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Comparison of the Tensile Bond Strength of Four Root Canal Sealers

S. Khedmat, M. Sedaghati

Abstract:

Statement of problem: The bond strength of root canal sealers to gutta-percha seems to be an important property for maintaining the integrity of the apical seal which can result in reducing apical microleakage. Purpose: The purpose of the present study was to compare the tensile bond strengths of four types of root canal sealers to gutta-percha. This study measured the maximum forces needed to disengage the bond between gutta-percha and these sealers. Materials and Methods: in order to prepare the specimens, 40 blocks of unprepared gutta-percha (20 10 3mm) was used. Aluminum cylinders, 6 mm in diameter, were stabilized on the gutta-percha with small amounts of wax and were filled with one of the sealers. After setting each sealer, the drops of wax were removed and the tensile bond strengths of all the samples were measured using universal testing machine. Collected data were analyzed by ANOVA and Tukey tests. Results: The highest bond strength was observed in the Diaket. It was followed by AH26 and Apexit. Dorifill had the least bond strength between the four groups. The tensile bond strength of Diaket and AH26 to gutta-percha were significantly higher than Dorifill and Apexit. Conclusion: Th According to the findings of the present study it can be concluded that the use of Diaket and AH26 for root canal therapy may produce better results in endodontic treatments.

Keywords:

Sealer . Gutta-Percha . Tensile bond strength

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