

PW01-92 - ESSENTIAL POLYUNSATURATED FATTY ACIDS AND BEHAVIORAL AND COGNITIVE SYMPTOMS IN ALZHEIMER'S DISEASE

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Objectives: Dietary intake of ω -3 fatty acids has been associated with a decreased lower risk of Alzheimer's disease (AD). Abnormal phospholipids metabolism in the brain has been shown to play a role in the pathophysiology of major psychiatric diseases, such as schizophrenia, mood disorder. This study was conducted to determine whether essential polyunsaturated fatty acids (EPUFAs) levels in the erythrocyte membrane are correlate with severity of behavioral and psychological symptoms of dementia (BPSD), as well as cognitive function, in subjects with AD.

Methods: The protocol was approved by the Institutional Review Board of the University of Toyama School of Medicine.

Thirty out-patients (male/female = 6/24) with AD (n = 23) or amnesic mild cognitive impairment (aMCI, n = 7) participated in the study. The Mini-Mental State Examination (MMSE) and the Neuropsychiatric Inventory (NPI) were administered to assess cognitive function and severity of BPSD respectively. Caregiver burden was assessed by the Neuropsychiatric Inventory Caregiver Distress Scale (NPI-D). Fatty acids levels were analyzed using a gas chromatography system.

Results: Concentrations of EPUFAs and ω -3 fatty acids were positively correlated with MMSE score. Also, EPUFAs levels were negatively correlated with the NPI Global and caregiver scores. Specifically, EPUFAs levels predicted dysphoria, euphoria and apathy scores of NPI.

Conclusions: These results suggest that abnormal phospholipids metabolism provided a biological basis for BPSD and cognitive impairments of AD.