ROUGHNESS AND BOND STRENGTH EVALUATIONS OF FLUOROTIC ENAMEL WITH SODIUM HYPOCHLORITE AS A DEMINERALIZING AGENT FOR ADHESIVE ORTHODONTIC TREATMENTS.

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The deproteinization technique has demonstrated to improve the adhesion of restorations based on adhesive systems for healthy dental enamel; however, no information about roughness, etching patterns and micro- tensile strengths from healthy and fluorotic dental enamel are available in the scientific literature. The aim of this study was to test the roughness, etching patterns and micro- tensile test of healthy and fluorotic dental enamel treated with deproteinization and conventional etching techniques. Healthy and various degrees of dental fluorotic enamel specimens (n=220 samples) were collected and subclassified according to the presence and severity of dental fluorosis. Roughness and etching patterns of specimens treated with deproteinization method and conventional etching technique were analyzed by atomic force microscopy and bonding strengths were evaluated using a micro- tensile assay. The deproteinization system showed the most increasing roughness values and better micro topographic conditions in fluorotic enamel samples compared to the conventional technique, even in moderate and severe fluorotic samples; however, the better etching patterns were significantly observed in healthy samples and a positive significant correlation was found among roughness and level of fluorosis. The better bonding strengths were statistically found in conventional method compared to deproteinization group. The NaClO solution used as a deproteinizing agent promoted more and better micro topographic conditions than the conventional etching, especially in severe dental fluorotic samples, while the conventional etching system demonstrated to have increased bond strength properties even for more severe stages of dental fluorosis.

Keywords: Dental fluorosis, Roughnes, Deproteinization

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