

## ABSTRACT

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Title of Thesis: The influencing of anticholinesterase activity of 7-methoxytacrine and galantamine by L-carnitine

The aim of this work was to test the ability of L-carnitine (KAR) to increase the permeation of indirect parasympatomimetic 7-methoxytacrine (MEOTA) and galantamine (GAL) through the blood-brain barrier. The monitoring of acetylcholinesterase activity (AChE) in the parts of the brain chosen served as marker of changes presumed. All experiments were performed in laboratory rats, drugs tested were given systematically.

The modified Ellman's method for the determination of the AChE activity was used. The principle of this method is based on hydrolysis of acetylthiocholine iodide.

The previous administration of KAR to MEOTA augmented the inhibition of AChE more in the frontal cortex, septum and basal ganglia and less in the hippocampus. Intraperitoneal administration of KAR was somewhat stronger in comparison with peroral one.

Activity of AChE was more reduced after administration of MEOTA than after administration of GAL. Contemporary administration of KAR with MEOTA reduced AChE activity in the selected parts of the brain more than administration of KAR with GAL.

The results obtained confirmed the hypothesis of augmentation of MEOTA AChE activity by means of previous KAR administration