IN VITRO BOND STRENGTH OF TYPE II GLASS-IONOMER CEMENTS TO DECIDOUS TEETH

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Glass-ionomer cements were introduced by Wilson and Kent (6) to the dental profession during the 1970s. This material is composed of an ion-leaching glass powder combined with polyacylic acid. Glass-ionomer cements had the objective of combining the positive qualities of silicate cements, composite resins and polycarboxylatke cements (3). This material possesses a) an adhesiveness to enamel, dentine and some metals, b) an ability to leach fluoride, c) biocompatibility with the oral tissues (5,7,8).

Glass- ionomer cements have several clinical applications (1,2,4). There are various of glass-ionomer cements, classified under the following headings (2) : Type I: luting cements, Type II: restorative materials i) aesthetics, ii)rienforced, Type III: fast-setting lining materials and fissure sealants.

The investigation reported here was undertaken to determine the tensile bond strengths of three brands of type glass-ionomer cements to decidous teeth enamel and dentine under *in vitro* conditions. The cements used in the present study listed as: Logofil U WM, Chemfil II, Fuji Ionomer II. The mean bond strengths to enamel are : 2.44 $\pm$ 0.48 MPa (logofil U WM), 3.30 $\pm$ 0.93 MPa (Chemfil LL) and 3.19$\pm$0.92 MPa (fuji Ionomer II). The last two mean values were found significantly different from the first ($p < 0.05$). The mean bond strengths to dentine are: 2.62 $\pm$ 0.57 MPa (Logofil U WM), 2.31 $\pm$ 0.76 MPa (Chemfil II) and 2.62 $\pm$ 0.92 MPa (Fuji Ionomer II). The mean values were not significantly different from each other ($p>0.05$). The bonding failure was tested in light microscope and the failure types was listed as adhesive (A), cohesive (C/A) and cohesive (C). The specimens showed cohesive failure was found to have the highest tensile bond strength values.

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