

Evaluation of Mucosamin Compound Concentration Effect on Optical Density and Proliferation of Human Fibroblast Cells

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Abstract:

Background and Aim: Management of soft tissue scars is one of main concerns during dental practice. Base several studies are pointed to effect of topical compound on wound healing the main objective of this study were on to study the effect of Mucosamin compound on Growth and Proliferation of Human Fibroblast Cells in an in-vitro environment.

Material and Methods: In this experimental invitro study, human fibroblast cells were treated with 0.1% to 1% of Mucosamin compound for 48, 72 and 96 hours in three replication. Also on different 96 wells plated the effect of 1% to 15% of Mucosamin compound on human fibroblast cells in three replication were treated. Finally the optical concentration of fibroblast cell were recorded on 580nm using UV Spectrophotometer. Result were subjected to one way and two way Variance analysis using SPSS software.

Results: Results showed of Mucosamin compound with essential substance of hyaluronic acid and amino acids at lower concentration than 1% have no significant effect on wound healing and growth of fibroblast cells. Also results showed prolonging the treatment up to 96 hours lead to increase in cells growth or optical density of fibroblast cells.

Conclusion: Results showed Mucosamin compound with higher concentration than 1% has toxic effect on fibroblast cells. Further study to confirmed effect of this compound on wound healing and growth of fibroblast cells using histological and clinical examination is required.

Keywords: Mucosamin Compound, Fibroblast cells, Wound Healing , Tissue engineering, Biomaterial, MTT