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Effect of salivary contamination on marginal adaptation of different types of glass ionomer cements restorations

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Aim: The main aim of this study was the effect of salivary contamination on the marginal adaptation of class V cavities restored with three different types of glass ionomer cements.

Materials & Methods: Forty five (45), caries-free, freshly extracted human sound molars from middle aged patients were collected from surgery clinic of Tanta University. The teeth were examined by trans-illumination to exclude those exhibiting enamel fractures or cracks. A class V cavity preparation was done on the buccal or lingual surface of each tooth with cylindrical diamond bur under air-water cooling. The prepared teeth were randomly divided into nine groups (five teeth each) corresponding to different glass ionomer materials and saliva contamination timing.

Results: SEM examination revealed that no marginal gaps were detected at the enamel-GIC interface in the different tested groups that were not subjected to salivary contamination. While in the samples that were subjected to salivary contamination there were marginal gaps formation.

Conclusion: Salivary contamination reduced marginal adaptation of different glass ionomer restorative materials. Nano-Ionomer showed least marginal gaps and better marginal adaptability when compared to CGIC and RMGIC.