

Inflammatory dysbiotic conditions and Alzheimer's disease

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Inflammation is involved in the pathogenesis of Alzheimer's disease (AD). Therefore, any protocol modulating brain inflammation could potentially contribute to AD progression. Periodontal disease, a chronic polymicrobial disease with systemic inflammatory effects may contribute to AD progression by increasing the AD-related pathology and brain damage. We have shown that in cognitively normal, relatively healthy, elderly population, measures of periodontal disease associated with brain amyloid load (assessed by PET-PIB). We have also shown that subjects with periodontal disease have higher AD-specific biomarkers (total tau and phosphorylated tau protein) in their cerebrospinal fluid compared with those without periodontal disease. These results show that periodontal dysbiosis may account for these effects. Therefore, to further characterize the effect of periodontal disease on AD pathogenesis, the role of subgingival microbiome and its association with AD-specific biomarkers will be addressed. Considering the high prevalence of AD, even if periodontal dysbiosis has only moderate effect on AD, its treatment could potentially limit the risk for AD in a significant number of people.