In Vitro Study for Effect of Different Desensitizing Agents on Dentin Remineralization

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Abstract:

Aim: The purpose of this in vitro study was to evaluate the effect of: Casein phosphopeptide-amorphous calcium phosphate (CCP-ACP) paste, Desensitizing agent containing fluoride (ACPF), Fluoridated calcium phosphate (FT). On dentinal tubule occlusion and remineralization. Materials and Methods:: 42 sound anterior permanent bovine teeth were extracted from sacrificed bovine jaw, collected and cleaned from any residual tissues, were included in the study. The samples were divided to 3 group(n=14), demineralization process was performed for all samples using citric acid 1%(PH=3.8), then remineralization process was achieved group 1:treated with (CCP-ACP), group 2 treated with ACPF, group 3:treated with (FT), for one week and other tow weeks ,Each group was evaluated by ESEM and EDX for four time according the treatment stages before any treatment, after demineralization, after one week and tow week of remineralization. Results: all the remineralizing agents used in this study was effective in remineralization process, Statistically, these results revealed no significant difference between the effect of 3 type of remineralizing agents. Conclusion: A. All the materials that used in this study were effective in dentin tubules occlusion. The time factor had a positive effect on the remineralization process. The tested materials was really similar, so the use of the most available and cheaper material in the market is effective