with the presence of an erupted small incisiform supernumerary tooth cannot be completely discounted.

The variation of tooth sequence reported here mimics transposition. A more plausible explanation is a case of concomitant hypohyperodontia, with the abnormally shaped and erupted tooth considered to be a mesiodens and the absence of the maxillary left lateral incisor.
considered to be an agenesis. This multiple anomaly has been previously reported.10-12

REFERENCES


Reprint requests:
Juan J. Segura, DDS, MD, PhD
Prof. Patología y Terapéutica Dental
C/Mallén, 5, 1ºD
41018-Sevilla
Spain