MANDIBULAR SECOND PREMOLAR DISTOANGULATION: A LONGITUDINAL FOLLOW-UP FROM THE MIXED TO THE PERMANENT DENTITION

ABSTRACT
Objective: The aim of this study was to assess the angular changes of mandibular second premolars (MnP2) with distoangulation and to evaluate the different clinical outcomes after a longitudinal follow-up. Methods: The sample was collected from the orthodontic records of 865 patients who sought phase I treatment at one single center. Distoangulation group was composed by 42 patients (mean age 9.29±1.24 years, 16 male, 26 female) with distoangulation of MnP2. The control group was composed by 32 patients (mean age 9.38±1.10 years, 15 male, 17 female) without distoangulation of MnP2. Panoramic radiographs taken in the mixed (T1) and the early permanent dentition (T2) were analyzed in both groups. Longitudinal angular changes, the degree of root formation, second premolar depth and the prevalence of associated dental anomalies were analyzed. Intergroup comparison was performed with Mann-Whitney and t tests. Intergroup comparison of dental anomaly frequency was performed using Chi-square tests (p<0.05). Results: The prevalence of MnP2 distoangulation in the mixed dentition was 4.85%. The distoangulation group showed a greater initial θ angle (59.34°±8.41) when compared to the control group (79.88°±7.60). The spontaneous eruption of the MnP2 with distoangulation was observed in 76.57% of the sample. The extraction of the predecessor second deciduous molar followed by the spontaneous eruption was found in 23.43%. MnP2 distoangulation was significantly associated with agenesis of its antimere, small maxillary lateral incisors and deciduous molar infraocclusion. Conclusions: Conservative approaches may be preferred in cases of mandibular second premolar distoangulation. Severe cases of MnP2 distoangulation were rare.

KEYWORDS
Tooth Abnormalities, Bicuspid, Tooth Eruption, Ectopic, Orthodontics.