

Abstract

Alzheimer's disease (AD) is a neurodegenerative disorder affecting the entire central nervous system including glial cells. The mechanisms of this disease are not yet entirely clear, although recent studies suggest that among the known hallmarks of AD, such as accumulation of amyloid β and hyperphosphorylated tau, dysregulation of intracellular calcium homeostasis is proposed to be a significant feature both in neurons and glial cells, namely astrocytes and microglia. Glial cells play an important role both in healthy brain and during AD progression. Their major functions, such as supporting neurons or maintaining synapses, are impaired during this disease. Recent findings suggest that aberrant glial calcium signaling activated during AD, could possibly promote the malfunction of these cells and increase their inflammatory response, thus affecting neurons and causing brain damage. It is likely, that the ongoing inflammation and the impaired calcium signaling affect one another, consequently enhancing the progression of AD.