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[\[PDF \(1852K\)\]](#) [\[References\]](#)**Effect of hybridization on bond strength and adhesive interface after acid-base challenge using 4-META/MMA-TBB resin**[Tomohiro TAKAGAKI](#)¹⁾, [Toru NIKAIDO](#)¹⁾, [Satoko TSUCHIYA](#)¹⁾, [Masaomi IKEDA](#)¹⁾, [Richard M. FOXTON](#)²⁾ and [Junji TAGAMI](#)¹⁾³⁾

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Abstract:

The purposes of this study were twofold, namely to evaluate: (1) the effect of hybridization on microtensile bond strength (μ TBS) to dentin, and (2) the ultrastructure of the dentin-adhesive interface with 4-META/MMA-TBB resin after acid-base challenge. Dentin surfaces, which received no treatment (NT), 65% phosphoric acid (PA), or 10% citric acid-3% ferric chloride (10-3), were bonded with a 4-META/MMA-TBB resin. To evaluate dentin bond strength, μ TBS test was performed at a crosshead speed of 1 mm/min. For ultrastructural evaluation of the adhesive interfaces, SEM was used to examine the interfaces of the bonded specimens after acid-base challenge. The μ TBS of NT was not determined, while that of 10-3 was significantly higher than that of PA ($p < 0.05$). With PA and 10-3, the hybrid layer was clearly observed, but not so for the acid-base resistant zone. Wall lesion was found in NT only.

In conclusion, hybridization is vital to improving μ TBS to dentin and enhancing resistance at the adhesive interface against acid-base challenge.

Key words:

[Acid-base resistant zone](#), [4-META/MMA-TBB](#), [Bond strength](#)

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