FEATURES OF VASCULAR - PLATELET AND COAGULATION HEMOSTASIS IN WOMEN WITH INFLAMMATORY DISEASES OF THE UTERINE APPENDAGES.

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Abstract. Inflammatory diseases are one of the pathological conditions in which DIC develops. The basis of DIC in this case is excessive (pathological) activity of hemostasis, leading to blockade of microcirculation in vital organs by loose masses of fibrin and cell aggregates and the development of multiple organ dysfunction. Significant consumption of deterrent factors and platelets, activation of fibrinolysis, accumulation of fibrin-fibrinogen degradation products, which exhibit anticoagulant properties and have a damaging effect on the vascular wall, lead to the development of a hypocoagulable state of hemorrhagic syndrome. The appearance in the bloodstream of a large number of platelet and erythrocyte aggregates exacerbates hemorrhagic shifts. At the same time, against the background of excessive activation of coagulation, the reserves of endogenous anticoagulants are rapidly depleted. As mentioned above, in patients with VZPM, there is a violation of the structural and functional state of platelets, activation of lipid peroxidation processes in them, which is one of the reasons for the violation of the platelet-coagulation link of the hemostasis system.

Purpose of the study: Assess the state of vascular-platelet and coagulation hemostasis in patients with IDOSC

Research methods: Depending on the method of treatment, all patients were divided into 2 groups. The first group consisted of 52 patients who received complex therapy for IDOSC using Longidase. The second group included 42 women who underwent traditional therapy. Isolation of platelets: fresh blood was taken from the cubital vein with a siliconized needle. A citrate buffer (pH-7.4) containing O1ZMM ethylenediaminetetraacetic acid sodium salt (EDHA) was used as a preservative. Platelet-rich plasma was obtained by centrifugation of blood at

120 g for 10 minutes at room temperature. The platelet pellet was obtained by differential centrifugation and washed 3 times to remove erythrocyte impurities. In the study, evaluation tests of the hemostasis system were used: total activity of clotting factors - activated recalcification time (ART); activated partial thromboplastin time (APTT); antithrombin III concentration, blood plasma tolerance to heparin; the level of fibrin-stabilizing factor, fibrinolytic activity and fibrinase. The hemostatic activity of platelets in patients with inflammatory disease of the genital organs was assessed using the method of A. S. Shitikova.

Results and its discussion. Atit was found that disorders in the vascular-platelet link of the hemostasis system in patients with VZPM manifested in a significant decrease in the number of platelets in venous blood compared with healthy women (P<0.05). Traditional therapy leads to an increase in the number of platelets up to 198.0±4.7·109/l (table).

The inclusion of Longidaza in the arsenal of therapy increases the number of platelets in venous blood to 228.9±7.3·109/l and thus approaching the initial values for 12-14 days of the study. Complex therapy with the inclusion of Longidaza also reduces the amount of active forms of platelets by 56% and is 15.0±0.77% versus 26.8% in the group before treatment.

Table 1

Dynamics of indicators of hemostatic activity of platelets in women with IDOSC before and during treatment

Indicators	Traditional treatment (n=42)		Main group (n=52)		
	Before treatment	After treatment	Before treatment	7-8th day	12th-14th day
Platelet count (×109/L)	182.0±10.0	198.0±4.7	182±10.1	214.1±5.7*	228.9±7.3*
The amount of active forms of platelets (%)	26.8±1.7	33.6±1.1*	26.8±1.74	16.9±0.78*	15.0±0.77*
Number of platelets	11.4±0.6	14.3±0.6*	11.1±0.6	9.1±0.33*	7.3±0.28*

involved in aggregates (%)					
Hemolysate aggregation test second dilution (sec)	10.4±0.33	8.9±0.27*	10.4±0.33	12.8±0.34*	12.9±0.29*
Hemolysate aggregation test sixth dilution (sec)	28.0±0.81	20.2±0.73*	28.0±0.6	31.4±0.51*	30.6±0.44*

Note: * - significant compared with data before treatment ($P<0.05$)

On the contrary, traditional therapy with the inclusion of Lidaza increases the active forms of platelets to 33.6±1.1% ($P<0.05$). A similar dynamics is also noted with respect to the number of platelets involved in the aggregates. Traditional therapy is accompanied by an increase in the hemostatic activity of platelets and, naturally, damage to the vascular wall (Willebrand factor). The latter is expressed in an increase in the adhesive properties of platelets (HAT second dilution 8.9±0.27 sec vs 10.4±0.33 sec) and aggregation (GAT sixth dilution 20.2±0.73 sec vs 28.0±0.81 sec). We observe a different dynamics in these indicators in the group with complex treatment with the inclusion of the Longidase enzyme preparation in the arsenal. At the same time, the studied indicators approach the initial values of the control group.

According to modern concepts, membrane phospholipids of activated platelets facilitate the interaction between factors IX, VIII, X and V, thereby stimulating the activation of the blood coagulation system, accelerating the formation of thrombin, i.e. creating a substrate for the development of DIC of blood (Table 2).

Table 2

Dynamics of indicators of the coagulation link of the hemostasis system in women with IDOSC before and during treatment

Indicators	Traditional treatment (lidase) (n=42)		Longidaza (n=52)		
	Before treatment	After treatment	Before treatment	7-8th day	12th-14th day
Activated recalcification time (sec)	50.6±0.8	59.9±1.11*	50.6±0.8	58.8±1.9*	62.2±1.19*
Activated partial thromboplastin time (sec)	30.6±0.66	34.8±0.51*	30.6±0.66	36.4±0.23*	40.5±0.71*
Prothrombin index %)	102.4±6.7	96.3±7.1	102.4±6.7	102.6±7.1	94.5±7.4
Fibrinogen (g/l)	4.3±0.2	3.87±0.2	4.3±0.2	4.0±0.2	3.3±0.2*
Fibrinolytic activity (g/l)	0.60±0.02	0.68±0.01*	0.60±0.02	0.56±0.03	0.87±0.04*

Note: * - significant compared with data before treatment (P<0.05)

Activating the obtained results of the study in patients with VZPM, it can be assumed that pronounced changes in platelet hemostasis are due to a violation of the phospholipid composition of cell membranes.

The results of the study of the coagulation link of the system against the background of therapy indicate that the ongoing complex therapy (Papain) leads to a prolongation of the AVR, APTT, and a decrease in the concentration of fibrinogen (P<0.05). On the 12th day of the study, an increase in fibrinolytic activity by an average of 1.45 times was noted. Factor XIII activity rises to 98.3±4.1%. The anticoagulation index (antithrombin III) increases and approaches the control values.

Thus, the ongoing complex therapy with the inclusion of longidase led to a significant decrease in platelet hyperaggregation, to a shift in coagulation parameters to normal or moderate hypocoagulation, an increase in antithrombin III activity, a decrease in the degree of thrombinemia (RCMF), relief of the sludge phenomenon and improvement of microcirculation. In the group with traditional treatment, these changes were not sufficiently significant, and some parameters also remained at their original values, apparently due to the fact that Longidase has an anticoagulant effect (fibrinolytic).

List of used literature:

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