Dental Traumatology 2009; 25: 144-145; doi: 10.1111/j.1600-9657.2008.00737.x

LETTER TO THE EDITOR

Odontona-like Malformation of the Primary Tooth Germ

Shaked I, Peretz B, Ashkenazi M. Development of odontoma-like malformation in the permanent dentition caused by intrusion of primary incisor – a case report. Dent Traumatol 2008;24:e395–7.

We read with interest the paper by Dr Shaked et al. dealing with an odontoma-like malformation in the permanent dentition caused by intrusion of a primary incisor. Recently, we submitted for publication a similar article describing an odntoma-like malformation in the primary dentition (1). Our case report presents a 5.5year-old healthy boy with delayed eruption of a maxillary primary central incisor. Clinical and radiographic examinations revealed an asymptomatic impaction of the malformed left primary maxillary central incisor. No



Fig. 1. Periapical radiography reveals an opaque tooth-like mass with a partially developed root in the area of the unerupted maxillary left primary central incisor, with a slightly delayed development of the successor maxillary left permanent central incisor in its eruptive path.

evidence of space loss, concomitant asymmetry and disharmony of the maxillary dental arch or occlusal relations were recorded. Periapical radiographs (Fig. 1) revealed a strange shape including two cusps (premolar form) of the left primary incisor with only a partially developed root and a large pulp chamber. A slight delay in the development of the successor maxillary left permanent central incisor in its eruptive path was evident. The final diagnosis given after histological elaboration, revealed a compound odontoma in the area of the maxillary left primary central incisor.

Andreasen and Andreasen (1994) (2) described an odontoma-like malformation of the permanent tooth germ because of intrusive luxation or evulsion of the primary tooth. This malformation is rare sequelae to injuries in the primary dentition confined primarily to the maxillary incisors. The report of Shaked et al. (3) as well as several other reports (4, 5), show a histology and radiology picture of a hard tissue conglomerate having the morphology of an odontoma including separate tooth elements similar to the case we described in our report. However, neither Andreasen and Andreasen nor the other case reports, mentioned this type of malformation as an option of an odontoma-like malformation arising in the primary incisor tooth germ when the permanent tooth bud is normally developed. Furthermore, the mechanism described is based on a history of a permanent tooth bud pre-eruptive trauma. A vertically directed force through the long axis of the deciduous incisor was transmitted to the permanent tooth germ causing extensive damage. According to this theory, the malformation occurs during the early phase of odontogenesis affecting the morphogenetic stages of the ameloblastic development of the permanent tooth germ.

In our case, we could have speculated that very early injury of the gum pads during the development stage of the primary maxillary incisor crown at a perinatal or neonatal age resulted in an odontoma-like malformation of the primary tooth buds with the same possible mechanism described for the permanent one. If so, the vertically directed force through gum pads may have been transmitted to the deciduous tooth germ causing damage and may also have caused cessation of the development of the successor permanent tooth germ. However, in our case the deformity was confined to the primary tooth germ while the permanent tooth buds were normally developed in their eruptive path.

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References

 Aizenbud D, Peri-front Y. An impacted malformed primary maxillary central incisor diagnosed as compound odontoma. J Clin Pediatr Dent 2008;33 (in press).

- Andreasen JO. Injuries to developing teeth. In: Andreasen JO, Andreasen FM, editors. Textbook and color atlas of traumatic injuries to the teeth, 3rd edn. Copenhagen: Mosby; 1994. p. 457–94.
- Shaked I, Peretz B, Ashkenazi M. Development of odontomalike malformation in the permanent dentition caused by intrusion of primary incisor – a case report. Dent Traumatol 2008;24:e395–7.
- 4. Nelson-Filho P, Silva RA, Faria G, Freitas AC. Odontoma-like malformation in a permanent maxillary central incisor subsequent to trauma to the incisor predecessor. Dent Traumatol 2005;21:309–12.
- 5. Amailuk P, Grubor D. Erupted compound odontoma: case report of a 15-year-old Sudanese boy with a history of traditional dental mutilation. Br Dent J 2008;204:11–4.

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