

Nanochemistry and biotechnology

Preparation for treatment Alzheimer's Disease

N.N. Ivanova

*SE "Institute of Dermatology and Venereology of Academy of National Medical Sciences of Ukraine", Chernishevskaya St. 7/9, 61057 Kharkov, Ukraine,
E-mail: jet-74@mail.ru*

Alzheimer's Disease (AD) is the leading cause of dementia in the elderly. Up to 70% of dementia cases are due to AD with blood vessel disease (stroke, atherosclerosis).

The key event leading to AD appears to be the formation of a peptide known as beta amyloid which clusters into amyloid plaques on the blood vessels and on the outside surface of neurons of the brain -- which ultimately leads to the killing of neurons.

Many medical products do not reach a brain. But liposomes just as nanoparticles, can cross the hemato-encephalic barrier and "pulling through" their content through the blood-brain barrier.

Therefore, the target of the work was the development of liposomal preparation for treatment Alzheimer's Disease.

We used negatively charged loaded liposomes with original lipid's structure and specific medicine. The original liposome lipid composition was developed by Dr. Nina Ivanova. The researches of preparation for the treatment Alzheimer's Disease have been carried out in vivo on the animals. For check of biological activity of this preparation have been used models of the animals with induced Alzheimer's disease.

As much as possible positive therapeutic effect has been reached: 98 % of the animals were healthy after two injections of the preparation. The experimental group of mice with induced Alzheimer's disease did not have of the beta amyloid plaques after two-multiple introductions of the preparation. At control group of mice without treatment were the expressed of the accumulation the beta amyloid plaques in the wall of the brain artery, brain environments.

This preparation is nontoxic, prevents and treatments development of Alzheimer's Disease.

1. Heiser V; Scherzinger E; Boeddrich A; Nordhoff E; Lurz R; Schugardt N; Lehrach H; Wanker EE. Inhibition of huntingtin fibrillogenesis by specific antibodies and small molecules: implications for Huntington's disease therapy// Proc. Natl. Acad Sci U S A.-2000.- 97.-P. 6739-6744.