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Title of Presentation: A Unified Framework of Alzheimer's Disease: Prioritizing & Targeting Dysfunctional Microglia

Abstract

Alzheimer's disease (AD) results in progressive memory loss, mood disturbances, and the inability to take care of oneself. This severe decrease in quality of life holds both personal and economic burden for the afflicted and those around them; there are also no current treatments that halt AD. One main reason for this is that we do not understand AD well enough. Two main AD explanations involve abnormal accumulations of protein and revolve around the death of nerve cells in the brain. However, both models offer an incomplete account of AD. To better explain both aspects, connect them anatomically, and tie these protein aggregates to other AD factors, I posit that the immune cells of the brain (microglial cells) become dysfunctional. These brain immune cells facilitate the spread of AD and underlie the cognitive deficits seen in AD. Targeting microglia specifically represents a new option for treating AD.