Association between adiponectin receptor 2 gene polymorphisms and cerebral infarction

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ABSTRACT. We examined the association between the adiponectin receptor 2 gene and the risk of ischemic stroke. Polymerase chain reaction-restriction fragment length polymorphism was used to detect rs12342 genotypes of the adiponectin receptor 2 gene in 300 ischemic stroke patients and 320 age- and gender-matched healthy controls. In the patient group, the AA, GA, and GG genotype frequencies were 39.3, 42.7, and 18.0%, respectively. The A and G allele frequencies were 0.607 and 0.393, respectively. In the control group, the AA, GA, and GG genotype frequencies were 29.0, 51.7, and 19.3%, respectively. The A and G allele frequencies were 0.548 and 0.452, respectively. The AA genotype and A allele frequencies in the patient group were significantly higher than those in the control group (both P < 0.01). The risk of ischemic stroke in AA genotype carriers was 1.786-fold greater than that in GG genotype carriers (odds ratio = 1.786, 95% confidence interval: 1.432-2.775; P = 0.013). After adjusting for various confounding factors, the difference remained significant (odds ratio = 1.874, 95% confidence interval: 1.221-2.765; P = 0.012). The AA genotype and A allele of rs12342 in the adiponectin receptor 2
gene may increase the risk of ischemic stroke, particularly the risk of atherosclerosis cerebral infarction.

**Key words:** Adiponectin receptor 2 gene; Ischemic stroke; Single nucleotide polymorphisms