PW01-76 - **SEROTONIN SYSTEM GENE POLYMORPHISMS IN ALZHEIMER'S DISEASE**

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Alzheimer's disease (AD) is a neurodegenerative disorder with complex aetiology and strong genetic determinants. Depression occurs in a large proportion of AD patients, and history of depression represents risk for developing AD. Possible links between AD and depression may be the involvement of serotoninergic disturbances. Present study was undertaken to evaluate the possible role of the 22bp tandem repeat polymorphism of the serotonin transporter gene (5HTTLPR) and the T102C polymorphism of the serotonin receptor2A gene (HTR2A) in AD.

The study included 247 AD and 206 healthy control (HC) probands. The diagnosis of probable AD was based on NINCDS-ADRDA criteria. The genetic analyses were performed by PCR amplifications. The two 5HTTLPR alleles were denoted as short (S) and long (L) alleles.

The HTR2A genotype distribution did not differ significantly between the AD and HC groups (p=0.108). The analysis was also performed by investigating T- (C/C) and T+ (C/T and T/T) genotypic categories, and a statistically significant difference was found (T-: AD:38.0%, HC:28.6%; T+: AD:62.0%, HC:71.4%; p=0.037). The frequency of the 5HTTLPR genotypes was similar in AD as compared to HC group (p=0.883). Logistic regression analysis revealed an interaction between the 5HTTLPR and HTR2A polymorphisms (p=0.032); the L/L and C/C genotype carriers had an increased risk for AD (OR=2.50; 95%CI:1.19-5.25; p=0.016).

There was no significant correlation between AD and the 5HTTLPR polymorphism in itself. Our findings indicate however, that the HTR2A T102C polymorphism is associated with AD either alone or in interaction with 5HTTLPR.

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