

## Kekuatan geser semen ionomer kaca modifikasi sebagai pelekak braket begg logam dengan dan tanpa etsa (penelitian experimental laborator)./ Dyah Karunia, Pinandi Sripudyani

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### Abstrak

The adhesive of composite resin has been used for direct bonding of a bracket system of bracket fixed orthodontic treatment by etching. The disadvantage of etching is enamel loss and difficult procedure. Modified glass ionomer cement has been suggested as a bracket bonding system without etching. The chemical bonding without etching can reduce enamel loss and make the procedure more efficient. The purpose of this study was to determine the shear bond strength of modified glass ionomer cement as metal Begg bracket bonding system with and without etching. The subject of this study consisted of two groups which had 15 intact extracted permanent human upper bicuspid for each group. Group I was etched with ortho phosphate acid (37%) for 20 seconds and bonded with modified glass ionomer cement. Group II was untreated and bonded with the same adhesive. The shear bond strength was measured with Pearson Pankee Equipment, and bond failure location was observed under stereo microscope. To differentiate the effects with and without etching, t test was performed, while to observe the location of bond failures, chi-square test was conducted. The results of this study indicated that the shear bond strength of modified glass ionomer cement as bonding system metal Begg Brackets with etching was significantly higher ( $p < 0.001$ ) than without etching. Without etching, bond failure occurred between enamel and bonding agent. With etching, the bond failure was mostly found within the adhesive.