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# THE MYELIN BASIC PROTEIN AND S100B LEVEL IN THE DIFFERENT BRAIN AREAS OF RATS AFFECTED BY PITUITRIN AND IZADRIN

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**Introduction.** The S100b is produced mainly by astrocytes in the brain and depends on the concentration provides trophic or toxic effect on the neurons and glial cells. Strong stress and ischemia induce redistribution of calcium-binding protein S100b and elevation of its level. Myelin basic protein (MBP) is the main protein component of myelin. The MBP level is in direct proportion to the extent of myelin degradation. Glia-specific proteins are used as markers of glia state, especially during brain damage. The aim of our study was to investigate the distribution of MBP and S100b in different brain parts in rats treated by pituitrin and izadrin.

**Methods.** The Wistar 6 month rats were divided into two groups ($n$ = 6): 1 – control rats maintained under standard condition; 2 – rats with the pituitrin-izadrin induced myocardial attack (PIIMA). The animals were decapitated under anesthesia (thiopental, 60 μg/kg) and different brain parts were isolated. The levels of S100b and MBP in obtained protein fractions were measured with competitive ELISA.

**Results.** Under the pituitrin-izadrin effect, there was a significant decrease in the S100b concentration in the cerebellum in comparison to control; 2.24±0.13 to 1.82±0.16 μg/100 mg tissue. No statistically significant decrease in the level of this protein was detected in the other parts of the brain. The reduction of myelin basic protein level in the cerebellum, thalamus and hippocampus of rats under the pituitrin-izadrin effect suggested nerve fibers demyelination and reduced functional activity of oligodendroglia. According to the obtained data, the concentration of MBP in the control group was in cerebellum – 4.52±0.36 μg/100 mg of tissue, thalamus – 3.08±0.43 μg/100 mg of tissue, and hippocampus – 3.13±0.31 μg/100 mg of tissue, while the following results were acquired from the pituitrin-izadrin treated animals: cerebellum – 3.03±0.39 μg/100 mg of tissue, thalamus – 1.50±0.07 μg/100 mg of tissue, and hippocampus – 2.25±0.15 μg/100 mg of tissue.

**Conclusions.** Obtained data allow suggesting that pituitrin-izadrin induced myocardial attack can provoke the complication of brain function by induction of demyelination and astrocyte dysfunction.

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