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The effects of different phosphoric acid concentrations on surface enamel

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ABSTRACT

The purpose of this study was to evaluate the effects of different acid concentrations on the enamel surface morphology. The buccal surfaces of 25 extracted premolars from young patients were etched with 40%, 20%, 10%, 5%, and 2% phosphoric acid solutions for 60 seconds. The specimens were examined with a scanning electron microscope in the occlusal, central, and cervical regions. A great variation of the etching patterns was observed in almost all test groups. The extent of the appearance of prism outlines was smaller in the cervical region and at lower acid concentrations. The advantages and disadvantages of the use of lower concentrated acids are discussed.

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KEY WORDS: Bonding, Dental enamel, Acid etching.