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Title: PLA2 polymorphism of platelet glycoprotein IIb/IIIa but not Factor V Leiden and prothrombin G20210A polymorphisms is associated with venous thromboembolism and more recurrent events

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Body: Introduction: Inherited thrombophilic gene polymorphisms have been linked to the pathogenesis of venous thromboembolism (VTE). As they are very limited data of these polymorphisms in Iranian population we aimed to investigate them in these patients. Methods: 72 patients with VTE and 306 healthy control subjects were recruited to the study. Genotyping from EDTA taken venous blood for the factor V Leiden (FVL), prothrombin (FII) G20210A, methylene tetrahydrofolate reductase (MTHFR) C677T and PLA2 polymorphisms was under taken by PCR – RFLP. Results: 57of investigated polymorphisms with the mean of 0.792 per individual and 151 with the mean of 0.494 were found in patients and control respectively ($p<0.001$). FVL and FII G20210A were found in 5.6% and 1.4% of the patients compared with 2.3% and 1% of the controls respectively (P=NS). PLA2 polymorphism of GPIIb/IIIa was seen in 27.8% and 10.1% in patients and controls respectively (OR=3.4, CI= 1.08-6.44, $P<0.001$). 21.5% of carrier VTE patients compared with 9.6% of carrier controls had coinheritance of more than one genetic risk factor (P=0.007) and more recurrent events were occurred in them. Patients with PLA2 polymorphism had more recurrent events than the other patients (P=0.02). Patients with more than one genetic risk factors and recurrent events were younger. Discussion: Higher prevalence of PLA2 polymorphism of GPIIa/IIIb in VTE patients demonstrates the impact of this polymorphism in the pathogenesis of VTE in this population that need to manage these patiant differently.