MORPHOLOGICAL CHANGES INSKIN LESIONS IN RATS SUBJECTED TO PROPHYLACTIC REDERMALIZATION.

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Topicality.The problem of scarring in general, in particular, scarring of the skin of the face, which is one of the topical issues of practical health care, is at the junction of several medical disciplines, in particular, dermatology, cosmetology, combustiology, reconstructive surgery, rehabilitation medicine and psychology. Scars of the skin occur due to damage of various genesis, for example, after burns, wounds, surgical interventions, after exposure to various traumatic factors, and as a result of chronic diseases of the skin and subcutaneous tissue. However, in most of these reports, we are talking, first of all, about the completed process, that is, about the therapeutic correction of the formed scars of the face. It is implied that the search for preventive measures aimed at preventing pathological, aesthetically unacceptable deforming scars of the face is preferable. In this regard, in recent years, unique reports of Russian scientists have appeared.

The purpose and objectives of the study. As stated by most specialists involved in the treatment of pathological scars of the skin of the face, the methods of mesotherapy of involutional-dystrophic skin changes using drugs of natural origin are today one of the most demanded. In this direction, unique information about the original combined drug has appeared. Hyalual [4,6,8]. Hyalual contains high-molecular hyaluronic acid in a concentration of 1.1-1.8 - 2.2% and sodium succinate 1.6%. Treatment of the skin by intradermal injections of this drug is called redermalization. Sodium succinate is a natural corrector of energy metabolism, which contributes to the activation of anabolic processes in the skin, including the synthesis of structural skin proteins [collagen and elastin] and ATP, and also normalizes microcirculation . Cytobiochemical studies of Kupriyanova A.V. and Kirova Yu.I. proved the presence of a receptor for sodium sodium succinate [SUCNRI] on the surface of almost all dermal components, its beneficial effect on the functional activity of skin cells, proliferation, migration, secretion of growth factors, cytokines,

chemokines, i.e. Hyalual's involvement in regeneration mechanisms, renewalSkin repair and repair. Based on the above effects of Hyalual, we decided to study the reparative changes in the skin wound during repeated injections of this drug. The task of the study was to comparatively describe the structural changes in the skin in control and experimental rats with generally available morphological methods investigations.

Material and methods of research. To bring the experiments as close as possible to the topical location in the body, we decided to inject Hyalual intradermally into the area of the sutured wound of the back of rats. The experiments were conducted in 24 rats with strict adherence to bioethical measures. All rats under premedication with atropine subcutaneously 0.1 ml, relanium intraperitoneally 0.2 ml and ketalar anesthesia intraperitoneally 0.6 - 0.8 ml, made an incision was made on the pre-depilated area of the skin of the back, which was sewn with slit sutures. Experimental 15 rats within 45 days after the skin wound, three times with an interval of 15 days, hyalual, 1 ml, was injected into the area of the sutured wound inside the skin. 15 days after the third administration of Hyalual and saline, that is, on the 60th day of experiments, all 24 rats strictly observing the principles of bioethics to laboratory animals, by incisional biopsy, took pieces of skin and subcutaneous tissue from the same areas where the drug was injected.

Results of the study

Microscopic changes in the layers of the skin and subcutaneous tissue in all 15 experimental rats did not differ in severity and in the prevalence of reparative-restorative processes. First of all, no biopsy material showed signs of inflammation on 3 times the hyalual administered. The layering of the epidermis of the skin was not impaired in any experimental animal that received injections of this drug. The appearance of proliferating fibroblasts in the layers of the dermis was observed, but a pronounced tendency to sclerosis was not noted in any of them. This was confirmed by the absence of picrinophilia in sections stained with picrofuchsin.

Findings:Thus, summarizing the results of the study of the effect of Hyalual on the damaged skin of experimental rats recommended for the purpose of preventive redermalization, it can be noted that it does not inhibit the inflammatory reaction in itself, but on the contrary accelerates the launch of a reparative reaction of the local tissue. This is primarily due to the presence of hyaluronic acid in the composition of Hyalual, as a marker of a natural ingredient in the composition of the skin. Under the influence of Hyalual, tissue

hypoxia is significantly reduced, which is primarily associated with the acceleration of the processes of neoangiogenesis, which favorably affects the redox processes in the skin. And this undoubtedly improves tissue homeostasis in the histion zone. The use of Hyalual in the area of the sutured skin wound in the post-traumatic period has a beneficial effect on redermalization and contributes to the aesthetic healing of traumatic skin damage.

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