

Impacted Maxillary Canines and Associated Dental Anomalies

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Abstract : Objective: Impacted maxillary canines are a frequent condition and a common reason for patients seeking orthodontic treatment. Their simultaneous presence with dental anomalies raises a question about their possible connection. The aim of this study was to investigate the association of maxillary impacted canines with dental anomalies. Materials and Methods: Files of 874 patients from an orthodontic private practice in Greece were evaluated for the presence of maxillary impacted canines. From this sample, a group of 97 patients (39 males and 58 females) with at least one impacted maxillary canine were selected and consisted of the study group (canine impaction group) of this study. This group was compared to a control group of 97 patients (42 males and 55 females) that was created by random selection from the initial sample without maxillary canine impaction. The impaction diagnosis was made from the panoramic radiographs and confirmed from the surgery. The association between maxillary canine impaction and dental anomalies was examined with the chi-square test. A classification tree was created to further investigate the relations between impaction and dental anomalies. The reproducibility of diagnoses was assessed by re-examining the records of 25 patients two weeks after the first examination. Results: The found associated anomalies were cone-shaped upper lateral incisors and infraocclusion of deciduous molars. There is a significant increase in the prevalence of 12,4% of distal displacement of the unerupted mandibular second premolar in the canine impaction group compared to the control group that was 7,2%. The classification tree showed that the presence of a cone-shaped maxillary lateral incisor gave rise to the probability of an impacted canine to 83,3%. Conclusions: The presence of cone-shaped maxillary lateral incisors and infraocclusion of deciduous molars can be considered valuable early risk indicators for maxillary canine impaction.

Keywords : cone-shaped maxillary lateral incisors, dental anomalies, impacted canines, infraoccluded deciduous molars

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