



ABSTRACT BOOK



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MORPHOLOGICAL CHANGES IN CEREBELLAR VERMIS IN CEREBRAL CIRCULATION DISORDERS

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Introduction. In Ukraine, annually diagnosed more than 130 thousand cases of acute disorders of cerebral circulation, mortality rate which is 30%. The frequency of ischemic infarcts of the cerebellum is 5 - 7% of all cases of cerebral infarction. The frequency of hemorrhage in the cerebellum is 4 to 10% of all cases of cerebral hemorrhage and mortality in them ranges from 20 to 75%. The purpose of the study – to determine the morphological features of the cerebellum in acute cerebral circulatory disorders.

Materials and methods. In the study used cadaveric material. Morphological investigation was conducted on 24 human cerebellum. The dead were divided into 3 groups: died of ischemic stroke – 7 people; died of hemorrhagic stroke – 7 people; control group – 10 persons who died of causes unrelated to CNS disorders. In the study used the following methods: analysis of medical documentation (were studied medical history, autopsy reports); macroscopic method; histological method – hematoxylin-eosin staining, Nissl staining method; morphometry; statistical analysis.

Results of research. During morphological studies also were found the following changes of morphometric parameters: the difference of mean values of morphometric parameters of the cerebellar cortex with cerebrovascular accident (CVA) and in the control group; length ganglion layer and average distance between the centers of Purkinje cells are increased with CVA of both types; absolute number of Purkinje cells (CP) in folium, density of Purkinje cells (number of CP per 1 mm of ganglionic layer) and area of cross section of bodies of Purkinje cells are decreased with CVA of both types. Common changes in morphometric parameters: increasing of the size of cerebellar foliums as a result of cerebral edema; absolute and relative reduction of CP as a result of their death; reduce area of cross section of body of Purkinje cells in the cerebellar cortex as a result of degenerative changes of the CP. Differences of morphological changes in ischemic and hemorrhagic types of CVA: in ischemic type CVA pathological changes of Purkinje cells are more pronounced than in the hemorrhagic type; in ischemic type found expressed changes in all lobules. The most pronounced changes are observed in the phylogenetically younger parts of the cerebellum, the least damaged phylogenetically older parts; in hemorrhagic CVA type pathological changes more pronounced in the lobules of cerebellar vermis lying on its lower surface.

Conclusions. Detected morphological changes can be regarded as the basis of functional changes in the cerebellum, which are found with CVA extracerebellar localization (the phenomenon of cross-cerebellar diasthesis). These changes indicate a lesion of the brain areas remote from the primary lesion of CVA, which may influence the pathogenesis, disease course and thanatogenesis with CVA.