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Shear bond strength of composite to primary enamel treated with casein phosphopeptide amorphous calcium phosphate using total-etch and self-etch bonding systems

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This *in vitro* experimental study was conducted on 96 sound primary teeth randomly divided into 8 groups (n=12). Four groups were demineralized and the rest remained sound. All the specimens were subjected to pH cycling. Then, GC-Tooth Mousse was applied on their surfaces. Composite resin was bonded using Clearfil SE Bond self-etch or Single Bond total-etch bonding systems. The bond strength of the specimens was measured by an Instron machine and the mode of fracture was assessed by a stereomicroscope. Data were analyzed by one-way and two-way ANOVA and chi-square test. In the total-etch system, the bond strength of demineralized group was significantly higher than that of sound group (p=0.009). This difference in self-etch system was not significant (p=0.928). The CPP-ACP remineralizing agent decreased the bond strength in total-etch and increased the bond strength in self-etch group (p=0.032 and p=0.018, respectively). No difference was observed in the mode of fracture of the two bonding systems. GC Tooth Mousse decreased the bond strength to composite in total-etch and increased it in self-etch group. Higher bond strength to composite can be achieved in teeth with white spot lesions (WSLs) when total-etch system is used.

Biography

Sara Kaveh has completed her DDS from Mashhad Dental School, Iran and MS from Isfahan Dental School Iran. She is the Professor of Operative Dentistry in Semnan Dental School.

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