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The study of association between serum brain derived neurotrophic factor protein and dyslipidemia on memory performance in Thai Alzheimer disease patients**Panaree Busarakumtragul**
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Brain Derived Neurotrophic Factor (BDNF) protein has many important function in neuronal survival, synaptic plasticity, and neurogenesis in rat hippocampus including learning and memory. The lower BDNF protein level results in a decrease in synaptic transmission leading to neuronal damage in hippocampus and neurodegenerative diseases. Aim of this study is to investigate the association between serum BDNF protein and dyslipidemia on memory performance in Thai Alzheimer Disease (AD) patients. After this research project has been certified by human ethic committee of Srinakharinwirot University, we recruited male and female volunteer subjects with aged 45 or more. Before all subjects began to participate in this research, they had to perform Thai Mini Mental State Examination (TMMSE) which represented memory performance. Then 30 healthy subjects were enrolled as control group whereas 15 AD patients were participated as experimental group. 10 milliliters of venous blood samples were withdrawn from left antecubital vein and left at room temperature (25°C) until they become clotted. They were centrifuged to separate supernatant for BDNF protein assay by Enzyme Linked Immunosorbent Assay (ELISA) (Milliplex assay kit, Merck Millipore, Germany). Additionally, supernatant was used to analyze lipid profiles including triglycerides, total cholesterol, low density lipoprotein and high density lipoprotein by colorimetric method. Serum BDNF protein in AD patients was lower and significantly different from that in control group at $p < 0.05$. However, lipid profiles in AD had no significant difference from control group. Furthermore, TMMSE scores in AD was significantly lower than that in control group at $p < 0.001$. However, memory performance in AD patients has changed significantly in the same manner of serum BDNF protein. It can be concluded that significant difference of lower level of serum BDNF protein in AD patients at $p < 0.05$ may cause the lower scores of TMMSE leading to a decrease in memory performance in Thai AD patients.

Biography

Panaree Busarakumtragul has completed her PhD from Mahidol University, Thailand and short course training from Innsbruck University, Innsbruck Medical School, Austria. At present, she is the Associate Dean of Administrative and Academic Affairs. She has published a number of international papers in reputed journals and has been serving as an Editorial Board Member of reputed journals.

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