



CHARACTERISTICS OF MORPHOLOGICAL CHANGES IN THE ADRENAL GLANDS IN THE EARLY PERIOD OF MODERATE SEVERE SCIENCE BRAIN INJURY

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Abstract: *This thesis presents the results of the analysis of morphological changes in the adrenal glands in the early period of moderate spinal cord injury.*

Key words: *spinal cord injury, cortex and medulla of adrenal glands, tumor, dystrophy.*

Severity: Spine and spinal cord injuries cause disability rates to vary from 57.5% to 96% and even 100% among victims. Rheological and CSF changes resulting from spinal cord injury, its vessels, and roots lead to partial or complete disruption of the functioning of the conduction pathways. These disorders affect not only the central nervous system, but also negatively affect the functioning of all internal organs and systems (stomach, small intestine, large intestine, liver, kidneys, adrenal glands, etc.) [1,2,3].

Data on morphofunctional changes in the adrenal glands after spinal cord and spinal cord injuries have been studied very little, and complications in the adrenal glands after spinal cord injuries and measures aimed at treating these complications have shown that not only a medical, but also an economic and social problem is being solved, and finding a solution to it is an urgent task.

Taking into account the above, at present, morphofunctional changes in the adrenal glands as a result of spinal cord injury of various degrees, determining the degree of damage to these organs, remain insufficiently studied. All of the above determined the goals and objectives of the study.

Materials and methods of research: The experiments were conducted on 15 white outbred rats of both sexes born in vivarium conditions. 3-month-old rats were involved in the study. In the study, spinal cord injury in white outbred rats was inflicted using the "fall from a height" method based on a specially developed model. In the experiment, the group of animals was anesthetized under light isoflurane general anesthesia and placed vertically on a mathematical model for spinal cord injury, and soft pads were placed on both sides of the body of the white rat to prevent injury to internal organs. The round ball of this model was lifted and released at an angle of 30°, 45°, 60°, and a metal ball moving at a certain speed was hit at the lumbar level of the white rat's spinal cord, causing spinal cord injury.

Using organometric, histological, histomorphometric and microscopic methods, morphological structures of adrenal glands at various levels (organ, tissue and cell



level) were studied in white rats of different ages. Statistical (methodological) information was used to process the research results.

Results and Discussion: The following data were obtained at different stages of spinal cord injury in 3-month-old white rats: macroscopically, the adrenal glands of the 3-month-old white rats of the study group are a pair of organs, located above the kidneys in the lumbar region, as their name suggests. During macroscopic analysis of the adrenal glands, they were covered with a smooth and shiny capsule on the outside, and no visible pathological changes were observed in the inner cortex and medulla.

The results of histological examination showed that in the acute, acute and early stages of spinal cord injury, thickening of the adrenal capsule and bundles of collagen fibers in it, as well as hypertrophy of the cortex and medulla, were detected. At 1 hour, 8 hours and 24 hours after the injury of the spinal cord, microscopic examination of the adrenal glands of rats revealed swelling, dystrophy, and hemorrhage zones in the cortex of the adrenal glands. It can be seen that the intensity of changes increases in the early period.

Thus, histologically, the changes in the cortical and medulla tissues of the 3-month-old white rats of the experimental group with spinal cord injury were especially evident in the acute, acute, early periods.

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