Toll-like receptor 4 gene C119A but not Asp299Gly polymorphism is associated with ischemic stroke among Chinese in Taiwan

胡朝榮

Lin YC;Chang YM;Yu JM;Yen JH;chang JG;Hu CJ

摘要

Abstract

Stroke is one of the leading causes of death in the world. Most stroke patients are classified as having ischemic stroke. The causes of ischemic stroke are very diverse. Atherosclerosis resulting in cerebral or carotid arterial stenosis/occlusion plays the most important role in the occurrence of ischemic stroke. Inflammatory processes or immune responses are involved in the formation of atherosclerosis. Toll-like receptor 4 (TLR4) is a member of the toll-like receptor (TLR) family. TLRs are pattern-recognition receptors, which initiate innate immune responses after interaction with pattern-specific ligands. A polymorphism of the TLR4 gene, Asp299Gly, is associated with an increased risk for coronary heart diseases in Caucasian populations. In this study, we explored the complete coding regions of TLR4 by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP), Single-strand conformation polymorphism (SSCP), and sequencing and found obvious ethnic differences. There was no Asp299Gly polymorphism among the ethnic Chinese examined in this study. We found only one polymorphism on intron 1 (A119C) among our samples. The allele frequencies of 119A were 0.0256 and 0.0022 among the patients and controls, respectively. The odds ratio of 119A of TLR4 in ischemic stroke was 11.71 (95% CI: 1.52-90.01). This polymorphism was significantly associated with ischemic stroke. These data possibly implicate TLR4 as an important genetic factor for stroke in ethnic Chinese populations despite the rarity of the Asp299Gly polymorphism.