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[Int J Low Extrem Wounds](#). 2020 Jun;19(2):158-164. doi: 10.1177/1534734619892791.

Epub 2019 Dec 26.

Efficacy of Recombinant Human Epidermal Growth Factor (Regen-D 150) in Healing Diabetic Foot Ulcers: A Hospital-Based Randomized Controlled Trial

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PMID: 31878810 DOI: [10.1177/1534734619892791](#)

Abstract

To validate the efficacy of recombinant human epidermal growth factor (hEGH) in healing diabetic foot ulcers (DFUs) at biochemical and molecular levels. A total of 50 noninfected DFU subjects were recruited for the study and divided into 2 groups based on the treatment application on the subjects. Group 1: DFU subjects treated with hEGH gel-based product called Regen-D 150 (n = 27) and group 2: DFU subjects treated with alternative placebo as the control group (n = 23). Patients were observed for 30 days and punch biopsy was taken at days 0 and 14. Histologic analysis was done to study the matrix alignment, cellular infiltration, and differentiation of epithelial layers. Biochemical analysis was done to quantitatively estimate the amount of collagen and proteoglycans regenerated in the wound area. Complete healing of ulcers was observed in 21 (78%) subjects in group 1, whereas only 12 (52%) subjects among group 2 reported of complete healing of ulcer after completion of the study period of 30 days. Collagen and fibroblasts were significantly developed in group 1 when observed in the follow-up samples. Healing time of the wound among the group 1 subjects was significantly less than the group 2 subjects (45 ± 12 vs 72 ± 18 days, $P < .0001$) and even showed a better blood glucose level. Early and regular application of the hEGH on DFUs will lead to prevention of leg amputations and would serve to act as a major treatment therapy for healing of chronic wounds.

Keywords: diabetic foot ulcers; human epidermal growth factor; placebo; south India.

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