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STRUCTURAL ORGANIZATION OF THE CEREBELLAR NUCLEI

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At the present the research of neuroanatomy as a science and discipline have received the vast development. It accumulates extensive factual material-of the modern developments. The structural and functional organization of the cerebellum and its pathways has been the subject of research by many authors. However, the works of other authors which are devoted to the study of the structure of the cortex and the cerebellar nuclei contain contradictory and questionable states that must be solved. However, not all of them allow you to see an objective picture of the structure of the parts of the nervous system, as well as to estimate the information reliably.

The aim of research: to establish that the method of the study of nerve fibers in the neurovascular bundles of different tissues (Patent number 65245 from 25.11.2011g.) is possible in a study of the structural organization of the nuclei of the cerebellum.

Materials and methods. The histological preparations of the microscopic sections of the cerebellums, including parts of the cerebellar cortex, white matter and nuclei of the cerebellum were obtained from 34 corpses. In this work we used macro-microscopic, morphometric, histological methods (painting by hematoxylin-eosin, impregnation by Grosso-Bilshovsky, by Golgi-Deineka, by Krut'sy, by Gomori, by Weigert-Pal by Kulchitsky), method of research of nerve fibers in neurovascular bundles of different tissues (Patent number 65245 from 25.11.2011g.), methods of statistical analysis.

Using of this coloration method the borders of the cortex, cerebellar nuclei and white matter are very clearly defined. The bodies of large and small neurocytes are differentiated exactly. The nucleus of each nerve cell has pronounced contrast and a clear contour, surrounded by more lighter cytoplasm containing small nisslevskuy grains which are coloured brown. Small cells are

scattered in the interior of the cerebellar nuclei between the large cells. Dendrites and axons of these cells are coloured light brown, they are short and branch near the dendrites of large neurons. The axons of the cells are covered by myelin in grey matter of the dentate nucleus and give collaterals, branching near the glial cells. The myelin sheathes of nerve fibers are colored in dark-black color and are good visible, making possible to trace the route and direction of a single nerve fiber. Muscular tissue is coloured rich red-brown, which contributes to the high differentiation of the vascular bed. The coats of blood vessels are differentiated by color, red blood cells take dark brown sometimes black colour. Connective tissue is coloured from pink to bright red. The nerve fibres devoid of myelin are coloured brown in the interior of the cerebellar nuclei and on the walls of the capillary bed. A microscopic study of the sections of the dentate nucleus shows an rich network of capillaries and different correlations of the nerve cell and the capillaries.

Comparative analysis of different histological methods of the colouring of the cerebellar nuclei to study their structural organization showed the expediency of the using histological method "Method of study of nerve fibers in the neurovascular bundles of different tissue structures" (Patent number 65245 from 25.11.2011g.).

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COMPARATIVE CHARACTERISTIC OF MYELINIZATION INDICATORS OF PERIARTERIAL OVARIAN NERVES DURING THE LATE STAGES OF ONTOGENESIS

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Age-related dynamics of myelinized plexuses in nerves characterizes development of vegetative nerves in the whole and, in particular, ovarian nerves. Significant number of papers, concerning myeloarchitectonics investigation of