Case–control study and meta-analysis of the association between LIPG rs9958947 SNP and stroke risk

ABSTRACT

The rs9958947 single nucleotide polymorphism (SNP) resides in the promoter region of the lipase G (LIPG) gene. This newly discovered SNP increases the risk of stroke in some Asian populations, including Chinese and Korean populations. Stroke is one of the top 5 leading causes of death in Malaysia, so it is of interest to investigate whether this SNP is associated with stroke risk in the Malaysian population. Therefore, this study investigates this association through a case–control study on a Malaysian population along with a comprehensive meta-analysis. Genotyping of LIPG rs9958947 SNP was performed for 241 Malaysians using real-time polymerase chain reaction, and the odds ratios (OR) with 95% confidence intervals were calculated. The meta-analysis was conducted using the software Comprehensive Meta-Analysis ver. 2.2.064. A p value less than 0.05 was considered statistically significant. We observed that the mean age of Malaysian stroke patients was less than that of stroke patients from Korea and China. The meta-analysis showed that the LIPG rs9958947 SNP was significantly associated with an increased risk of ischemic stroke in Asian populations (dominant (CC vs. CT+TT): OR=1.45, p0.05) and blood lipid levels.