

BOND STRENGTH AND MICROMORPHOLOGICAL PROPERTIES OF G-BOND AND PROMPT L-POP. A COMPARATIVE STUDY.

Motaz A Ghulman*

The present study was conducted to evaluate a recently introduced Hema free, no mix, one step adhesive, namely, G-Bond as compared to Adper Prompt L-Pop which is a Hema containing, mix. One step adhesive system in terms of micromorphological characteristics using a SEM and shear bond strength using an Instron testing machine. 24 sound freshly extracted human third molars were selected for the study. Teeth samples were mounted separately in acrylic blocks using cylindrical Teflon molds after trimming most of the occlusal enamel. Molds were ground to expose the mid-dentin layer and smear layers were prepared with # 250. P Ffine diamond bur. Teeth specimens were then randomly divided into two groups of twelve for the two experimental adhesive systems. A split st.st. ring was used to confine, standardize, and centralize the applied restoration on the mid coronal dentin surface of the mounted teeth. Ten specimens from each of the experimental groups (n=10) were subjected to shear bond strength testing while two specimens were submitted for the SEM assessment. Results were statistically analyzed using non-paired T-test. Results: Statistically insignificant higher shear bond strength was found in G-Bond specimens as compared to Adper Prompt L-Pop ones (23.7 ± 2.27 and 13.3 ± 2.4) respectively. SEM ultramorphological study revealed a continuous hybrid layer with G-Bond as well as PLP systems. It was unevenly thick with multiple gaps for the G-Bond as compared to the PLP system. Conclusions: in view of the present results it can be concluded that. G-Bond has a satisfactory initial adhesive strength, slightly higher than Adper Prompt L-Pop and in accordance to the reported typical figures for dental adhesives which is a promising property. Contrary to what was reported for the G-Bond, a thick hybrid layer was observed on SEM examination. Further investigations concerning more assessment parameters is recommended for a broader evaluation of the G-Bond -non Hema- adhesive system.

* Assistant Professor of Operative Dentistry, Faculty of Dentistry, King Abdul-Aziz University, Jeddah, Saudi Arabia