

Evaluation of Re-mineralization Ability of Nanohydroxyapatite and Coral Calcium with Different Concentrations on Initial Enamel Carious Lesions

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Abstract : Coral calcium is a boasting natural product and dietary supplement which is considered a source of alkaline calcium carbonate, this study is a comparative study, comparing the remineralization effect of the new product of coral calcium with that of nano-hydroxyapatite. Methodology: a total of 35 extracted molars were collected, examined and sectioned to obtain 70 sound enamel discs, all discs were numbered and examined by scanning electron microscope coupled with Energy Dispersive Analysis of X-rays(EDAX) for mineral content, subjected to artificial caries, and mineral content was re-measured, discs were divided into seven groups according to the remineralizing agent used, where groups 1 to 3 used 10%, 20%, 30% nanohydroxyapatite gel respectively, groups 4 to 6 used 10%, 20%, 30% coral calcium gel and group 7 with no remineralizing agent (control group). All groups were re-examined by EDAX after remineralization; data were calculated and tabulated. Results: All groups showed a statistically significant drop in calcium level after artificial caries; all groups showed a statistically significant rise in calcium content after remineralization except for the control group; groups 1 and 5 showed the highest increase in calcium level after remineralization. Conclusion: coral calcium can be considered a comparative product to nano-hydroxyapatite regarding the remineralization of enamel initial carious lesions.

Keywords : artificial caries, coral calcium, nanohydroxyapatite, re-mineralization

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