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Poster Presentation

The Relationship between the TNFα of the Microglia Cells and the Alzheimer Disease

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Abstract

TNFα is one of the most important inflammatory cytokines which induces caspase and apoptotic process. There are two forms of TNFα: soluble TNFα (solTNFα) and transmembrane TNFα (tmTNFα). These inflammatory cytokines have two receptors namely TNRF1 and TNRF2. The attachments of the cytokines to those receptors induce the TRAF and activate the NK-Kb. TNFR1 is found in most of the cells and solTNFα and tmTNFα have the ability to attach to the TNFR1, but the TNFR2 is just found in the microglia and endothelial cells and reacts with the tmTNFα. Microglia is one of the smallest cells in the CNS which has the ability of phagocytosis and is one of the first cells which responds to the inflammations and exogenous factors. In general, there is a balance between the levels of the solTNFα and tmTNFα, but in the CNS disorders, in according to the damages in the neurons and disturbances in the cell conditions, that balance is interrupted and one of the cytokines is secreted more than normal level. One of the mos t important chronic neurodegenerative damages that is stimulated by TNFα, is Alzheimer disease. In the Alzheimer disease, activated microglia cells increase the levels of the TNFα which inclines the extracellular b-Amyloid, tau protein, intracellular neurofibrillary tangles and microgliosis that these changes lead to synaptic dysfunctions and neuronal destruction.

Keywords: TNF, CNS, Microglia, Alzheimer

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