THE TENSILE BOND STRENGTH OF ODONTOSIL SILICONE TO A HEAT POLYMERIZING ACRYLIC RESIN BY FOUR PRIMERS

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ABSTRACT

An obturator is a dental device used to close the oroantral communication. There are various obturator designs using different materials; one design uses a joint made by heat polymerizing acrylic resin and silicone. The purpose of this study was to evaluate the tensile bond strength of acrylic resin (Heat polymerizing acrylic resin) and ODONTOSIL silicone using four different primers. The primers used in this study were A304, A306, A330G, and SOFRELINER TOUGH. Forty specimens were divided into four groups, each group consisting of ten specimens, according to the combination of acrylic resin, ODONTOSIL silicone and primer. All specimens were loaded in tension mode in the Universal Teating Machine with a crosshead speed at 20 mm/min until bonding failure occurred.The results showed significant differences in the interaction between acrylic resin and the four primers on tensile bond strength to ODONTOSIL silicone ($p<0.001$). SOFRELINER TOUGH showed the highest tensile bond strength and was significatly higher than the other primers. It was followed by A330G, A304, and A306 repectively. A330G and A304 had no significant difference in tensile bond strangth, but they were significantly higher than A306. The lowest tensile bond strength was found with A306 which was significantly lower than the other primers. These findings showed that the best primer to bond ODONTOSIL silicone and heat polymerizing acrylic resin is SOFRELINER TOUGH.

KEY WORDS: TENSILE BOND STRENGTH/ PRIMER/ ODONTOSIL SILICONE/ ACRYLIC RESIN

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