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**ID-13-P-3500 Comparative study of loss dental enamel after debonding the braces by Scanning Electron Microscopy (SEM)**

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The clinical procedures when braces fixation suggest adhesion forces between 2.8 and 10.0 MPa as appropriates. In this work the dental enamel edge was evaluated by SEM before and after debonding the braces and measure the bond strength and enamel loss after the brackets debonding with the help of AutoCAD software. 30 bicuspids with prophylaxis were used and observed with SEM, metallic braces (Roth Inovation .022 GAC) were bonded with Transbond Plus SEP 3M Unitek adhesive and Transbond XT 3M resin. The samples were colocated to 37°C during 24 hours and submitted to tangential forces with the Instron Universal machine with speed load sheading 1.0mm/min to obtain the strength resistance when debonding. ARI test was made, the base of the braces and bicuspids were observed. All the SEM images of the braces were processed with AutoCAD program was used to measure area of enamel lost, resin over the bracket base and the metal base free of resin (mm2) over the SEM images. In the shear bond strength test was obtained an average value of 6.8MPa (SD±3.2MPa). The 63.3% of the samples presented value 1 ARI, the 20% value 2, the 13.3% value 3 and 33% presented value of 0. All those samples with dental enamel lost presented different situations as fractures, steps, horizontal lost, and vertical in some cases, and little lines of scratches. There is no association between the debonding resistance and enamel presence. When the resin area increases is also increasing the debonding resistance.

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Fig. 1: Presence of enamel prisms Transbond Plus® SEP

Fig. 2: Different situations as fractures, steps, horizontal lost, and vertical in some cases, and little lines of scratches.