



MORPHOLOGICAL CHANGES IN THE SKIN WITH THE USE OF PACLITAXEL IN THE EXPERIMENT

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Abstract. Often, during cancer chemotherapy, the main source determining the prognosis of the patient's condition is the presence of skin damage. The spectrum of skin pathologies during chemotherapy associated with tumors is very wide. That is why we devoted our study to tumor diseases. The increase in the number of oncological diseases in recent decades requires the development of new drugs and methods of influencing tumor cells, and in some cases, tightening of chemotherapy regimens. Along with successes in the treatment of tumor diseases, toxicity of treatment is a huge problem.

Key words: cancer, carcinogen, DMBA, chemotherapy, sarcomas, application.

Relevance. Chemotherapeutic drugs affect tumor cells in different ways. They slow down growth, stop the division process and disrupt vital organ functions. Chemotherapeutic drugs have a negative effect not only on tumor cells, but also on healthy cells. Therefore, treatment is often accompanied by serious side effects. The use of modern regimens, careful selection of chemotherapy drugs, constant monitoring by a doctor and compliance with all his recommendations will help the patient to tolerate the course of chemotherapy more easily [4, 6, 5].

The main goal of chemotherapy is to destroy cancer cells with minimal harmful effects on the patient's body. Other goals of chemotherapeutic treatment are to suppress tumor growth, reduce its size for subsequent removal, alleviate the suffering of patients and prevent relapse [1, 7]. The spectrum of skin lesions in tumor diseases is very wide and can occur as a result of both direct tumor infiltration and the effects of tumor cell metabolites on skin tissue, as well as the toxic effects of chemicals. In addition, the risks of infections and tumor lysis syndrome against the background of immunosuppression should be taken into account [2, 9].

Chemotherapy is a method of treating cancer using special drugs for tumor diseases. Chemotherapy does not always lead to a complete cure, but it can slow the

growth of tumor tissue and significantly prolong the patient's life, as well as improve his condition [8, 3].

Purpose of the study. To study the features of structural changes in the skin of rats under the toxic effects of chemotherapy for breast cancer.

Results of the study. Histological studies of the skin of experimental rats were carried out. A number of characteristic changes in all structures of the epidermis and dermis of the skin were revealed.

In rats with chemotherapy for breast cancer, a statistically significant decrease in skin thickness was observed according to morphometric parameters compared to the skin of control animals. Thinning of the epidermis was accompanied by a decrease in the thickness of all its layers. The revealed changes indicate atrophic changes in the epidermis.

We observed cellular heteromorphism in the epidermal layer of the skin, that in the epidermal layer there are cells that are atypical for the epidermal layer of the skin. Here we found several rows of keratinocytes that are atypical for the stratum corneum and granular layer. In the experiment, they resembled basal cells in color and the appearance of nuclei in the cytoplasm. We know that basal cells are usually found only in the basal layer of the epidermis, but during chemotherapy for breast cancer, we can also see basal cells in the granular layer. Morphological changes were observed in the hair follicles and sebaceous glands in the dermis of rat skin. When comparing these parameters with those of the control group of experimental animals, different sizes of hair follicles in rats after chemotherapy for breast cancer were noted.

Unlike the skin of the control group of rats, signs of tissue edema were observed. Swelling of collagen fibers in the dermis and expansion of interfascicular spaces were revealed. In some areas, cellular infiltrates and tissue damage reflect some degree of inflammation. Diffuse cellular infiltration and activated macrophages are detected between the collagen fibers of the dermis and hypodermis.

In the following days of the experiment, when evaluating the histological structure of the skin of rats in the experimental group, signs of edema and signs of regeneration were not observed.

Activated macrophages perform protective, trophic and reparative functions. Macrophages produce cytokines (interleukins, chemokines, etc.) and further increase tissue damage. It also affects growth factors. Providing chemotaxis processes regulates intercellular interactions during inflammation.

Conclusion. Chemotherapy in the experimental group was accompanied by a negative effect on organometric and histomorphometric indices of rat skin. When comparing the indices of the 2nd group of the experiment, the skin layers thickened due to edema. The following day, primary and secondary damage to the skin led to atrophic changes in the skin and a decrease in the size of its layers.

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