minogen activator inhibitor (PAI-1), the polymorphous substitution 675 5G→4G (9% in our research) and the gene of the endothelial NO-synthase (NOS3(e)), VNTR-polymorphism and the polymorphous substitution C→T(Glu298Asp) (11% of the cases). It is known that NO (nitrogen oxide) is a powerful vasodepressor, possesses antithrombotic action, inhibiting adhesion and thrombocyte aggregation, activating the tissue-plasminogen activator and other important antithrombotic functions of blood. The NOS3(e) expression or transcription disturbance at the gene mutation results in the NO synthesis decrease, the consequence of which is the vasoconstriction increase, vasodilatation decrease and the tendency to blood clot organization. The polymorphous variant 4G of the PAI-1 gene is attended by the gene's overexpression and, consequently, results in the PAI-1 increase in blood, therefore the fibrinolytic system activity decreases significantly.

All the patients taking part in this investigation needed a long or a life-long application of the indirect anticoagulant – warfarin, that required an adjustment of the preparation dosage to avoid the overdosage. When defining the warfarin sensibility 29 persons from the number of the examined patients had the most popular genotype CYP2C9*1/*1, 39,6% - turned out to bear the alleles CYP2C9*2 and CYP2C9*3 (11 and 8 persons accordingly). The CYP2C9*2 and CYP2C9*3 alleles bearers had unstable INR indexes and required special attention at the warfarin optimal dosage adjustment.

Conclusion: The evidence of the role of genic disturbances in the development of thrombophilias has been obtained. It is shown that the patients with homozygous variants of mutation alleles of the MTHFR genes (C677T), thrombocytic glycoproteins, endothelial NO-synthase and PAI-1 are subjected to the most severe course of thromboses and are hardly treatable. The plasminogen activation inhibitor and endothelial NO-synthase can be used as markers characterizing the endothelium state and for the definition of endothelial dysfunction.

The data obtained point out to a real possibility to influence this or that part of the hemostasis system and/or the system of fibrinolysis, correct the endothelial dysfunction at early stages of the disease depending on the genes' polymorphous variants form. The detection of thrombophilia predisposition genes gives an opportunity to take the preventive measures timely. A purposeful action on the thrombocytic part, coagulative hemostasis or vascular wall in the persons with genic disturbances allows avoiding severe complications at the influence of acquired risk factors on the body. At the necessity of the indirect anticoagulant warfarin adequate dosage adjustment in conditions of its long or life-long application the genetic testing allows forecasting the response to the given preparation intake with due consideration of the patient's sensibility.

The introduction of molecular-biological methods into the laboratory practice, the mutations of the genes coding tissue factors, proteins and glycoproteins of the vascular, thrombocytic, coagulative parts of the hemostasis system and the system of fibrinolysis in particular, can promote the definition of fine mechanisms of clotting and anticlotting blood systems' disturbances. An integrated research including the comparison of various hemostasis system parts' genes' mutations presence with the system's functional state is perspective in both practical and scientific relations, as it allows defining meaningful factors having an effect on the pathological process development and performing a search of pathgenetically relevant methods of treatment. The genetic typing of the hemostasis system parameters and the factors characterizing the endothelium function as the thrombophilia predisposition criteria should be included into the examination record of the patients subjected to either acquired or inherited risk factors.

At the present development stage of the biological and medical sciences the role of molecular-biological mechanisms in the formation of thromboses should be paid considerably much attention to in the programs of biological and medical departments' students training.

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HUMORAL-METABOLIC IMBALANCE IN MEN AND WOMEN SUFFERING FROM CARDIO-VASCULAR METABOLIC SYNDROME

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The purpose of the paper was the analysis of sex differences of basal insulinemia (BI) and malondialdehyde (MDA) – low density lipoprotein oxidation value (LDL), interrelation. 143 men aged 47,6±0,5 and 83 women aged 48,3±0,7 with metabolic syndrome (MS). Normotensive men and women without abdominal adiposis (AA) and dyslypoproteidemia formed control groups. The anthropometric characteristics were defined: lipidogram parameters - by the enzymatic calorimetric method using chemical agents "Vital Diagnostics", insulin basal parameters – by the radioimmunoassay technique with the help of Immunotech Insulin Irma sets, glycemia – by the glucose oxidase test. The LDL oxidation resistance was defined on the MDA levels (nmol/1mg of β-lipoproteins albumin) by fluorometry.

When being compared on a series of hemodynamic and metabolic characteristics (body mass index, glycemia, cholesteremia), the men and women differed in the abdominal adipopexia degree (waist circumference (WC) accordingly 99,9±1,3 and 89,5±0,9 cm; p<0,001), triglyceride (2,2±0,2 and 1,6±0,1 mmol/l; p<0,001) and α-cholesterol (1,3±0,1 and 1,6±0,1 mmol/l; p=0,002) levels. BI authentically correlated with the body mass index (r=0,34; p=0,047), WC (r =0,66; p=0,004) and triglycerides (r=0,29; p=0,046) in the men. BI in the MS women correlated with WC only: r=0,40 (p=0,02).

The MDA levels in the MS men (5,1±0,3 nmol/1 mg of LDL albumin) exceede the control ones(2,3±0,2; p<0,01). In the MS and healthy women these parameters didn't differ (2,8±0,1 and 2,6±0,1accordingly; p>0,05). Authentic correlations (p<0,05) of the MDA levels and insulin were detected both in the men (r=0,35) and women (r=0,50), that reflects the prooxidant role of insulin. In the men this relation became significant in conditions of hyperinsulinemia (≥15 мкед/мл), and in the women it didn't depend on definite BI values. At the same time, the MDA parameters correlated with WC (r=0,43; p<0,05) as well in the men. There are no correlation relationships of the MDA levels and AA indexes detected.

The actual participation of insulinemia in the oxidative stress realization through the LDL peroxidation mechanism in conditions of the MS cardiovascular cluster was detected in the men and women. This influence, depending on the sex, is realized at various BI levels. The basal insulinemia leading role in the interrelations with the AA clinical marker – the waist circumference in men, has been established. Their basal hyperinsulinemia manifests its prooxidant influence in two ways: through the direct relation with MDA and indirectly – through the AA parameters; in women insulinemia influences MDA levels irrespective of its basal level parameters. Taking into account the BI correlation with the WC parameters, irrespective of the sex, in the MS diagnostics one can rely on the AA and not concrete levels of insulinemia from the clinical and prognostic point of view.

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FEATURES OF ENTOMOPATHOGENIC BACTERIA DISTRIBUTION THROUGH MIGRATING BIRDS

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The role of migrating birds in the transcontinental distribution of entomopathogenic bacteria has been studied not well enough. The purpose of our research is to study the bio-ecological interrelations of Bacillus thuringiensis bacteria with various kinds of migrating birds. As it is known, the involvement of birds into this process occurs through parasitizing of blood- sucking insects and mites on them (Pustovaya, 1971; L'vov, Iliychov, 1979; Novikov, 1984; Olsufiyev, Dunayev and others, 1970). The survival rate of crystal-forming bacteria in the digestive tract of birds was established by W.A. Smirnoff, C.F. Macloed (1961); I.C. Adams, P.A. Hartman (1965). The authors do not exclude the leading role of birds in preservation and distribution of these parasitizing kinds in the external medium. Literary evidences testify that, when studying the ecologo-geographic distribution of Bacillus thuringiensis strains, it was not paid special attention to migrating birds, pathogenic viruses and bacteria have been studied far more deep for that matter.

In different years we carried out microbiological research of the internal organs of migrating birds and 43 entomopathogenic bacteria strains, which are represented by eight subspecies: Bacillus thuringiensis var. thuringiensis (12 cultures); alesti (4); kurstaki (4);sotto (5); subtoxicus (7); kenyae (3); galleriae (6); finitimus (2), were segregated. More than a half of the strains were segregated from the gastric contents. Among animal food birds there are much more bacillicarriers than among vegetal and mixed food. The migration routes of the trapped bird units cross practically all the continents of the Earth, the most visited of which are Africa, South America and Asia. The majority of the examined birds are represented by the species: whoop Upupa epops (L.); common swallow - Hirundo rustica (L.); sand swallow - Riparia riparia (L.); starling - Sturnus vulgaris; rosy pastor - Pastor roseus (L.); gray wagtail - Motacilla cinerea; yellow-headed wagtail - Motacilla citreola (Pall.) and others. We also studied the microflora of biting lice of 11 species in quantity of 162 units collected from wild birds, from which such rare serovars as var. morrisoni, var. kenyae, var. alesti. were segregated.

The variety of the bacteria obtained is conditioned by the fact that birds, especially insect-eating ones, eating various insects, among which there is a high percentage of infected species, become infected with micro-organisms of the Bacillus thuringiensis group, as, however, with other species of viruses and bacteria. This situation is proved by frequent segrega-