ABSTRACT

Instrumentation used in cavity preparation formed a layer of organic and inorganic dentin matter over dentin's surface called smear layer. Smear layer may obstruct adhesive restoration attached to dentin, therefore smear layer should be removed using a solution called dentin conditioner. Apple cider vinegar (ACV), commonly used as detoxification beverage which consists of acetic acid 5%, has similarity with dentin conditioner sold in market. It is expected that ACV can be used as an alternative dentin conditioner in the future. The purpose of this study was to assess the effectiveness of ACV as smear layer cleanser on dentin with different application times. Methods: twelve dentin disks from extraction of upper premolar. Specimen then randomly selected and divided into four groups with three dentin disks in each group. Group I was control group, there was no application added. Group II, ACV application for 10 seconds followed by water-sprayed for 15 seconds. Group III, ACV application for 20 seconds followed by water-sprayed for 15 seconds. Group IV, ACV application for 30 seconds followed by water-sprayed for 15 seconds. The study was performed by Scanning Electron Microscope, and using Kruskal-Wallis test followed with Mann-Whitney non-parametric multiple ranges as the calculation method. The result of this study was there was significant difference between control group and treatment groups. There is no significant difference between group I and II, group II and III, group III and IV.

Key words: Dentin Conditioner, Apple Cider Vinegar, Smear layer