ONLINE ISSN : 1881-1361
PRINT ISSN : 0287-4547

Dental Materials Journal
Vol. 27 (2008) , No. 3 p.386-391

[Image PDF (648K)] [References]

Tensile Bond Strength of One-step Self-etch Adhesives to Er:YAG Laser-irradiated and Non-irradiated Enamel

Atsushi KAMEYAMA[1)], Junji KATO[1)], Koya AIZAWA[1)], Tsuyoshi SUEMORI[1)], Yuichi NAKAZAWA[1)], Tsuyoshi OGATA[1)] and Yoshito HIRAI[1)]

1) Department of Operative Dentistry, Tokyo Dental College

(Received August 11, 2007)
(Accepted November 22, 2007)

Abstract:
This study determined the bond strengths to Er:YAG laser-irradiated and non-irradiated bovine enamel of three one-step self-etch adhesives (AQ Bond Plus (AQP), G-Bond (GB), and Clearfil Tri-S Bond (TS)) and one two-step self-etch adhesive (Clearfil Megabond (MB)). Eighty SiC paper-ground bovine enamel surfaces were used, of which half were laser-irradiated. The enamel surfaces were bonded to a resin composite with each adhesive, and tensile bond strengths were determined after 24 hours. For non-irradiated enamel groups, MB achieved greater bond strength to enamel than GB and TS ($p<0.05$), but no significant difference was found between MB and AQP ($p>0.05$). For laser-irradiated enamel groups, no significant differences were found among the four adhesives ($p>0.05$). Additionally, for each adhesive, no significant differences were found between laser-irradiated and non-irradiated enamel. It was thus concluded that Er: YAG laser irradiation of enamel did not affect the tensile bond strength of one-step and two-step self-etch adhesives.

Key words:
Bond strength, Er:YAG laser, One-step adhesive

[Image PDF (648K)] [References]

Download Meta of Article[Help]

To cite this article:

Atsushi KAMEYAMA, Junji KATO, Koya AIZAWA, Tsuyoshi SUEMORI, Yuichi NAKAZAWA, Tsuyoshi OGATA and Yoshito HIRAI. Tensile Bond Strength of One-step Self-etch Adhesives to Er:YAG Laser-irradiated and Non-irradiated Enamel . Dent. Mater. J. 2008; 27: 386-391 .

---

doi:10.4012/dmj.27.386

JOI JST.JSTAGE/dmj/27.386
