

EXPERIMENTAL JUSTIFICATION AND APPLICATION OF PHOTOMAGNETOTHERAPY IN TREATMENT OF DERMATITIS

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Recently, physiotherapy acquired great social significance and became an important part of specialized medical care. Rational use of physical factors improves the efficiency of treatment, reduces its time and decreases the dose of drugs consumed, as well as the number of side effects [1, 2].

The aim of the work was a comparative study of the efficacy of low-frequency pulsed magnetic field and monochromatic light of various ranges in experimental dermatitis. The assessment of the parameters of surface microcirculation as well as complex morphological (histological and histochemical) study of rat skin were made.

Comparative studies have shown that photomagnetotherapy with green (wavelength of 510-550 nm) and blue (460-480 nm) monochromatic light in combination with low frequency pulsed magnetic field (induction $25 \text{ mT} \pm 5$) has a pronounced therapeutic effect on the morphofunctional state of the skin and microhemodynamics in experimental dermatitis. Photomagnetotherapy provided a favorable effect on metabolic processes in keratinocytes of the epidermis basal layer, which was confirmed by histochemical studies of redox enzymes. Aerobic energy production in the Krebs cycle was increased, indicating an increase in the functional activity of cells. Decrease in the activity of lactate dehydrogenase, a key enzyme of glycolysis, demonstrates a pronounced anti-inflammatory effect. Reduction of leukocyte infiltration in the papillary and reticular dermis in the histological preparations was also observed.

The studies were used as the basis for the development of a technique of combined use of low-frequency pulsed magnetic field and visible light (blue and green range) in the complex therapy of patients with dermatitis and its introduction into clinical practice.

References

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2. Ulaschik V.S. Republican scientific and practical conference: "Modern methods in physiotherapy". Minsk. 2008. P. 21-30.