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D-Asparagine Improves of Lipofilling Efficacy In Treatment of Experimental Dermal Scars

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Design of experiment: group 1 (n=20, control) — rats with a dermal scar model, lipofilling was performed on the 42nd day; group 2 (n=20, comparison) —rats with a dermal scar model, 2 injections of 0.9% sodium chloride solution were performed on the 5th and 12th day of the experiment, lipofilling was performed on the 42nd day; group 3 (n=20, experimental) —rats with a dermal scar model, 2 injections of 0.5% aqueous solution of D-asparagine were performed on the 5th and 12th day of the experiment, lipofilling was performed on the 42nd day. When analyzing the results of morphometry of the dermal scar zone on the 105th day, it was revealed that the thickness of the epidermis in group 1 (lipofilling) is 7.8±2.1 μm. In group 2 (0.9% solution NaCE+ lipofilling), the epidermis thickness is 9.6±3.2 μm, which is 28.57% more than in group 1 (p=0.042). In group 3 (D-asparagine + lipofilling) the epidermis thickness is 5.4±1.6 μm, which is 44.4% less than in group 2 (p=0.000017) and 28.57% less than in group 1 (p=0.0032). It was revealed that the thickness of the dermis in group 1 is 143.9±34 μm. In group 2, the thickness of the dermis is 152.4±29.6 μm, which is 6.3% more than in group 1 (p=0.4). In group 3 the dermis thickness is 117.1±17.1 μm, which is 23% less than in group 2 (p=0.000067) and 5.9% less than in group 1 (p=0.0038). The study shows that using of D-asparagine is a promising way to increase the effectiveness of lipofilling for curing of dermal scars.

Biography

Artem Trofimenko has completed his PhD from Kuban State Medical University (Russia). He is the Main Researcher of the department of Common and Clinical Pathophysiology the same organization. He has published more than 10 papers in reputed journals