

A	<p>Bond strength of MMA-TBB direct bonding adhesives to contaminated enamel Seok-Bae, Hong., Fukuoka Dental College, Japan.</p>
<p>To improve the bond strength of MMA-TBB resin to contaminated enamel, four types of monomers [2-hydroxyethyl methacrylate(HEMA), 2-succinoyethyl methacrylate(2SEM), 4-methacryloxyethyl trimellitic acid anhydride(4META) and 2-phenylethyl methacrylate(2PEM)] which have hydrophilic and/or hydrophobic groups, were used for preparation of comonomers. Experimental direct bonding adhesives(DBA) consisted of a MMA solution with each monomer(0-50mol%), PMMA powder and an oxidized tri-n-butylborane(TBB-O) as an initiator. Etchants were 2,10,35 and 50wt% phosphoric acid aqueous solutions. The compressive shear bond strengths of experimental DBAs to contaminated enamel were measured after immersion in 37°C water for 24hr or thermal cycling(5,000cycles). The etched enamel surfaces and the fractured brackets and enamel surfaces after the bond test were observed with SEM. Also, the physical properties of DBAs were measured.</p> <p>The result in this study suggested that MMA-TBB resin with 3-5mol% 2SEM or 4META, which have both hydrophilic and hydrophobic groups, can reduce the adverse effect of water and saliva-contamination using 35% phosphoric acid solution.</p>	