Relevance.

Heart and brain are interrelated target organs of vascular pathology, clinical variants which (ischemic heart disease - coronary heart disease, stroke) continue to lead the structure of causes of death in developed countries. It is known that approximately 10-20% of patients undergoing diagnostic coronary angiography due to acute or chronic ischemic syndrome, arteries are intact. Unified theory of organ damage of vascular origin, without signs of atherosclerotic damage does not exist. Key theories are the theory of endothelial dysfunction, in most cases due to gene polymorphism; inflammatory lesion of the arteries, the effects of neuro-humoral factors and the presence of a genetic predisposition.

Scientific novelty.

We will summarizes risk factors, clinical and angiographic, genetic testing in patients with myocardial infarction or ischemic stroke, but no signs of atherosclerotic vascular damage.

Genetic testing involves identifying the examined genetic polymorphisms of the following genes: lipid metabolism (ApoE, ApoB, LIPC, MTP, PCSK9, SCARB1, ABCG8, OLK1); structure and tone of the vascular wall (ENPP1, MMP1, MMP3, MMP9, MTHFR, MTRR, e NO-synthase, ACE, PAOD1); platelet coagulation and hemostasis (FGB, F2, F5, P2Y12); inflammation (CRP, IL1A and IL18, TNF, IL6, TGFb, PDE4D, COL4A1, HDAC4 (histone deacetylase-, CRP (C-reactive protein), VEGFR (epidermal growth factor receptor, NOTCH3

Inclusion criteria.

Pool for inclusion in the study was defined as all patients who have suffered myocardial infarction or stroke, under the supervision of the hospital number 40, as well as clinics resort area and some other areas of St. Petersburg at the age of 20-59 years provided consent to participate in the study.

Materials and methods.

The study group is more than 150 patients, aged 20-59 years, two thirds of which have atherosclerotic coronary, cerebral arteries or the arteries of the lower limbs and 1/3 of patients with a history of myocardial infarction occurs without signs of stroke and atherosclerosis stenosis . The control group consists of healthy or practically healthy people.

Each patient in the study start up map of the test, including the results of lipid profile with detailed indicators of coagulation, glycemic profile; ECG evaluation of possible focal changes, signs of coronary heart disease, echocardiography assessment of contractile ability of hypo-akinesia and ejection fraction, stress tests (HEM, stressEHOKG) or Holter monitoring data with the evaluation of ischemic changes, duplex and triplex study of cerebral arteries, the arteries of the lower limbs, measuring ankle-brachial index, coronary angiography and study of polymorphisms of genes predisposing to the development of coronary artery atherosclerosis, cerebral arteries.

Mean age was studied contingent 55, 47 women (31%), 113 men (69%); 101 of which have a history of coronary artery disease (67%), and 17 (11%) revealed stroke, repeated history of myocardial infarction had 9 people. Operations on the coronary arteries in 52 (35%) patients. The total duration of CHD was on average 1.2 years. Of risk factors: smoking 88 (59%) patients, 43 (29%) patients with obesity according to BMI calculation and waist circumference. Dyslipidemia is revealed in the evaluation lipid 46 (31%), 89% have a history of hypertension, 77 (51%) diabetes.

In assessing lipid: average total cholesterol level was 5.2 mmol / l, LDL 3.15 mol / l, TG 1.81 mmol / l.

Preliminary data suggest that there is a group of patients studied genotype and phenotype features in generalized atherosclerosis without evidence of stenosis, and identify a correlation between the severity of clinical manifestations and the degree of arterial injury with existing risk factors and structural features of DNA. The results will clarify the pathogenesis of fatal cardiovascular complications in patients regardless of the presence of atherosclerotic lesion.