Title: Evaluation of the influence of the acid-etch, one step and two step systems on the micro leakage of the sealants in permanent first molars (in-vitro study)

Abstract: Introduction & aim: Pit and fissure sealant is a method for prevention of occlusal caries. The most concerning problem is the leakage of sealant. Different materials have been presented as the sealant bonding. The purpose of this study was to investigate the influence of the acid-etch, one step and two step systems on the micro leakage of the sealants.

Methods and materials: this was an experimental in vitro study. Forty five sound premolars were divided into three groups. After preparation the occlusal surface, the sealant was placed on the grooves. Before sealant application in the first group, etching by acid phosphoric, in the second one two steps (SE bond) and in the third group one step (Adhese One) system were used. The teeth were thermo cycling and immersed in the alkaline Fushin. After buccolingual cross sectioning, the color penetration was evaluated by scanning microscope. Then results were analyzed by Kruskal Wallis and Mann-Whitney tests.

Results: The results showed that there was no significant difference between the micro leakage of the SE Bond and acid etch system. The micro leakage of the Adhese One was significantly higher than other groups.

Conclusion: Two-steps self etch (SE Bond) can be effective as conventional acid etch system in reducing micro leakage.

Presentation: Poster