

MORPHOLOGICAL BASIS OF OPTIMAL PARAMETERS IN HELIUM-NEON RADIATION FOR RECOVERING OF EPITHELIUM DAMAGE IN THE EXPERIMENT

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Introduction: Search of adequate experimental models for evaluation of recovering of organism's damaged structures requires collection and accumulation of a lot of materials. In this work we have substantiated the optimal parameters of laser radiation over the model of erosion process of uterus neck in the experiment.

Materials and Methods: The investigation has been done with puberal rabbits-females "chinchilla" breed (106 animals). The investigations have been done with the keeping of work rules with experimental animals. We have used histology methods of investigation and subsequent morphometry analysis.

Results: The best results have been obtained in a group, where constant regime of laser with 20 mvt. and with exposure during 3-5 minutes has been used. At this time we have defined microscopically the activation of "reserved" cells, reducing of folds and smoothing of epithelium layer. Data of electronograms have testified about the reducing of cells' heterogeneity. Contacts between them have been realized with the help of invaginal ties. Cells with enlarged glycocalicks and considerable quantities of mitochondria, located in groups, have been discovered during the investigation of connective tissue. There have been endotheliocytes with concentrated fine-dispersive cytoplasm and small oval nucleus and also light diluted cytoplasm endotheliocytes with large nucleus in the structure of capillary.

Conclusions: In the whole, the use of radiation of helium – neon laser in given parameters, judging to the state of cells' elements, promotes the activation of intracellular biosynthetic processes and leads to more intensive recovering of epithelium structure through stimulation of reparative regeneration of destroyed cells and tissues components. Thus, the parameters of radiation of helium – neon laser for the best recovering of uterus neck epithelium damages caused with experimental model have been defined and morphologically substantiated.