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Poster Presentation

Survey Effect of Histamine on Microglia in Neurodegenerative Diseases

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Abstract

Neurodegenerative diseases contain Multiple Sclerosis (MS), Alzheimer's disease (AD) and Parkinson's disease (PD), are characterized by neuronal death and neuronal degeneration in specific regions of the central nervous system (CNS). Microglia are the basic immune brain cells and play a role in homeostasis after inflammation challenge. Microglia involves in Neurodegenerative diseases, neuroinflammation and microglial activity are the common features of the neuropathy. Histamine is a biogenic amine acting as a major in the modulation of innate immune responses. Source of histamine in brain includes neurons, mast cells, and microglia. Histamine regulates NO factor in SN microglial cells. Histamine modulates cytokine release and microglial migration. Histamine is viewed as the main player in the pathogenesis of neurodegenerative diseases and physiologic activities. Though all receptors (H1R, H2R, H3R, and H4R) are presented in the CNS, H3R is the treatment target for the psychiatric and neurologic disorder. H4R modulate the immune response to inflammation. No specific therapeutic agent is available to restore the damages as the disease is not understood. Effective drugs only reduce the severity of symptoms. They limit neuroinflammation in PD and MS patients. Chorionic neuroinflammation is very important in the onset and progression of the Neurodegenerative disease. Neuroinflammation is the supportive response in the brain, but too much inflammatory responses lead to neuronal regeneration inhibition. We aimed to explore the role of histamine in ROS production and modulate microglial function, phagocytosis action, increasing cell motility making to death of dopaminergic neural cells. Altogether, histamine as a target to make the new treatment for Neurodegenerative diseases.

Keywords: Microglia, Neurodegenerative Diseases, Histamine

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