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Alzheimer's disease in Saudi subjects of risk with CLU gene ploymoprphiosm and association of APOE

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Alzheimer's disease (AD) is a progressive irreversible neurodegenerative disease, characterized by the accumulation of insoluble extracellular amyloid plaques and intracellular neurofibrillary tangles causing damage and death of surrounded neurons. This in turn affects memory, attention, and communication of people with AD. The present study was aimed to determine the association between single nucleotide polymorphism (SNP) in ApoE (rs7412, rs429358) and CLU (rs11136000, rs1532278) genes and some biochemical parameters and their association with occurrence of AD. A total of 24 elderly Saudis subjects (14 males, 10 females) aged between 58-90 years with confirmed diagnosis of AD following the NINCDS-ADRDA and the DSM-IV criteria and 23 age matched normal subjects (11 males, 12 females) were recruited from King Khalid University hospital, Riyadh, Saudi Arabia. Serum total cholesterol, LDL-c, HDL-c, and triglyceride levels were measured by Autoanalyzer, serum concentrations of beta-amyloid 1-40, beta-amyloid 1-42, and clusterin were analysed by ELISA, and gene polymorphism were analysed by RT-PCR using Taqman assay. For ApoE rs429358 patients showed significantly increased frequency of TC allele than control [p= 0.017, OR= 7.87, 95% CI (1.45-42.61)]. Whereas for CLU rs11136000 GG frequency was significantly increased in control than in patient [p=0.052, OR=0.18, 95% CI (0.03 - 1.02)] while in the other SNP for CLU rs1532278 GA allele was significantly higher in patient than in control [p= 0.056, OR= 3.71, 95% CI (0.97 - 14.2)]. In conclusion, genetic variants in ApoE and CLU genes may be associated with increased risk of Alzheimer's disease among Saudi subjects.

Biography

Nouf Nasser Abduallah AlGhunaim is Protein Researcher Chair in King Saud University, and worked as an intern of Nanotechnology

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