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Poster Presentation

The Role of Interleukin-1 in Neurogenesis and Alzheimer Disease

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Abstract

One of the most serious neurodegenerative disorders is Alzheimer disease (AD). As the population is aging and due to the fact that AD is more common in aged people, more attention must be paid to this disease. One of the main characteristics of AD is dementia which starts with loss of short term memory, then progresses and causes various brain dysfunctions such as loss of long term memory. Interleukin-1 is a pluripotent cytokine that initiates inflammatory responses in different parts of body such as brain. In a study, it has been shown that IL-1 upregulates the expression of β -amyloid precursor protein (β -APP) that plays an important role in AD pathogenesis. A previous study represents that IL-1 induces production of substrates that are essential for making neuropathological changes characteristic of AD. Another research says that IL-1 affects the pathogenesis of AD through increasing the translation of APP mRNA. Interestingly an article claims that IL-1 β -driven neuroinflammation has a possible adaptive role in AD. It has been broadly demonstrated that neuroinflammation influences adult neurogenesis. The duration of inflammation leads to inhibition or promotion of neurogenesis. Hence, modulating neuroinflammatory cytokines such as IL-1 may help in the prevention of AD or halting its progression.

Keywords: Neuroinflammation, Alzheimer disease, Interleukin-1

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