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ISCHEMIC HEART DISEASE: EARLY IDENTIFICATION OF COAGULATION ABNORMALITIES IN YOUNG PATIENTS WITH STABLE ANGINA

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Abstract
In patients with exertional angina, III f.e. There is evidence of chronic proteaing disseminated intravascular coagulation (DIC); y 42.6% of patients – stage I, y 57.4% of patients – stage II. Soluble fibrin-monomeric compounds are the earliest marker of chronic DIC syndrome. With a similar type of angina, the degree of activity and stage of disseminated intravascular coagulation syndrome may be different. The stage of DIC depends on the duration of the disease with coronary heart disease, angina pectoris and the duration of concomitant heart failure.

Keywords: Exertional angina, method, treatment, chronic DIC syndrome.

INTRODUCTION

Cardiovascular pathology still remains one of the main causes of morbidity and mortality in the population of Uzbekistan [1]. An important factor in increasing morbidity and mortality due to cardiovascular diseases are thrombosis and thromboembolism as a result of the development of disseminated intravascular coagulation (DIC syndrome), which often determine the outcome of the disease [5]. Many aspects of this problem have not been completely resolved. Literature data on the high mortality rate of DIC syndrome, reaching 30–76%, relate mainly to its acute course [4]. Underestimation in clinical practice of transitional (chronic, latent) forms of DIC syndrome, untimely diagnosis (due to the absence of obvious clinical manifestations of the first phase of the syndrome) and correction of disturbances in the hemostatic system often lead to serious thrombo-hemorrhagic complications.

MATERIALS AND METHODS

Studies on the problem of DIC syndrome in coronary heart disease (CHD) are few and are devoted mainly to its acute form in uncomplicated or complicated myocardial infarction [1, 2, 4]. Works concerning chronic DIC syndrome in chronic forms of coronary artery disease, in particular with angina pectoris, are rare.

The main group consisted of 54 patients with angina pectoris III functional class. aged 40 to 68 years (58.2 ± 0.9 years). Of these, 41 were men, 13 were women. The duration of IHD was 65.0 ± 6.4 months. Duration of angina pectoris – 58.8 ± 6.0 months. 51 patients were diagnosed with chronic heart failure (CHF). The duration of CHF was 29.0 ± 3.0 months.

RESULTS AND DISCUSSION

In patients with angina pectoris III chronic activation of the functional state of the hemostatic system was revealed. There was a decrease in APTT by 18% ($p < 0.05$) in comparison with the values of healthy individuals, which indicates activation of the internal coagulation mechanism, i.e., an increase in the activity of the first phase of blood coagulation. The blood FG concentration was increased by 46% ($p < 0.05$), which reflects a tendency to hypercoagulation and indicates activation of phase III of blood coagulation. AVR in the compared groups did not differ statistically ($p > 0.05$). Intravascular activation of the blood coagulation system was confirmed by a high concentration of RFMC in the blood plasma (10.94 ± 3.49 g/l H 10-2), which is 300% higher than that of healthy individuals ($p < 0.05$) and is a marker thrombinemia is the main symptom of DIC syndrome.

The state of the natural anticoagulant system was characterized by a decrease in the activity of the main anticoagulant, AT III, by 23% compared to the control group ($p < 0.05$).

The identified changes were accompanied by inhibition of fibrinolysis activity by 47% ($p < 0.05$) compared to the healthy group.

The data obtained: a decrease in the activity of anticoagulants, signs of inhibition of fibrinolysis against the background of hypercoagulation phenomena, as well as the detection of an increase in the concentration of RFMC made it possible to diagnose the presence of DIC syndrome.

In a more detailed analysis of the group of patients with angina pectoris III f.k. managed to divide into two subgroups. The criterion for separation was AT III activity, which characterizes the state of the anticoagulant reserve and reflects the presence or absence of consumption coagulopathy in the patient: subgroup 1 (23 people) – AT III activity e" 75% (no consumption coagulopathy), subgroup 2 (31 people) – AT III activity – <75% (there is consumption coagulopathy).

Patients of the 1st subgroup had signs of activation of phases I and III of blood coagulation (decrease in APTT, increase in FG content compared to healthy people ($p < 0.05$). At the same time, there was an increased level of plasma RFMC ($p < 0.05$), which is a sign of the presence of DIC syndrome in them. Thus, in patients of the 1st

subgroup, pronounced hypercoagulation was revealed while the anticoagulant and fibrinolytic potentials of the blood plasma were preserved. Despite the presence of normal anticoagulant and fibrinolytic activity blood, against the background of hypercoagulation, an increase in the concentration of RFMC is noted. The absence of consumption coagulopathy in patients of the 1st subgroup suggests the presence of stage I DIC syndrome. The normal activity of euglobulin fibrinolysis (EF) indicates its initial manifestations and the preservation of natural compensation mechanisms for this category of patients.

The state of the hemostasis system in patients of the 2nd subgroup was also characterized by a decrease in aPTT and an increase in the level of blood fibrinogen compared to healthy people ($p < 0.05$). AVR and PT did not differ significantly from those of healthy individuals ($p > 0.05$). Patients in this subgroup had an increased level of plasma RFMC, inhibition of fibrinolysis ($p < 0.05$) and a decrease in AT III activity compared to the group of healthy individuals ($p < 0.05$).

CONCLUSION

1. All patients with exertional angina pectoris III functional class. There are signs of chronically occurring disseminated intravascular blood coagulation: a significant increase in the concentration of soluble fibrin-monomer complexes against the background of hypercoagulation phenomena, a decrease in the activity of the anticoagulant blood system, and suppression of the activity of fibrinolysis.
2. In 42.6% of patients, initial manifestations of stage I of chronic DIC syndrome are observed - the hypercoagulation stage. In 57.4% of patients, stage II is noted - chronic DIC syndrome.
3. Soluble fibrin-monomer complexes are the earliest marker of chronic DIC syndrome and are detected already at the initial stage of stage I of the pathological process, when other markers (AT III and fibrinolysis activity) are still within normal limits.

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