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Effects of a bonded rapid maxillary expansion appliance during orthodontic treatment

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ABSTRACT

The aim of this prospective study was to evaluate changes in the transverse plane following use of an acrylic bonded rapid maxillary expansion (RME) appliance in growing individuals during the active phase of treatment. The sample comprised 14 consecutively treated orthodontic patients (11 girls, 3 boys) who required the use of an RME device on the basis of their individual treatment plans. The mean patient age at the start of treatment was 12.8 years, and the mean overall treatment time was 3.08 years. Seven posteroanterior cephalometric and two dental cast measurements were assessed. Repeated measure analysis of variance and Duncan's multiple range test were used to assess treatment changes. Lower nasal and maxillary base widths and angles, and upper intermolar width increased significantly during RME treatment. Upper intermolar and intercanine widths measured from the dental casts also increased significantly. Except for upper intercanine width, all measurements remained constant at the end of orthodontic treatment. The results of this study suggest that dentoskeletal changes in the transverse dimension following the use of an acrylic bonded RME are maintained satisfactorily at the end of fixed appliance therapy.

KEY WORDS: Maxillary expansion, Bonded RME appliance, Transverse dimension.

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