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Abstract Topic: - Clinical Genetics

Abstract Title: - Association of ApoE polymorphism with various Neurological Diseases in North Indian Population

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Aims: - To find out the distribution various ApoE genotype in AD, PD and stroke and their association with ApoE4 allele

Methods: - A cross-sectional study was performed on non diseased and diseased subjects diagnosed with various neurological diseases including Alzheimer's disease (AD), Parkinson's disease (PD) and stroke were recruited from Institute of Human Behavior & Allied Sciences, New Delhi (India). 251 patients (mean age: 61.59 ± 13.40 years; 151 females & 100 males) diagnosed with various neurological diseases and 113 non diseased individuals (mean age: 57.45 ± 14.25 years; 49 females & 64 males) were included in the study. APOE genotyping was done in all subjects by PCR-RFLP.

Results: - In AD, PD and stroke groups, 103 subjects (mean age 67.12 ± 11.24 years; 48 females & 55 males), 36 subjects (mean age 55.94 ± 11.83 years; 11 females & 25 males) and 112 subjects (Mean age 57.61 ± 15.21 years; 41 females & 71 males) were included respectively in the study, whereas control group had 113 subjects (mean age: 57.45 ± 14.25 years; 49 females & 64 males). Genetic analysis was performed to identify the frequency of six possible ApoE genotypes among diseased and non diseased subjects. The ApoE3/3 genotype was most predominant genotype in diseased groups (69.32%), whereas ApoE3/4 had second most frequency of occurring (13.94%). Similar pattern was observed in control group. No subject in stroke group had ApoE4/4, whereas in AD & PD groups 08 and 03 subjects had ApoE4/4 genotyping. 26 subjects in AD group whereas, 09 subjects of PD and 17 stroke patients had ApoE4 allele as compared to 13 subjects in control group. Association study showed that ApoE4 allele had strong association (AOR=3.07; 95% CI: 1.39 – 6.78) with AD, whereas weak association with PD (AOR=2.42; 95% CI: 0.92 – 6.34) and stroke (AOR=1.36; 95% CI: 0.63 - 2.96) as risk factor.

Conclusions: - ApoE4 had strong association with AD, whereas weak association with PD.

Keywords: - In AD, PD and stroke groups, 103 subjects (mean age 67.12 ± 11.24 years; 48 females & 55 males), 36 subjects (mean age 55.94 ± 11.83 years; 11 females & 25 males) and 112 subjects (Mean age 57.61 ± 15.21 years; 41 females & 71 males) were included respectively in the study, whereas control group had 113 subjects (mean age: 57.45 ± 14.25 years; 49 females & 64 males). Genetic analysis was

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