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Pulpal and periodontal reactions to orthodontic alignment of palatally impacted canines

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ABSTRACT

The purpose of this study was to evaluate differences in periodontal and pulpal status, root length, and tooth alignment between contralateral maxillary lateral incisors, canines, and premolars in patients treated for unilateral impaction of maxillary canines. Clinical examinations were performed on 32 patients, average age 22 years 11 months and average posttreatment observation period 3 years 7 months. Probing attachment level was lower at the mesial and distal aspect of the previously impacted canine and at the distal aspect of the adjacent lateral incisor. Crestal bone height was lower at the mesial aspect of the previously impacted canine and at the distal aspect of the adjacent lateral incisor. The roots of the lateral incisors and premolars adjacent to the previously impacted canines were shorter. Pulpal obliteration was observed in six previously impacted canines (21%), and pulp necrosis in one previously impacted canine. The pulps of the remaining teeth appeared normal radiographically. A negative response to electric pulp testing was observed in eight previously impacted canines. Approximately 40% of the previously impacted canines exhibited noticeable relapse and were judged to be intruded, lingually displaced, mesially rotated, as well as discolored. Of the contralateral canines, 91% were normal in appearance. The previously impacted canine could be identified on posttreatment color slides in approximately 75% of the cases.

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