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Disorders of glial neocortex homeostasis under reproduction of acute cerebrovascular pathology in rats

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S tudy was conducted on 30 male rats who were subjected to acute hemorrhagic stroke (HS) simulation. In 10 days with these animals we modeled repeated intracerebral post-traumatic hematoma again. The quantitative and qualitative glial analysis of the sensomotor cortex areas of the ipsilateral and contralateral (control) brain hemispheres was carried out: Glial Formula (GF) (the quantitative (percentage) content of glial cells in relation to the total of gliocytes and neurons (GF=astrocytes (A)+oligodendrocytes (O)+microgliocytes (M)); Glial Index Quantitative (GIQ) (a ratio of the sum of one type of gliocytes to another: GIQ1=A/M, GIQ2=O/M, GIQ3=A/O. The glial analysis under primary acute HS in the ipsilateral hemisphere in comparison with the contralateral one: GF: The number of astrocytes was less (by 34.18%), of oligodendrocytes was bigger (by 27.11%) and of pyramidal neurons was less (by 52.13%). GIQ: Decrease of the GIQ1 (by 51.8%), decrease of the GIQ2 (by 18.3%), minor changes of the GIQ3 (by 5.08%). The glial analysis under repeated acute HS in the ipsilateral hemisphere in comparison with the contralateral one: GF: The number of astrocytes was less (by 45.75%) and pyramidal neurons were less (by 42.4%). GIQ: Decrease of the GIQ1 (by 79.71%), decrease of the GIQ2 (by 47.7%) anddecrease of the GIQ3 (by 5.08%).

Biography

Makarenko O M has got his PhD degree at the Moscow Medical Stomatological Institute and MD degree from the Institute of Higher Nervous Activity in Moscow. He carries out his Post-doctorate researches at the Institute of Higher Nervous Activity and T G Shevchenko National University of Kiev. He is a Professor of the Psychology Department and the author of more than 100 articles in reputed journals and 4 monographs.

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