Abstract: Background and Aim: When composite resin polymerizes, shrinkage stresses tend to produce gaps at the tooth restoration interfaces. Surface sealants may reduce or avoid problems related to the marginal interface. The aim of this study was to evaluate the effect of two different surface sealants (Fortify and Optiguard) on microleakage of class V resin composite restorations.

Materials and methods: Twenty-three sound non-caries molars were collected. Totally forty-five Class V cavities were prepared in both buccal and lingual surfaces. Specimens, randomly assigned in three groups with 15 cavities in each group, were restored with composite resin. The restorations in each group were covered with a specific surface sealant, except for the control samples, which were not sealed. After placing restorations, the specimens were thermocycled and then immersed in a 50% silver nitrate solution (tracer agent) for four hours, sectioned longitudinally and analyzed for leakage using a stereomicroscope in a blind study. The marginal microleakage was evaluated at the occlusal and cervical interfaces and compared among the three groups using the Kruskall-Wallis and the Mann-Whitney U Tests.

Results: Microleakage was seen in all groups at both the occlusal and cervical margins. According to test, significantly greater leakage was revealed at the cervical margins compared to the enamel margins of the material groups (P = 0.005). In the cervical region, Fortify showed improved results and statistically presented the lowest degree of microleakage (P = 0.003).

Conclusions: The sealant materials evaluated presented different rates of effectiveness, and Fortify decreased significantly marginal microleakage.

Surface sealant, Microleakage, Class V restoration

Presentation: Oral