The cytotoxicity of self-etching primer bonding agents in vitro

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Objective. This study evaluated the cytotoxicity of 3 self-etching bonding systems: Optibond Solo Plus SE primer,Xeno III, and *i* Bond.

Study design. The test materials were applied on the dentine discs of dentine barrier models in the same way as in theclinical procedures recommended by each manufacturer. 3-D cell culture of Bovine pulp–derived cells transfectedwith Simian virus 40 Large T antigen and perfusion condition were conducted in this experiment. Cell viability afterexposure to the bonding agents was determined by dimethylthiazolediphenyltetrazolium bromide (MTT) assay.

Results. The results revealed that cell survival with the above-mentioned bonding agents was 99.66%, 72.59%, and10.65%, respectively. *i* Bond is the most toxic material (P _ .05). Xeno III is less toxic than *i* Bond but more toxic thanOptibond Solo Plus SE primer (P _ .05).

Conclusions. Among the 3 test self-etching bonding systems, Optibond Solo Plus SE primer should be selected incases where the remaining dentin above pulp tissue is 0.5 mm or less. **(Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2009;107:e86-e90)**