Serotonin receptor 2C gene polymorphism associated with post-stroke depression in Chinese patients

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ABSTRACT. The serotonin receptor 2C (HTR2C) gene has been shown to play a pivotal role in major depression. We examined the association between post-stroke depression (PSD) and polymorphism in HTR2C. A cohort of 223 patients with acute lacunar stroke admitted to the stroke unit of a university-affiliated regional hospital in Hong Kong was recruited. Three months after the onset of the index stroke, a research assistant administered the locally validated 15-item Geriatric Depression Scale. PSD was defined as a geriatric depression scale score of 7 or above. Possible confounding factors, including previous history of stroke, severity of stroke, level of social support, and recent life events, were investigated. All patients were genotyped for polymorphisms of HTR2C. Separate analyses were performed for males and females. Sixty-one patients were found to have
PSD. There were significant associations between the HTR2C gene and PSD status in the male patients, but not in the female ones. After adjusting for possible confounders, the rs12837651 T allele (odds ratio = 4.020) and the rs2192371 G allele (odds ratio = 2.866) were found to be significantly associated with PSD in males. Genetic variation in HTR2C receptors appears to be involved in the pathogenesis of PSD in Chinese males.

**Key words:** Stroke; Depression; HTR2C; SNP; Disease association