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## Bond strength following the application of chlorhexidine on etched enamel

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### ABSTRACT

The purpose of this study was to determine whether the application of chlorhexidine to etched enamel affects the shear bond strength and bracket/adhesive failure modes of orthodontic brackets. Forty recently extracted third molars were cleaned and divided into two groups of twenty. The first group was etched with a 37% phosphoric acid gel, and a sealant was applied containing a chlorhexidine varnish. Stainless steel orthodontic brackets were bonded using the Transbond XT bonding system (3M/Unitek). Teeth in the second group were etched and bonded using the same bonding system but without chlorhexidine. A Zwick Universal Testing Machine was used to determine shear bond strengths. There were no significant differences in bond strengths between the chlorhexidine treated teeth ( $= 11.8 \pm 2.1$  MPa) and the controls ( $= 12.4 \pm 3.1$  MPa) ( $p = 0.129$ ). The Chi Square test evaluating the residual adhesive on the enamel surfaces showed no significant differences ( $P = 0.136$ ) between the two groups evaluated. The use of a primer containing chlorhexidine does not significantly affect shear bond strength nor the fracture site (bond failure location).

**KEY WORDS:** Bonding, Chlorhexidine, Shear bond strength.

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