

Impaction of a primary maxillary canine by an odontoma: surgical and orthodontic management

CASE REPORTS

Ademir Roberto Brunetto, DDS Patrick K. Turley, DDS, MSD, MED
Altair Pedro Brunetto, DDS Luiz Roberto Regattieri, DDS
Gastaó Valle Nicolau, DDS

Introduction

Impaction of an anterior primary tooth is rare, and most often is associated with the presence of a supernumerary tooth or odontoma (Axel 1937; Amies 1947; Amies 1952; Hitchin and White 1955; Hitchin 1962; Hitchin and Dekonor 1963; Noonan 1971). Although cases of impacted mandibular and maxillary incisors have been reported (Troxler 1973; Yokoyama 1973), most cases involve the maxillary canine (Axel 1937; Hitchin and White 1955; Hitchin 1962; Hitchin and Dekonor 1963; Noonan 1971). Most reports focus on the radiographic or histologic diagnosis of the anomaly; few discuss the orthodontic implications (Axel 1937; Hitchin and White 1955; Hitchin 1962; Hitchin and Dekonor 1963; Noonan 1971). This case report follows the occurrence of this uncommon condition and the surgical and orthodontic management.

Case Report

A 48-month-old Caucasian male presented with an unerupted maxillary right primary canine. Clinical examination revealed a mesial step occlusion, adequate arch length, and normal relationships in the vertical and transverse dimensions. Radiographic examination revealed the presence of the unerupted primary canine and an age-appropriate complement of developing permanent teeth (Fig 1).

The patient was placed under local anesthesia, and an incision was made over the edentulous ridge from the distal of the right central incisor to the mesial of the second molar. A full thickness mucoperiosteal flap was reflected labially and the overlying alveolar bone was removed to expose the crown of the canine. A small (3.0 by 1.5 mm) odontoma was located lingual to the canine crown and removed with a periosteal elevator (Fig 2, see next page). After removing the odontoma, the option of closing the surgical site and allowing spontaneous eruption of the canine was considered. Since exposure had been accomplished, the parents chose to initiate orthodontic treatment immediately rather than risk a second surgical procedure.

Because enamel bonding in primary teeth is less predictable than in permanent teeth, a small hole was prepared through the crown and a .012 stainless steel wire placed through the hole, twisted into a pigtail, and

extended through the sutured incision. A removable appliance was inserted three days postoperatively, and an elastic thread attached from the ligature to a hook on the appliance. The parents were taught how to remove and clean the appliance. The patient was seen every three weeks, at which time the elastic thread was changed. After three months, the tooth was in occlusion. It was restored with amalgam because bonding material was unavailable (Fig 3, see next page).

Discussion

An impacted primary tooth is uncommon, and usually is associated with a supernumerary tooth or odontoma. The small size of the odontoma made it difficult to identify on radiographs, even though its presence was suspected. Following removal of the odontoma, closing the incision and allowing the primary canine to erupt spontaneously was considered. Noonan (1971) observed the eruption of a maxillary right primary canine after an odontoma was removed from a 5-year-old girl. Hitchin (1962) suggested that spontaneous eruption may not occur if the root of the impacted tooth is completed. Failure to erupt would require a second surgical exposure to place an ortho-



Fig 1. Intraoral photographs showing uneruption of maxillary right primary canine in an otherwise normal occlusion.



Fig 2. Periapical radiograph showing presence of unerupted primary canine with odontoma (arrow).

odontic attachment on the canine. Our patient was younger than the child reported by Noonan, but radiographic examination showed the root apex to be close to completion. The orthodontic therapy was brief and the result was excellent.

Dr. Ademir Brunetto is auxiliary professor, Department of Restorative Dentistry, and Dr. Nicolau is assistant professor, Department of Stoma-

tology, School of Dentistry, Federal Parana University, Curitiba, Parana, Brazil. Dr. Turley is associate professor, Sections of Orthodontics and Pediatric Dentistry, UCLA School of Dentistry, Los Angeles, CA. Dr. Altair Brunetto is in private practice in orthodontics in Curitiba, Parana, Brazil. Dr. Regattieri is in private practice in pediatric dentistry, Curitiba, Parana, Brazil. Reprint requests should be sent to Dr. Patrick K. Turley, University of California — Los Angeles, School of Dentistry, Center for the Health Sciences, 10833 Le Conte Avenue, Los Angeles, CA 90024-1668.

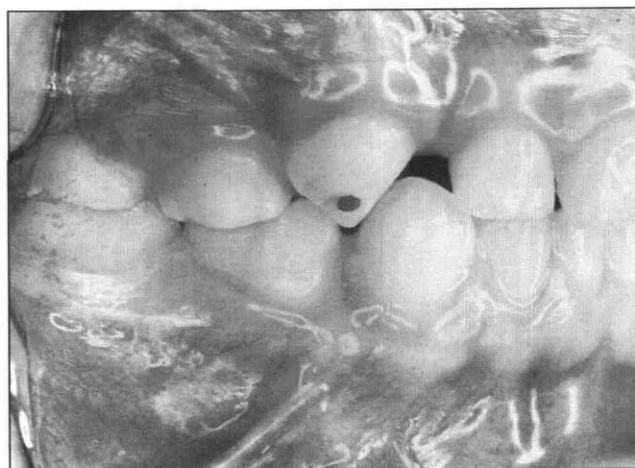


Fig 3. Erupted primary canine three months after initiation of treatment.

- Amies ABP: Compound composite odontoma in a child aged four years. *Aust J Dent* 51:160-61, 1947.
- Amies ABP: Compound composite odontoma in child aged 3-1/2 years. *Aust J Dent* 56:239, 1952.
- Axel AL: Supernumerary teeth in cyst: Report of Case, *J Am Dent Assoc* 24:457, 1937.
- Hitchin AD: The radiology of the calcified composite odontomes. *Dent Pract Dent Rec* 12:233-40, 1962.
- Hitchin AD, Dekonor E: Two cases of compound composite odontomes associated with deciduous teeth. *Br Dent J* 114:26-8, 1963.
- Hitchin AD, White JWA: Dentinoma related to the deciduous dentition, *Br Dent J* 98:163-65, 1955.
- Noonan RG: A compound odontoma associated with a deciduous tooth. *Oral Surg* 32:740-42, 1971.
- Troxler TC: Bilaterally impacted deciduous central incisors. *Oral Surg* 35:715, 1973.
- Yokoyama M: Impaction of deciduous mandibular incisor. *Oral Surg* 35:878, 1973.