

A COMPARATIVE STUDY OF TWO SELF ETCHING ADHESIVES IN THE APPLICATION OF PITS AND FISSURE SEALANT

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ABSTRACT

The aim of the present study was to measure and compare the bond strength of a pit and fissure sealant to tooth enamel using two new self etching adhesives both in vivo and in vitro. The 1st part of the study was clinical where 75 1 st permanent molars were randomly sealed in children using different techniques. Twenty five molars were controls where the sealant was applied conventionally using phosphoric acid etching. In the other 50 molars (test groups) self etching adhesives (Prompt LP and AdheSE) were used as the sole etching and bonding agents (25 molars each). Patients were followed up for 6 months to examine sealant retention. The 2nd part of the study was laboratory, where 30 freshly extracted human molars received sealant as in the three mentioned approaches. Ten molars received sealant conventionally (control) and the other 20 molars received sealant using the self etching adhesives (10 molars each). The specimens were prepared in a manner suitable to be mounted on a universal testing machine where the shear bond strength of the sealant to tooth enamel was recorded in kg/cm^2 . **Results:** None of the sealants in the control group were lost after 6 months, while in the test groups 3(12%) and 4(16%) of sealants were totally lost from Prompt LP and AdheSE groups respectively. There were no statistically significant difference between the 3 groups (Chi square = 5.887). The shear bond strength of the control group was higher than the test groups but again using one way analysis of variance the difference was not statistically significant ($P=0.246$). It was concluded from the present study that the use of Prompt LP or AdheSE bonding agents beneath sealant without applying a separate etching step gave acceptable results comparable to the conventional approach.