



Prevention Of Thromboembolic Complications During Extended Operations On Abdominal Cavity Organs With Thrombodynamic Control

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Revelance. The risk of VTEO is higher in patients with comorbidities: varicose veins, diabetes mellitus, hypertension, fat metabolism disorder, thromboembolic complications in the history, thrombophilia, malignancies, diseases of the cardiovascular system, in patients with posthemorrhagic anemia and after repeated interventions[1]. The increased risk of developing these complications is noted in women taking hormonal drugs[2]. The main problem of VTEO prevention lies not in the increase in the number of high-risk patients and not in the lack of effective means of prevention, but in the lack of proper organization of prevention, insufficient attention to this problem. To date, VTEO prophylaxis is performed in all surgical patients, but the nature of the applied prophylactic measures is determined by the risk strategy[3].

Keyword. Posthemorrhagic, thromboembolic, thrombodynamics, postoperative, peritonitis.

The aim of the study was to reduce the number of venous thromboembolic complications in patients after extended operations on abdominal cavity organs by applying an effective system of prognosis and prophylaxis based on the use of the "Thrombodynamics" test.

All patients were divided into 2 groups. In 123 patients who made up the main group, prophylaxis of thromboembolic complications in the perioperative period was carried out taking into account the data of the thrombodynamics study. The control group consisted of 138 patients who underwent standard prophylaxis of postoperative thromboembolic complications in accordance with the protocols of examination and treatment of surgical patients.

The observation groups were comparable in age (Table 1) and sex. The mean age of patients in both groups was 43.3 ± 11.6 years in the main group and 45.2 ± 9.7 years in the control group. The proportions of different age subgroups in the comparison groups had no statistically significant difference (for all age subgroups $p > 0.05$).

Thrombodynamics was studied in all 123 patients of the main group using the laboratory diagnostic system "Thrombodynamics Registrar T-2".

If the risk assessment according to the test results coincided with the data of the proposed scale taking into account postoperative studies of the hemostasis system, the patient remained in this risk group. If the worst prognostic indicators were obtained according to the test results, the test results were prioritized and the patient was transferred to the risk group that matched the prognosis. As a result of the final evaluation and taking into account the test data, there was a significant deterioration in the overall quality of prognosis. Thus, only 19 (15.4%) were categorized as low risk for complications and 50 (40.7%) as medium risk. The number of patients at high risk of VTE increased significantly. Taking into account the data, it increased from 22.7% to 36.6%. In addition, a previously absent category of patients with critical risk of complications was formed (Figure 2). The study of the venous system of the lower extremities revealed a clear correlation between the slowing down of blood flow velocity through the femoral vein, its diameter and the severity of peritonitis. Thus, at a mild degree of peritonitis there was determined a decrease in linear blood flow



velocity along the femoral vein by 6.8%, at peritonitis of medium severity - by 16.5%. At the severe degree of peritonitis severity there was determined a decrease of linear blood flow velocity in the OPV by 22.1%. The volume velocity of blood flow decreased by 4, 7.3 and 17%, respectively. The increase in the diameter of the OBV and BPV, as well as the decrease in blood flow velocity parameters and their dependence on the severity of peritonitis may be associated with the development of intra-abdominal hypertension in peritonitis, compression of the inferior vena cava and difficulty of venous return through it. The complex approach to VTE risk stratification using the "Thrombodynamics" test applied in 123 patients of the main group made it possible to get a prognosis already in the first day of the postoperative period and to divide the patients of the main group into risk groups. The low risk degree of VTEO development was established in 19 (15.4%) patients of the main group and 47 (34.1%) of the control group. In all patients in the main group on the background of positive dynamics of peritonitis course by the 3rd day of the postoperative period it was possible to achieve normocoagulation or mild hypocoagulation, which remained till 10 days after the operation. Out of 47 (34.1%) patients of the control group with low risk of VTEO development by the 3rd day of the postoperative period the normocoagulation indicators according to the biochemical coagulogram were achieved in 43 (91.5%), in 4 (8.9%) of them mild hypercoagulability remained by the 3rd day after the operation. This was an indication for transferring these patients to the group with medium severity of prognosis and prescribing, in addition to early activation and elastic compression of the limb, low-molecular-weight heparin (Clexane (enoxaparin) - 20 mg or Fragmin (dalteparin) - 2500 IU, once a day subcutaneously). The average risk degree of VTEO development was established in 50 (40.7%) patients of the main group and 74 (53.6%) of the control group. In 49 (98%) out of 50 patients of the main group on the background of positive dynamics of peritonitis course by the 3rd day of the postoperative period it was possible to achieve stable normocoagulation.

Patients with acute surgical diseases of abdominal cavity organs are characterized by changes in the hemostasis system in the form of pronounced hypercoagulability against the background of slowing blood flow in the veins of the lower extremities, and the severity of these disorders directly depends on the severity of peritonitis, endogenous intoxication and the presence of multiorgan dysfunction.

2. Extended surgical interventions in patients with peritonitis are an additional and clinically significant factor for the development of hypercoagulability in the postoperative period, which should be taken into account in the risk stratification of VTEO. 3. The integral scale developed in the framework of the study is adapted for patients with acute abdominal surgical pathology, has reliability - 0.9, with an average error of 4.9%, helps to quickly and with a high degree of reliability to assess the risks of VTEO during extended operations on abdominal cavity organs.

4. Application of the test "Thrombodynamics" throughout the whole perioperative period allows to register disorders in the hemostasis system more accurately and in a timely manner, and the changes in the test parameters are advanced in comparison with classical methods of research.

Literature

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