PB495 | Significance of Single Nucleotide Polymorphisms (SNPs) Within Genes Encoding Platelet Glycoprotein Receptors in Patients With Infective Endocarditis (IE)

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Background: Embolic events are a main cause of morbidity and mortality in patients with infective endocarditis and are of high prognostic importance. It is tempting to hypothesize that an inherited protrombotic condition may synergize with a predisposing procoagulant status present in patients with IE (inflammation, sepsis, organ dysfunction etc.) and thus increase embolic risk.

Aims: To investigate the assosiation of SNPs in genes of platelet membrane glycoproteins with embolic risk in patients with infective endocarditis.

Methods: 47 patients with verified IE (DUKE 2015), admitted to V.V.Vinogradov city clinical hospital in Moscow, were included in the study. Embolic complications were present in 16 (34%) patients with IE (group 1), rest 31 (66%) had no embolism (group 2). We identified 4 SNPs (rs1126643, rs5918, rs6065, rs1613662) in 4 genes (GP Ia, GP IIIa, GPIba, GP VI), all of which have been implicated as increasing the risk of arterial thromboembolism. Genomic DNA was extracted from EDTA-stabilized peripheral venous blood using QIAmp DNA Blood Mini Kit and QIAcube™ automatic station (QIAGEN). Genotyping was performed by DNA-Technology® SNP genotyping assays (DNA-Technology). The statistical analysis was performed by SNPStats online tool.

Results: We did not find statistically significant differences between the groups for rs5918, rs1126643 and rs1613662. Patients with C/T genotype of GP1ba rs6065 demonstrated lower risk of embolism: 10% against 41.7% in patients with genotype C/C and T/T (P=0.044). The whole genotype distributions in two groups are presented in Table 1.

Conclusions: Our results show that no significant association exists between higher prevalence of embolism in IE patients and the four SNPs considered. The current study is underway and we're enrolling more patients in our sample. Further investigations are needed to understand the genetic susceptibility to embolic events in IE patients.

PB496 | Risk Factors for Brain Vessels's Thrombosis/Stenosis in Young Patients With Ischemic Stroke

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Background: Thrombophilia is defined as a predisposition to form blood clots and is characterized by deficiencies and mutations in endogenous anticoagulants. Thrombophilic polymorphism such as factor V Leiden, MTHFR mutation (A1298C, C677T), prothrombin mutation G20210A, PAI-1 mutation, antiphospholipid antibodies, Protein S, Protein C are established risk factors for venous thrombosis, but their role in arterial thrombosis is still controversial.

Aims: To investigate genetic and acquired risk factors for carotid or vertebral thrombosis/ stenosis in young patients with ishemic stroke.

Methods: This prospective study included 53 young patients (age 18-50 years) with ischemic stroke (34 male, 19 female), 19 in vertebrobasilar system, 34 in carotid system. Patients were divided in two groups - with thrombosis and with clinically significant stenosis. All patients underwent ECG, clinical cardiological evaluation, colour-coded duplex utrasonography of the cerebral vessels, computed tomography/computed tomography angiography of cerebral vessels or magnetic resonance imaging of the head and thrombophilia factors examination.

Results: Twelve patients are with thrombosis, 5 in the vertebrobasilar system and 7 in the carotid system, and one patient with severe carotid stenosis. Eleven of these patients have more than one risk factor for thrombophilia plus dyslipidemia and one patient has only risk factors for thrombophilia. The other 41 patients are with ischemic stroke without clinically significant stenosis or thrombosis.

TABLE 1 Association of the polymorphisms within platelet membrane receptors genes with embolism in IE patients

SNP	Model	Genotype	IE with embolism	IE without embolism	OR (95% CI)	P value	AIC (Akaike information criterion)	HWE (Hardy-Weinberg equilibrium)
rs5918	-	T/T	6 (46.1%)	19 (65.5%)	1.00	0.24	54.6	0.17
rs5918	-	T/C	7 (53.9%)	10 (34.5%)	2.22 (0.58-8.40)	0.24	54.6	0.17
rs1126643	Dominant	C/C	2 (13.3%)	10 (32.3%)	1.00	0.15	60.0	0.99
rs1126643	Dominant	C/T + T/T	13 (86.7%)	21 (67.7%)	3.10 (0.58-16.42)	0.15	60.0	0.99
rs6065	Overdominant	C/C + T/T	15 (93.8%)	21 (70.0%)	1.00	0.044	59.4	0.56
rs6065	Overdominant	C/T	1 (6.2%)	9 (30.0%)	0.16 (0.02-1.36)	0.044	59.4	0.56
rs1613662	Overdominant	T/T + C/C	14 (87.5%)	24 (77.4%)	1.00	0.39	63.6	0.19
rs1613662	Overdominant	T/C	2 (12.5%)	7 (22.6%)	0.49 (0.09-2.69)	0.39	63.6	0.19