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Original Articles

Influence of Radiographic Position of Ectopic Canines on the Duration of Orthodontic Treatment

Padhraig S. Fleming^a, Paul Scott^a, Negan Heidari^b, and Andrew T. DiBiase^c

Abstract

Objective: To investigate the influence of radiographic position of palatally impacted canines on the length of treatment for orthodontic alignment.

Materials and Methods: Treatment records of 45 consecutive successfully treated patients (36 unilateral, 9 bilateral) with ectopic palatal canines treated with surgical exposure and orthodontic traction were analyzed. The sample was based on orthodontic referrals over a 3-year period in Kent and Canterbury Hospital, UK. The duration of treatment was related to radiographic parameters including the height of the impacted canine, angulation of the long axis to the upper midline, mesiodistal position of the canine tip relative to the midline and adjacent incisors, and the anteroposterior position of the canine root apex.

Results: Using multiple stepwise regression analysis, the horizontal position of the canine crown relative to adjacent teeth and maxillary dental midline showed a statistically significant correlation with the duration of treatment ($P=.042$), explaining 7.7% of the overall variance. However, treatment duration was found to be independent of the initial canine angulation ($P=.915$), vertical height ($P=.065$), and position of the canine apex ($P=.937$).

Conclusions: Accurate prediction of treatment duration for orthodontic alignment of palatally impacted maxillary canines is difficult. However, the mesiodistal position of the canine may be a useful predictor of treatment duration. (*Angle Orthod.* 2009;79:442–446.)

Keywords: [Treatment duration](#), [Impaction](#), [Canine](#), [Orthodontics](#)

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^a Resident in Orthodontics, Kent and Canterbury Hospital, Canterbury, Kent, UK and Royal London Dental Institute, London, UK.

^b Senior House Officer, Kent and Canterbury Hospital, Canterbury, Kent, UK.

^c Consultant in Orthodontics, Kent and Canterbury Hospital, Canterbury, Kent, UK.

Corresponding author: Mr Andrew DiBiase, Kent and Canterbury Hospital, Orthodontics, Ethelbert Rd, Canterbury, Kent CT1 3NG, UK. (Andrew.dibiase@ekht.nhs.uk)

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