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Decalcification in relation to brackets bonded with glass ionomer cement or a resin adhesive

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ABSTRACT

Forty randomly selected patients had brackets bonded on one side of the of the maxillary labial segment with glass ionomer cement. Teeth on the opposite side were bonded with a resin adhesive. Teeth were assessed for decalcification pretreatment, at debond, and at review using a standardized photographic technique and a modified DDE index. The mean number of teeth affected by decalcification and the mean extent of decalcification per tooth increased during the treatment period, but from debond to review both of these measurements decreased for teeth bonded with either material ($p < 0.01$, t -test). Decalcification appears to become less severe posttreatment, but does not appear to be significantly affected during 12 to 18 months of orthodontic treatment by bonding with glass ionomer cement. Dietary and other environmental factors, including fluoride preparations, may be of greater importance in the prevention of decalcification during fixed appliance therapy.

KEY WORDS: Decalcification, Glass ionomer cement, Resin adhesive, Modified DDE index.

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