

An Abnormal Extension Of The Pulp Horn

Bedii KÜÇÜKÜÇERLER, D.M.D. (*)

For all operative procedures it is important to bear in mind the shape of the pulp chamber and its extensions into the cusps, the pulpal horns. The wide pulp chamber in a tooth of a young person will make a deep cavity preparation hazardous and it should, if possible, be avoided.

The dentist may often be faced with the death of the pulp following operative dentistry. Occasionally he is at a loss to explain this phenomenon since the procedure may have been a minor cavity preparation without excessive generation of heat by the rotating instruments (1).

In some rare instances the pulpal horns project high into the cusps and this may in some cases explain the exposure of a pulp when it is least anticipated (2). Sometimes a taken X-Ray will help to determine the size of a pulp chamber and the extent of the pulpal horns.

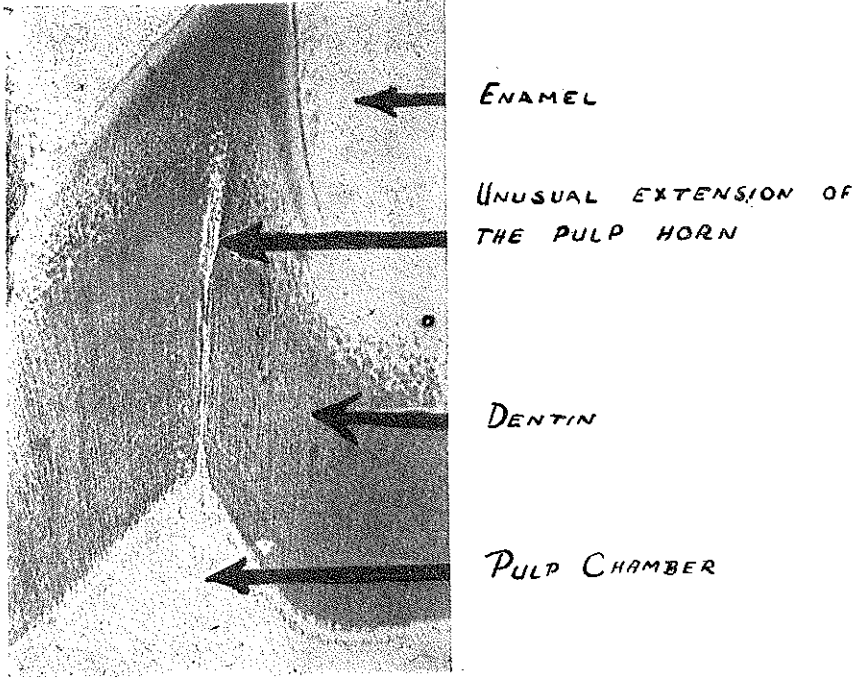
The following case report of the abnormal extension of a bicuspid pulp horn into the dentin, may give some hint to explain these unexpected pulp exposures and deaths.

Method And Material

Eight year old male child was observed in the clinic with a swell-

(*) Assistant-Professor, University of Ankara, Faculty of Medicine, School of Dentistry.

ling in the mandibular symphysis area with some loosening of the primary teeth. X-Ray examination of the area revealed a three centimeter radiolucent area in the midline with displacement of two developing permanent incisors to the inferior border of the mandible.



A soft tissue mass was removed from this area with the associated displaced incisors teeth and histological examination revealed the mass to be an ameloblastoma.

The permanent teeth that had been removed in association with this tumor were formalin-fixed, decalcified and serial sectioned in a mesial-distal plane.

The object of this study was to decide the effect of displacement by the ameloblastoma on the development of the pulp and hard structures of the tooth. There was no invasion of the pulp chamber by the tumor. In one specimen it was seen that there was an abnormal extension of the lateral pulp horn well into the dentin (Fig. 1) and it was possible to discuss a capillary with endothelial lining containing viable blood cells (Fig. 1).

Discussion

The fact that the teeth had been prepared for sectioning and they had been cut in serial sections minimizes the possibility of distortion and made this unusual finding possible. It might be suggested that this unusual finding is related to the fact that the tooth had been displaced and was adjacent to a pathological condition.

This seems that since the two teeth examined showed no other effects of their displaced position on their possibility to the ameloblastoma.

A break is often seen in paraffin-embedded sections of teeth in the same plane as this tooth and is usually disregarded as an artifact due to fixation or sectioning. The finding in this case may indicate that the observation in paraffin sections are not always artifacts and may indeed represent abnormal development. Since the tooth demonstrated there was a young developing tooth. We are able to observe the remnants of vital tissue still present in this microscopic tract. As the development of such abnormal teeth continues this area may be deprived of its circulation and exist only as an uncalcified void which may serve as a communication between a superficially prepared cavity or decayed lesion and the pulp of the tooth.

S U M M A R Y

An unusual anomaly in the development of a lower permanent bicuspid has been described and a suggestion made that this may be a possible means of communication between minor cavity preparations and the dental pulp.

L I T E R A T Ü R

- 1 — **Langeland K.** : Effect of various procedures on the human dental pulp. *Oral Surg., Oral Med., and Oral Path.*, 14 : 210, 1961.
- 2 — **Fich E, W.** : An experimental investigation of Enamel, Dentin and the dental pulp., London 1962. John Bale and sons Ltd.