Prognosis of young ischemic stroke in Taiwan: impact of prothrombotic genetic polymorphisms

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摘要

Abstract

We investigated the effects of genetic factors on the prognosis of cerebral infarction in young adults in Taiwan. Because ischemic stroke with arterial occlusion or undetermined etiology is more likely to be related to a genetic prothrombotic state, 231 patients younger than 50 years (mean age 44.6 years, range 25 to 49 years) with acute ischemic stroke due to large artery atherosclerosis (n=90), small artery occlusion (n=114) or undetermined cause (n=27) were recruited and prospectively followed up for pre-determined outcome. On each patient, we screened the PlA1/PlA2 polymorphism of the platelet glycoprotein IIIa gene, 4G/5G polymorphism of the plasminogen activator inhibitor-1 gene, G10976A polymorphism of the factor VII gene, C677T polymorphism of the methylenetetrahydrofolate reductase gene, and 27 base-pair repeat polymorphism of the endothelial nitric oxide synthase gene. End points were the composite outcome events of stroke, myocardial infarction, and death from all causes. During a mean duration follow-up of 29 months, composite outcome events occurred in 33 patients. There was a higher annual incidence rate of composite outcome events during the first year (9.1%, 95% CI 5.9-13.9%) than in the subsequent 2 years (2.6%, 95% CI 1.2-5.6%, p=0.038). None of the genetic polymorphism was associated with the composite outcome events. Past history of coronary artery disease or cerebrovascular disease was the only independent predictor of the composite outcome events (HR 3.71, 95% CI 1.69-8.14, p=0.001) at the Cox regression analysis. Our data indicate that the prothrombotic genetic polymorphisms do not have a significant influence on the prognosis in young ischemic stroke due to arterial occlusion or undetermined causes in Taiwan.