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ASSOCIATION ANALYSIS OF HEAT SHOCK PROTEIN 70 GENE POLYMORPHISMS IN SCHIZOPHRENIA

C.-U. Pae^{1,2}

¹Psychiatry, The Catholic University of Korea College of Medicine, Seoul, South Korea, ²Psychiatry and Behavioural Sciences, Duke University Medical Center, Durham, USA

Objectives: This study investigated the association between an enlarged set of SNPs at Heat shock proteins (HSPs) 70 gene and schizophrenia.

Methods: Two hundred and ninety four patients with schizophrenia and 287 controls were enrolled in the study. Genotypings of 5 SNPs of HSP70 were performed using pyrosequencing method.

Results: Significant association was detected at rs2075799 (allele A, Chi square =8.03, d.f.=1 p=0.0046), but not at rs2227956 (p=0.28), rs1043618 (p=0.88), rs562047 (p=0.47) or rs539689 (p=0.32). In fact, the rs2075799*G/A genotype was more represented in patients with schizophrenia than in controls (Chi-sq=8.23, d.f.=1, p=0.0041). Haplotype based associations were also detected (global p value 0.000003); the T-A-C-C-G haplotype was more prevalent among the patients (odds ratio, OR 5.95). Sliding windows analysis revealed a major contribution from rs2227956 and rs2075799 (global-p value 0.0075), with T-A haplotype significantly associated with schizophrenia. There was no evidence of an association between the clinical variables and schizophrenia across the genotypes.

Conclusion: Our results raise the possibility that HSP70 gene (i.e., haplotypes of rs2075799) might be implicated in the development of schizophrenia, although limited by rare haplotypic association with the disease. Hence further studies from different ethnics should be performed to confirm these results.