

proučavali na Skening Elektronskom Mikroskopu (S.E.M.) Zavoda za kontrolu kvalitete Pliva u Zagrebu.

Rezultati S.E.M. raščlambe pri velikom stupnju povećanja, u sve tri proučavane skupine zuba, pokazuju usku povezanost primijenjenih materijala s caklinom i dentinom. Mikroskopiranje spojišta dentina i materijala korištenih za ispun u Grupi A i B pokazalo je da upotreba green ora ne ometa adhezijsku sposobnost adhezivno-kompozitnih materijala za dentinsku plohu niti utječe na brtvljenje cakline i dentina. Sloj desenzibilizatora nerazlučivo je povezan sa slojem adheziva i kompozita što omogućuje čvrsto prijanjanje na dentinske zidove kaviteta. Rezultati dobiveni u skupini C, u kojoj je upotrijebljen srebrni amalgam kao materijal za punjenje, pokazuju da Green Or također nije utjecao na adheziju slitine za stjenke cakline i dentina.

Prema mnogim autorima upotreba Green Ora kao podloge kod kompozitnih ili amalgamskih ispuna nije smanjivala adhezijsku sposobnost spomenutih restorativnih materijala. Rezultati dobiveni u istraživanju pokazuju da Green Or stvara sloj koji jednolično prekriva i zatvara dentinske tubuluse i omogućuje dobru izolaciju dubokih dijelova dentina od restorativnih materijala. Time se postiže zadovoljavajuće brtvljenje dentinskih tubulusa i smanjuje dentinska preosjetljivost na intraoralne nociceptivne stimulanse, gotovo u njezinoj akutnoj fazi. Promatranje različitih dijelova dentina na skening elektronskom mikroskopu (S.E.M.) pokazuje da desenzibilizator dentina uspostavlja zadovoljavajuću i snažnu povezanost s različitim adhezivnim materijalima ili sa srebrnim amalgamom uporabljenima u istraživanju.

S.E.M. Analysis of the Interaction Between Green Or and the Dentine

Azinović I, Turner I, Krznarić M, Aunedi I.

Private Dental Practice, Strojaraska 4, Zagreb, Croatia

Private Dental Practice, Zagreb, Croatia

E-mail: ivan.azinovic@zg.hinet.hr

The aim of this study was to evaluate the interaction between Green Or, a dentinal desensitizer, and restorative materials used in adhesive preparation, and its possible influence on the adhesiveness of those materials to the

enamel and dentine. Green Or is used to reduce pain sensation in hypersensitive teeth by mechanical occlusion of the dentine tubules or the inhibition of neuronal repolarization. Mechanical occlusion is made by blocking the dentine tubules with a compact crystalline precipitate that covers the exposed dentine surface, while the neural depolarization is produced by released potassium ions.

The investigation included 6 human third molars extracted for orthodontic or periodontal reasons. The teeth were divided into three groups of 2 teeth each according to the type of material used for filling: fluid and microhybrid composites, and silver amalgam. In every group we applied the desensitizer green or onto the walls of the dental cavities and with S.E.M. observation at high degree of magnification investigated how it affects the conjunction of dentine and restorative materials. All specimens were observed with the Scansion Electron Microscope (S.E.M.) at the "Department of Quality Control" pliva in Zagreb.

The results of S.E.M. observation at very high magnification in all three investigated groups show the close connection of the applied materials to the enamel and dentine. Microscoping the conjunction between the dentine and materials we used for filling in Groups A and B, showed that the use of Green Or does not alter the adhesiveness of the restorative adhesive-composite materials to the dental wall, nor does it modify their sealing action on enamel and dentine. The desensitizer layer is indistinguishable with the adhesive-composite layers which enables strong adherence to the dentinal walls of cavities. The results obtained in group C specimens, in which silver amalgam was used as a filling material, show that Green Or did not interfere with the adhesion process of the alloy and the enamel and dentine.

As found by many authors, the desensitizer Green Or, when used as a liner in the tooth filled with resins or alloys, did not decrease the adhesion of the restorative materials. The results obtained in the study show that Green Or is able to form a uniform layer that covers and occludes dentine tubules and enables good isolation of deep dentine from the restorative materials. This should constitute an efficacious sealing of dentinal tubules and provoke a decrease in dentinal sensitivity to intraoral nociceptive stimuli, almost in the acute phase. Observation of different dental sections with a Scanning Electron Microscope (S.E.M.) shows that desensitizer established an efficient and powerful interconnection with the different adhesive materials or silver amalgam utilized in the study.