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Poster Presentation

Role of Gut Bacteria on Alzheimer's Disease

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Abstract

Alzheimer's disease (AD) is a neurodegenerative disease that is the most common type of dementia.AD includes 60_80% of dementia and most people with AD have more than 65 years old.AD causes losing neuronal activity by abnormal proteins. Plaques of beta-amyloid and tangles of "tau" protein can lead to AD. Recently evidence has found that AD may come from outside of central nervous system (CNS) and originate in gut by git bacteria. These bacteria can release a large quantity of beta-amyloids that play roles in AD. Also in a study on gut bacteria in mice, researchers found different composition of bacteria between healthy mice and diseased mice. These studies show direct links between gut bacteria and Alzheimer, can help us have better strategies to prevent and cure AD. There are mutual communication between brain and gut. Regulation of the gut flora with diet and nutrition shows microbiota have key role in maintaining brain health. In some studies it has been found that gut bacteria may produce enzymes that these enzymes make toxic metabolites dor neurons like D-lacrtic and ammonia. Also has been found some molecules in both enteric nervous system (ENS) and central nervous system (CNS) that can cause neurodegenerative like beta-amyloid and tau. Study on free-germ mice revealed significantly less beta-amyloid in them .furthermore researchers transported gut bacteria from diseased mice to free-germs mice and saw that mice developed more beta-amyloid plaques in the brain compared to if they had received bacteria from healthy mice. These researches show direct link between gut bacteria and Alzheimer.

Keywords: Gut bacteria, Alzheimer, Beta-amyloid, Neurodegeneration

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