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## Comparison of bond strength between selected orthodontic adhesives versus anterior restorative materials (Article)

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### Abstract

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The objectives of this study were to measure and compare the bond strength between selective orthodontics adhesives and anterior restorative materials. 104 extracted bovine incisors were selected and divided into four groups of 26 each, etched with 37% phosphoric acid, primed with Prime & Bond One (Dentsply) and bonded in dry field to enamel surfaces using four different adhesive materials. The materials tested were: Transbond XT(3M), Lightbond(Reliance), Filtek Z350XT(3M) and Neofil (Kerr). These samples then underwent thermal and acidic exposure for two time intervals, at twenty four hours and three months and finally the shear bond strength were measured using Instron Universal Testing machine. The data then analysed using SPSS Compare Means-Paired Sample T-Test. Lightbond (OA) showed the highest mean value of bond strength at both 24 hours and three months' time interval which was 13.95 MPa. This followed by Transbond XT (OA) that exhibit lower value at 9.63 MPa. Filtek Z350 (AR) had the highest bond strength among the anterior restorative materials tested at 9.18 MPa while the Neofil (AR) has shown significantly lower and consistent mean bond strength in both time intervals among all materials which was 7.88 MPa. Orthodontics adhesives have higher bond strength to bovine enamel compared to anterior restorative materials. © 2019 University of Dicle.

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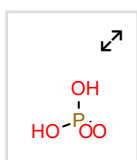
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Orthodontic adhesive

Shear bond strength

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