Abstract

Eight common polymorphisms of known myocardial infarction (MI) risk factors (factor V Leiden (FVL), factor V HR2 (FVHR2), factor II 20210G>A (FII), factor VII IVS7 (FVII IVS7), factor VII Arg353Gln (FVII), factor XIII Val34Leu (FXIII), Methylenetetrahydrofolate reductase C677T (MTHFR), Angiotensin Converting Enzyme (ACE)) and environmental risk factors were analyzed in a MI patients of Costa Rica. This case-control study included 186 MI subjects, 95 of them <45 years and 201 age and sex matched controls. With the use of PCR method the polymorphisms were detected and through interviews additional information was collected. Hypercholesterolemia and smoking were associated with a significant risk in younger patients. High fibrinogen level was an important risk factor and interaction with smoking was detected. Mainly, the genotype 34LeuLeu of FXIII showed significant protective effect, (OR 0.32, 95%CI 0.13-0.80) while the other polymorphisms showed no significant difference between the cases and the controls. Carriers of FVII (OR 2.75, 95%CI 1.07-7.02) and FXIII (OR 4.20, 95%CI 2.03-8.67) polymorphisms showed interaction with fibrinogen in the statistical analysis. It was concluded that there was an important interaction between the common risk factors and the polymorphisms (FVII; FXIII) in the development of MI. This is one of the first reports in a Latin-American population dealing with these molecular markers and MI.

Keywords

Arterial thrombosis, myocardial infarction, polymorphisms, fibrinogen, Latin-American.