Abstract

Alzheimer’s disease (AD) is a neurodegenerative disorder of CNS and very serious type of dementia. AD affects many elderly people and the numbers are increasing with every year. There are two forms of AD: familial (FAD) and sporadic (SAD) form. FAD is an early-onset disease with a genetic cause. SAD is more common, late-onset disease with the age and ε allele of apolipoprotein E as major risk factors. The most crucial symptom is memory disorder, followed by confusion, disorientation, depression and later on, serious psychical and motor-skill problems. These symptoms are as result of neuronal loss, plaques and tangles in the central nervous system (CNS).

As for now, there are no efficient diagnostic or therapeutic approaches to stop the degeneration of brain. Inhibitors of acetylcholinesterase are currently the only approved treatments, that have proven to slow down the progress of AD. Other cholinergic drugs have been developed, but they have shown a lot of side effects, as they are targeting a large scale of receptors. The researchers are trying to find a modulator, that would target only specific receptors in the CNS, to avoid such side effects.

Key words: acetylcholine, Alzheimer’s disease, β-amyloid, cholinergic system, inhibitors of cholinesterase, muscarinic receptors, nicotinic receptors, pharmacology