

EVALUATION OF NANOLEAKAGE OF TWO DUAL CURE SELF-ADHESIVE RESIN CEMENTS

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Abstract

Aim of the study: This in vitro study was conducted to evaluate nanoleakage of two contemporary dual cured self-adhesive resin cements bonding high strength ceramic to dentin.

Materials and Methods: sixteen rectangular-shaped zirconia blocks (ICE Zirkon Translucent ZirkonZhan, Italy) were fabricated and divide into two group according to cements used for cementation of zirconia blocks to freshly prepared flat dentin surfaces to form assemblies. (Group1- RelyX \hat{I} "U200 (RXU200), (3M ESPE Germany) and group2/"Owvknkpm \hat{I} "Urggf"*OU+."*Kxqenct"Xkxcfgpv."Nkgejvgpuvgkp++0" Each group were divided to three subgroups ten assemblies in each according to storage periods 1day, 7 days without thermocycling and 7 days with thermocycling for 500 cycles at temperature between 5 and 55•E0"Cv"vjg"gpf"qh"gej"hqmqy"wr" period the assemblies were sectioned into1 mm thick slaps. Two slaps from each assembly were selected, stained with 50wt% ammoniacal silver nitrate and tested for nanoleakage using Electron Dispersive Analytical X-ray (EDAX).

Results: Group 2 showed the higher insignificant mean of nanoleakage (3707706069 AgL in wt%) than group 1 (350:507058 AgL in wt%). One day follow-up period showed the highest significant mean of nanoleakage (3:0570603: AgL in wt%) followed by seven days without thermocycling (3503206066 AgL in wt%) and 7 days with thermocycling (330:906035 AgL in wt%).

Conclusions: RXU200 cement had lower mean of nanoleakage than MS and Storage time had influences on nanoleakage but thermocycling had not.

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