งานประชุมวิชาการสมาคมพฤฒาวิทยาและเวชศาสตร์ผู้สูงอายุไทย ประจำปี พ.ศ. 2564
เรื่อง Practical pearls for long term care in the new normal era

O6 : Gut microbiome and alzheimer's disease in Thai population

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Objectives: To investigate the association of gut microbiome (GMB) in Thai people with amyloid +ve Alzheimer's disease (AD) and factors affecting the differentiation of GMB to find a possible etiology and modifiable factors.

Methods: The participants have been recruited from a research project on the use of F-18 florbetapir PET to assess brain amyloid deposition in Alzheimer's disease, mild cognitive impairment and normal aging. The participants included 22 amyloid +ve AD patients (case) and 26 amyloid -ve cognitively normal elderly (control). In AD group, the participants had positive amyloid PET scan and were diagnosed based on the NINCDS-ADRDA criteria for probable AD and Thai Mental Status Exam (TMSE) scores lower than 26/30 and clinical dementia rating scale (CDR) was 0.5 or higher. The control group had negative amyloid PET scan and MRI brain, TMSE score of 24-30, CDR 0 and no conditions affecting cognitive function and normal activities of daily living. Both groups were assessed for clinical data, oral conditions (oral health assessment tool) and dietary information (food frequency questionnaire). Fecal samples were collected using Preservation Tube. DNA extraction was performed using QIAamp PowerFecal Pro DNA Kit. 16S rRNA gene amplicon libraries were prepared by PCR amplification. Bacterial classification was performed from V3 and V4 amplicon using a database of 16S rRNA data.

Results: The mean age was 69.3 years. Body mass index, TMSE, oral conditions, and food consumption were not different between groups. Regarding GMB, there was different in Alpha diversity by Shannon index ($p = 0.05$) and in GMB abundance between groups in Beta diversity by Bray-Curtis. However there was no significant different in Family, Genus and Species.

Conclusion: GMB was dissimilar between AD and normal patients. However, larger sample size is needed to confirm this finding.

Keywords: Alzheimer's disease, Microbiome, Thai, 16S ribosomal RNA sequencing