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No relationship between lipoprotein associated phospholipase A₂, proinflammatory cytokines and neopterin in Alzheimer's disease

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Lipoprotein associated phospholipase A₂ (Lp-PLA₂) is a reported risk factor for dementia. However, the relationship between Alzheimer's disease (AD) and Lp-PLA₂ is still debatable and to the best of our knowledge, no study has evaluated the associations between levels of Lp-PLA₂, proinflammatory cytokines and neopterin in AD. In total, 59 patients with AD and 38 non-demented individuals were included in the case control study. Fasting serum concentrations of interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-α), neopterin and Lp-PLA₂ were determined using ELISA. The associations between AD and each of the variables were analyzed by logistic regression. The median Lp-PLA₂ levels in AD and controls were similar (P=0.29, not significant). Median serum neopterin and IL-6 levels were significantly higher in patients with AD than in controls (P=0.0001 and P=0.03, respectively). In regression analyses, median neopterin levels, a lower level of education and female gender were significantly associated with AD when compared with controls (OR, 31.44, 95% CI 3.59-275.28, P=0.002; OR, 4.35, 95% CI 1.13-16.61, P=0.032; OR, 7.25, 95% CI 1.88-28.00, P=0.004, respectively). In contrast to previous evidence suggesting its role in dementia and AD, Lp-PLA₂ enzyme levels were higher in the controls and no relationship between Lp-PLA₂ and either proinflammatory cytokines or neopterin was identified in AD. Elevated neopterin levels may be considered inflammatory markers of AD.

Biography

Sumru Savas is an Internal Medicine Specialist since 1999, Graduate of European Academy for Medicine of Ageing (2015). She is currently a PhD student in Elderly Health-Gerontology (From 2011) at Ege University Health Sciences Institute. She is an Internist and Lecturer at Geriatrics Section of Internal Medicine Department.

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