SOLUBILITY OF CHITOSAN MODIFIED GLASS IONOMER CEMENT AS RESULT OF CONTACT WITH NON ALCOHOLIC MOUTHWASH

ABSTRACT

Background: *Glass ionomer cement (GIC) is one of the restorative material which used in dentistry. GIC is brittle, porous, high surface tension among particles, adhesion betwen the components is weak, dissolve in water or saliva, so that the mechanical properties of glass ionomer cements are relatively less well. Herbal or non-alcoholic mouthwash is often used by public to protect oral mucous. Mouthwash has low pH (acid). Acid affect solubility of glass ionomer cement that caused by hydrogen. One way to improve the mechanical properties of the glass ionomer cement is with the addition of chitosan on glass ionomer cement. The addition chitosan to liquid of glass ionomer cement can make hydrogen bond between amina group (acetamida) and hidroksil group from chitosan with carboxilate group and hidroksil group from poliacrilate acids (glass ionomer cement).* ***Purpose:*** *To know solubility of chitosan modified glass ionomer cement as result of contact with non alcoholic mouthwash.* ***Method****: Twenty eight sample of GIC were divided into treatment group(0,26% chitosan additon) and control group (without chitosan addition). Samples were immersed for 7 day by non alcoholic mouthwash and saliva. All solutions were changed each 24 hours before the new immersion period. The data was analized by using Kruskall-Wallis and Tukey's HSD.* ***Result:*** *There were a significant differences (p<0,05) in the solubiliy of GIC's sampel without and with the addition of chitosan 0,26% when immersed in the mouthwash and saliva.* ***Conclusion:*** *The addition of 0,26% chitosan can decrease solubility of GIC when contanct with non alcoholic mouthwash.*

Key words*: Glass ionomer cement, chitosan, non alcoholic mouthwash, solubility.*