S18-01 - **STRESS IN SUICIDAL PERSONS AND GENETICS OF THE HPA AXIS**

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Suicidal behavior (SB) is a major burden in most nations world-wide and a major public health concern. The causes of SB are complex, in which both genetic set-up and exposure to overwhelming psychological stress (environmental factor) contribute to a person´s final predisposition for SB. One candidate system reflecting this causal route to SB is the stress-modulating hypothalamic-pituitary-adrenal (HPA) axis, and dysregulation of HPA is considered to play a major role in depression and SB. The corticotrophin-releasing hormone and its main receptor (CRHR1) have key regulatory functions in the HPA axis, and we hypothesized that genetic variation in CRHR1 may be associated and linked with SB and related endophenotypes. We analyzed single nucleotide polymorphisms (SNPs) in an extended sample of family trios (n = 672) with suicide attempter offspring, by using family-based association tests. Results showed that the minor T-allele of exonic SNP rs12936511 was significantly transmitted to suicidal males with increased Beck Depression Inventory (BDI) scores (P = 0.0028). Analysis of haplotypes showed that risk alleles of three different SNPs segregated onto separate haplotypes, whereas a fourth 'nonrisk' haplotype ('CGC') was preferentially transmitted to suicidal males with lowered BDI scores (P = 0.0007). Conversely, the BDI scores of those who carried a homozygous combination of any of the three risk haplotypes were significantly increased (P = 0.000089). We concluded that depression intensity in male suicidal offspring was related to genetic variability in the 5'-end of CRHR1, while the characteristics of the suicide female attempters remained unknown.

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