

POTENTIAL EFFECT OF MANGOSTEEN PROANTHOCYANIDINS INCORPORATION INTO SELF-ETCH ADHESIVE ON DENTIN BONDING

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ABSTRACT

The aim of this study was to investigate the effect of incorporation of natural proanthocyanidins into the primer of a self-etching adhesive on resin-dentine bond strength. Flat dentine surfaces were prepared from fifteen extracted human molar teeth and were applied with the following self-etching primers. The 0.5% Mangosteen proanthocyanidins (MPA), or 0.5% Chlorhexidine (CHX) was incorporated into Kerr Optibond Versa (Kerr, USA) to formulate two experimental primers. The original Kerr primer served as control. After primer application, the teeth were bonded with Kerr Optibond, build up with resin composite incrementally and stored in water for 24 hours in 37 °C incubator. The bonded specimens were sectioned into beams and subjected to micro tensile bond testing (μ TBS). Failure analysis was performed using a scanning electron microscope (SEM). Two-way ANOVA showed significant differences in μ TBS among the tested and control group ($p < 0.05$). A post-hoc comparison test revealed that incorporation of MPA significantly increased μ TBS when compared with the other two groups ($p < 0.001$). Incorporation of MPA into Kerr Optibond primer potentially positive influence on the immediate bond strength of the bonded interface.

Keywords: Resin-dentin interface, Dentine bond strength, Proanthocyanidins, Self-etching adhesive

Acknowledgement: This work was supported by internal grant RIGS 050-0050 from the International Islamic University of Malaysia.