

عنوان مقاله:

Evaluation of the Effect of Removable Maxillary Expanders on Facial Vertical Dimension

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خلاصه مقاله:

Background: Palatal expansion is one of the most common types of orthodontic treatment, which is administered employing different appliances, and is used for the correction of posterior cross bite. This treatment can elevate the palatal cusp on the maxillary first molar, lead to the rotation of mandible, and increase the height of the lower third of the face. In some cases, the use of bite plane is suggested to avoid vertical dimension changes of the face. This study aimed to assess the effect of removable maxillary expanders on facial vertical dimensions. **Methods:** In this cross-sectional study, ۶۸ patients referring to Hamedan School of Dentistry and being treated using removable maxillary expander with or without bite plane were examined. Pretreatment and post treatment cephalograms of the patients were analyzed by Dolphin Imaging Software ۱۱.۹ version, and the results from ۵ cephalometric variables, namely the mandibular plane related to SN line, the angle of mandibular plane related to FH, Y axis, the maxillary plane angulation, as well as the lower facial height were calculated. Patient's transverse dimension was measured by a caliper on the dental casts along the mesiobuccal cusp of maxillary first molars. Paired t test and independent t-test were adopted for carrying out data analysis. **Results:** There was no significant difference between the two groups in terms of age and sex at the beginning of treatment. However, maxillary plane angulation and Y axis changed significantly in group with bite plane. ($P = ۰.۰۳۴$, $P = ۰.۰۰۷$). The changes were less than ۱.۵ degrees. No significant difference was observed between the groups with or without bite plane regarding the changes of cephalometric variables during the treatment. The transverse dimension of the arch was increased significantly in both groups. The changes were similar in two groups. **Conclusions:** According to the results from this study, the presence of bite plane had no advantage over its absence. However, it seemed necessary to design a randomized clinical trial in this regard.

کلمات کلیدی:

Removable orthodontic appliances, Maxilla, Vertical dimension of the face, Cross bite

