

postojećih dentin adheziva, oni se upotrebljavaju u kombinaciji sa zaljevačima fisura da bi se poboljšala kvaliteta veze između zaljevača i cakline.

Svrha ove eksperimentalne studije bila je ispitati postoji li mogućnost poboljšanja penetracije zaljevača u fisure humanih molara, u kombinaciji s dentin adhezivima.

Istraživanje je provedeno na 20 izvađenih intaktnih ljudskih molara i premolara. Čišćenje je učinjeno zračnim polirajućim uređajem 60 sekundi. Eksperimentalna grupa od 10 uzoraka tretirana je s dentin adhezivom Prime&Bond NT i zaljevačem fisura Dyrect Seal. Kontrolna skupina (10 zuba također) tretirana je samo sa zaljevačem fisura Dyrect seal. Tretirani uzorci rezani su na reznjeve debljine 700 mikrometara (ukupno 53 komada), usporedno sa zubnom osovinom. Vrijednovanje je provedeno s konfokalnim laserskim mikroskopom.

Rezultati eksperimentalne skupine pokazuju da je 12 dubokih fisura potpuno punjeno, 9 nije bilo punjeno potpuno, 9 je bilo punjeno s postojanjem mjehurića zraka, a jedna široka fisura bila je punjena potpuno. Rezultati kontrolne skupine pokazuju da je 6 dubokih fisura potpuno punjeno, 19 nije punjeno, 5 je punjeno s postojanjem mjehurića zraka i 6 širokih fisura je punjeno potpuno. Uporabljjen je Hi-kvadrat test za statističku raščlambu sa stupnjem korekcije  $p = 0,0465$ . To znači da postoji znatna razlika između kontrolne i eksperimentalne skupine.

Uporaba dentin adheziva u metodi zalijeivanja fisura ima određene prednosti u usporedbi s standardnom metodom zalijeivanja fisura.

## Confocal Laser Scanning Microscopy Investigation of the Penetration of Adhesives and Sealant Resins Into Fissures

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The process of fissure sealing should ideally avoid the delivery of any microorganism substrate into the depths

of plaque-retentive pits and fissures. Up to now, available sealing materials have been found to not always completely penetrate to the bottom of deep and medium deep fissures of type I (slit-like) or type IK (ampoule-like). Due to the low viscosity and excellent wetting properties of current dentin adhesive systems, they were used in combination with sealant materials in order to improve the filling of fissures.

The purpose of this experimental study was to evaluate whether penetration by filled sealing materials into fissures of human molars could be improved by combining them with enamel-dentin adhesives.

The investigation was carried out on 20 extracted clinically caries-free, human premolars and molars. Cleaning was carried out with an air polishing device for 60 seconds. In the test groups, each containing ten teeth, a two material combination of an enamel-dentin adhesive (Prime&Bond NT) and a filled sealing resin was used to seal the fissures (Dyrect SEal). In the control groups (ten teeth) only the filled sealing material without an initial adhesive was applied. The scaled teeth were sectioned into slices of 700 micrometers in thickness (total of 53 slices), parallel to the tooth axis. Evaluation under CLSM was carried out.

In the experimental group, 12 deep fissures were completely filled, 9 were not filled, 9 were filled with bubbles of air, 1 wide fissure was filled. In the control group, 6 deep fissures were filled, 19 were not filled, 5 were filled with the bubbles of air and 6 wide fissures were filled. We used Chi-square test as a statistic method and later Yates correction  $p = 0.0465$ . Differences between the control and experimental group are significant.

Use of enamel-dentin-adhesive system in fissure sealing have some advantages.

## Utjecaj nove generacije samojetkajućih adheziva na kakvoću kompozitnih ispuna

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Samojetkajuć dentin adhezivi uvedeni su u praksu kako bi se uklonilo nanocurenje, izbjegla uporaba vlaže teh-