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CELL TRANSFORMATION OF WOUNDS IN DIABETIC FOOT PATIENTS UNDER VACUUM THERAPY

ABSTRACT. Background. The presence of micro- and macrovascular complications of bacterial contamination of the formation of biofilms, reduce the number of growth factors, chronic wound healing, enzymatic imbalance in the wound significantly impede treatment of patients with purulent necrotic complications of diabetic foot syndrome. **Objective.** The aim of our study is to evaluate the morphological changes at the cellular level in wounds in patients with diabetic foot syndrome on the background of vacuum therapy compared to traditional treatment. **Methods.** Morphological analysis of treatment of 12 patients with purulent complications of diabetic foot syndrome with foot lesions stages II-III by Wagner classification was carried out. **Results.** The study is based on the results of treatment of patients with purulent-necrotic complications of diabetic foot syndrome in terms of the morphological changes at the cellular level in biopsies of wounds. On the background of vacuum therapy in patients with wounds have investigated the maximum value of the average number of capillaries in the view field was $6,80 \pm 0,34$. Positive changes in microhemodynamics wounds on the background vacuum explained qualitative characteristics of the capillaries. The maximum mean diameter of fibroblast nuclei in the field of patients who underwent vacuum wound therapy defects was $82,89 \pm 4,51$, in patients with conventional wound conducting the figure was $60,18 \pm 3,17$. The trend of improving morphological parameters investigated at the cellular level, explains the effectiveness of the reparation of the vacuum therapy of wounds. **Conclusion.** Vacuum therapy optimizes microhemodynamics in wounds permeability of the walls of blood vessels newly formed granulation tissue, prevents the formation of protein deposits in the vessel walls and in the intercellular matrix of granulation tissue. This facilitates intercellular communication and promotes normal path of regenerative processes.

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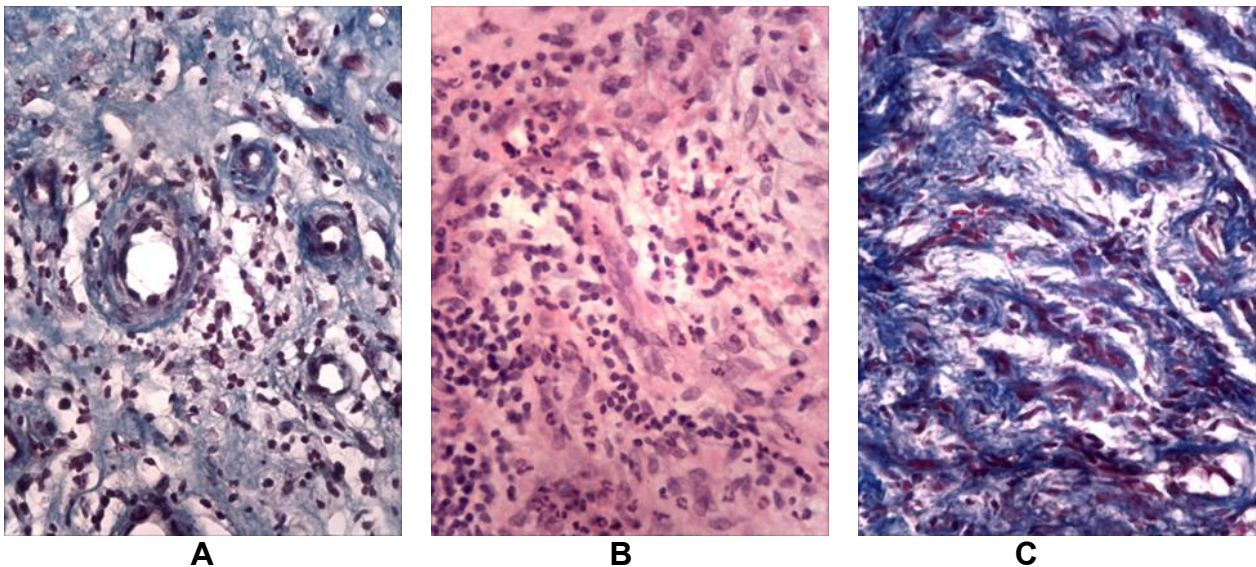


Fig. 1. Morphological features of wound biopsy in patients after conducted treatment. A. Granulation tissue after standart treatment. Sleeve-like thickening of capillary walls, condensation of intercellular substance with tendency to hyalinosis. Mallory-Slinchenko staining. B. Granulation tissue after VAC-therapy. Obliteration of capillaries, cords of endothelium-like cells. × 400. Hematoxylin&Eosin staining. C - Granulation tissue after VAC-therapy. Bundles of collagen fibers “scattered” around the obliterated capillaries. Mallory-Slinchenko staining. ×400.

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