

CLINICAL SECTION

Maxillary canine impaction; a final twist in the tale?

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A case is presented with a displaced maxillary canine, where one year subsequent to the radiographic diagnosis, a bend in the apical one third of the adjacent premolar root had developed. This finding lends further support to a recent hypothesis, that in such circumstances, the canine impaction results in the deviation of the developing premolar root, rather than the obverse.

Key words: *Canine impaction, premolar root development*

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Case report

Over the last decade, five cases have been reported where an impacted maxillary canine has been found in close proximity to a deviated palatal root of an adjacent premolar.^{1–3} Two males¹ and a female² have presented with palatal impactions, and another two females with labial impactions.³

Beyond simple coincidence, the two options that could account for this apparent association include the concept that either the premolar root deviations produced the canine impactions or vice versa.

Kerrigan and Sandy have previously favored the first possibility,¹ but more recently, data have been published to support the latter, as far as it relates to females.³

The purpose of this article is therefore to present yet another case that lends further credence to the more recent concept of possible etiology.

A female aged 10 years and 10 months was seen for assessment of her unerupted upper right canine, which was clinically palpable on the labial aspect, high up in the sulcus.

A DPT and upper occlusal radiograph were taken (Figures 1 and 2), which confirmed, through vertical parallax, that the unerupted canine was labial and the root formation on the adjacent first permanent premolar was incomplete. As such, with reference to previous normative data on dental development,^{4,5} she was at least two standard deviations above the mean age or at the 90th percentile dispersion from the median for first premolar root formation, i.e. late in her development.

The patient was reviewed exactly a year later, when repeat radiographs then revealed that in the interim, a bend had developed on the palatal root of the adjacent premolar. Presumably, this was either as a result of the approximation between its progressive root development

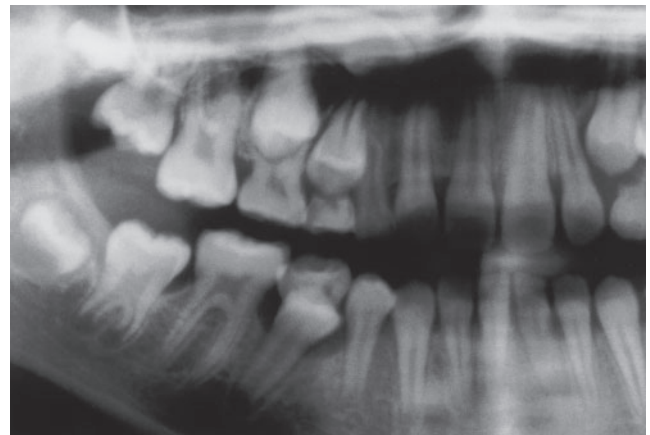


Figure 1 The DPT taken at the age of 10 years and 10 months showing the apically displaced upper right canine, and incomplete root formation on the adjacent premolar

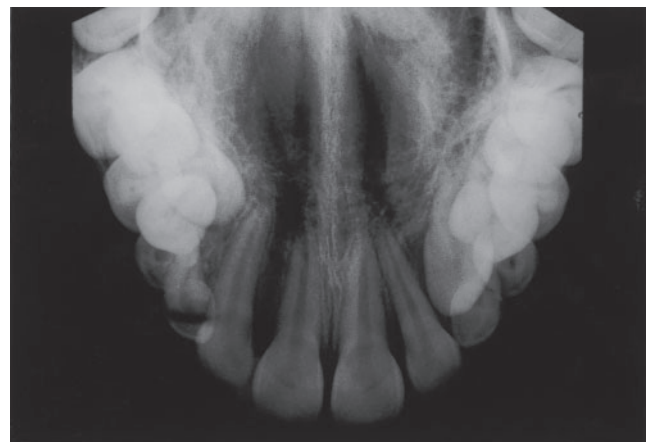


Figure 2 The upper occlusal radiograph taken at the age of 10 years and 10 months, confirming, through vertical parallax, that the upper right canine was labial

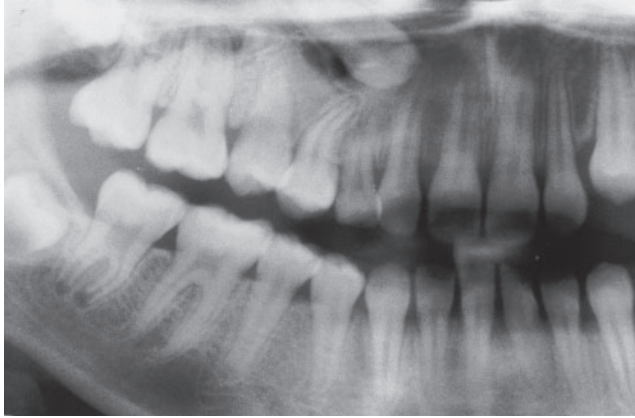


Figure 3 The DPT taken at the age of 11 years and 10 months showing the bend that had developed on the apical one third of the adjacent premolar root in the ensuing 12 months



Figure 4 The upper right oblique occlusal radiograph taken at the age of 11 years and 10 months showing the bend that had developed on the apical one third of the adjacent premolar root in the ensuing 12 months

and the antero-occlusal migration of the impacted canine (Figures 3 and 4), or possibly simple coincidence.

However, since the canine displacement was confirmed 12 months before, this strongly suggests that the premolar root deviation had no part to play in the etiology of the impaction.

References

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