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Subject: cardiovascular diseases / cancer / autism / other

Effect of four intermediate layer treatments on microleakage of Class II composite restorations.

This in vitro study examines the marginal sealing ability of four different intermediate materials applied before placement of a condensable composite. Class II preparations were made with gingival margins placed 1.0 mm apical to the cementoenamel junction of 60 extracted teeth, randomly assigned to five groups of 12. Following restoration, teeth were thermocycled, soaked in 0.5% basic fuchsin, and sectioned longitudinally. The resin-modified glass ionomer cement demonstrated significantly less microleakage than the use of a dentin bonding agent alone or in combination with flowable composite, flowable compomer, or autopolymerizing composite ($p < 0.05$, Dunn's test). This study supports the use of the glass ionomer open sandwich technique in deep Class II direct composite restorations.