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## ASSOCIATION OF FKBP5 GENE HAPLOTYPES WITH COMPLETED SUICIDE IN THE JAPANESE POPULATION

A. Hishimoto<sup>1</sup>, T. Sasada<sup>1</sup>, M. Fukutake<sup>1</sup>, K. Shiroyiwa<sup>1</sup>, I. Supriyanto<sup>1</sup>, O. Shirakawa<sup>2</sup>

<sup>1</sup>Kobe University Graduate School of Medicine, Kobe, <sup>2</sup>Kinki University School of Medicine, Osaka, Japan

**Background:** The hypothalamus-pituitary-adrenal (HPA) axis is known to have a role in suicidal behaviors in patients with affective disorders. However, the incomplete overlapping of the genetic factors of suicidal behaviors and the genetic factors of affective disorders suggest that the genes associated with predisposition to suicidal behaviors and affective disorders are different. There is increasing evidence that genes regulating the HPA axis have effects on suicidal behaviors. To test this idea, we examined the association of three HPA axis-related genes (glucocorticoid receptor (NR3C1), mineralocorticoid receptors (NR3C2), and FK506 binding protein 5 (FKBP5)) with suicide.

**Methods:** We selected 3 SNPs of the FKBP5 (rs3800373, rs1360780, rs2395635), 2 SNPs of the NR3C1 (rs6196, rs10052957), and 3 SNPs of the NR3C2 genes (rs5525, rs5522, rs2070951) based on their frequency in the Japanese population. Using Taqman probe assays, we determined these SNPs in 219 completed suicide victims and 228 age- and gender- matched healthy control subjects.

**Results:** No significant differences in genotypic distribution or allelic frequency of any single SNPs between the completed suicide and control groups were observed. The distributions of TT, TC, and GT haplotypes of the FKBP5 gene (comprised of rs3800373 and rs1360780) between the completed suicide and control groups were significantly different ( $p < 0.05$  for each haplotype). The TC haplotype withstood correction for multiple comparisons (corrected  $p = 0.034$ ).

**Conclusion:** Our results suggest that haplotypes in FKBP5 gene are associated with completed suicide. This finding needs to be confirmed using rigorous SNPs selection in a larger sample.