

SOFT TISSUE FILLERS IN WOUND HEALING: IN VITRO EXPERIMENTS

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In everyday clinical practice wounds occupy an important place. A correct and efficient approach to wound healing is important. Various non-healing defects may be successfully treated using a novel technique of tissue augmentation. Successful angiogenesis forms the basis of a tissue filler survival in the wound bed and this in turn determines the outcome of the healing process. The aim of the study was to investigate the potential of soft tissue fillers for wound healing of tissue defects using an experimental in vitro model of soft tissue filler. The invasion of endothelial cells (HUVEC) into soft tissue fillers from agarose and collagen was studied. Standard and low molecular weight heparin

(concentrations of 50 IU/ml, 300 IU/ml and 2500 IU/ml) were used as chemotactic agents. The observation intervals were 6, 12, 24, 36, 48, 60 and 72 hours, when the experiment was completed. The observed parameters included the orientation, shape and position of cells, the extent and distance of invasion into soft tissue filler. It was found that agarose and collagen soft tissue fillers are useful for further invasion studies. These observations confirm the potential for tissue augmentation with soft tissue fillers and may be transposed to the clinical trials with the aim of soft tissue defects reconstruction.

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