Factor V G1691A and prothrombin G20210A gene polymorphisms among Iranian patients with cerebral venous thrombosis

Nahid Ashjazadeh MD, Maryam Poursadeghfard MD, *Shirin Farjadiand MD

Shiraz Neurosciences Research Center, Department of Neurology, Shiraz University of Medical Sciences, Shiraz, Iran; *Allergy Research Center, Department of Immunology, Shiraz University of Medical Sciences, Shiraz, Iran.

Abstract

Objective: Cerebral venous thrombosis (CVT) is an important cause of stroke, especially in young adults, that has many predisposing factors. G20210A mutation in prothrombin gene (Factor II) and G1691A mutation in Factor V Leiden (FVL) are two common hereditary causes of CVT. This study aimed to study the rate of these mutations in patients with CVT from Fars Province in southern Iran.

Methods: In a case-control study, 57 case patients with definite diagnosis of CVT, confirmed clinically and by MRI and MRV, and 50 sex and age matched healthy controls, with no family history of thrombosis, were enrolled from March 2008 to March 2010. G1691A mutation of FVL and G20210A mutation of factor II were determined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method.

Results: Mutation in G20210A of factor II was found in 3.6% of patients and 4% of the controls ($P=1$). For FVL mutation, 7% of the patients carried the mutant allele while this mutation was not found in the controls ($P=0.12$). Two and 4 patients were heterozygous for prothrombin G20210A and FVL G1691A mutations, respectively.

Conclusions: It seems that G20210A mutation in Factor II and G1691A mutation in FVL are not responsible for CVT in the southern Iran population with predominant Fars ethnicity.