Abstarct:

Aim : Today, the use of the same color bonded restorations has expanded to provide beauty . During the last two decades, significant progress has been made in adhesive dentistry with the introduction of new adhesive systems .Despite the use of bonding agents in these restorations,the problem of microleakage between the restorative material and the tooth structure has not yet been completely eliminated. The aim of this study was to investigate the effect of salivary contamination on the microleakage of self-adhesive flowable composite resin restorations.

Methods : In this study, 52 permanent premolars and molars were selected. Class 5 cavities were prepared so that the occlusal margin was at the enamel and the gingival margin was at the root level. The prepared teeth were randomly divided into 4 groups (n = 9). Includes: 1) self-adhesive flowable composite in the prepared cavity 2) Salivary contamination of the cavity + self-adhesive flowable composite 3) total etch flowable composite 4) Salivary contamination of the cavity after etching + total etch flowable composite 5)Positive control group 6) Negative control group. The prepared teeth were thermocycled between 5°C and 55°C for 1000 cycles . Staining was performed by immersing the prepared teeth in 2% methylene blue solution for 16 hours. In the next step, the prepared teeth are sectioned bacolingually from the restoration center. Microleakage distance was measured in millimeters under a stereomicroscope And analyzed using SPSS software.

Results : Due to the normality of the research data and uniformity of variance ($P> 0.05$); The results of this study showed that the microleakage of self-adhesive and conventional flowable composites with salivary contamination in the occlusal and gingival walls is higher than the group without salivary contamination($P<0.05$). In the presence and absence of salivary contamination, the microleakage of the conventional composite is less than the self-adhesive flowable composite in the occlusal wall ($P<0.05$). In the presence or absence of salivary contamination, the amount of microleakage of the conventional composite is higher than the self-adhesive flowable composite in the gingival wall ($P<0.05$).

Conclusion: Considering the limitations of the present study, self-adhesive and conventional flowable composites are both sensitive to salivary contamination. The microleakage of the conventional composite is less in the occlusal wall and the self-adhesive flowble composite is less in the gingival wall.

Keywords: Resin composite, Microleakage, Salivary contamination.