Opinion

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Use of Catheter-Controlled Thrombolysis in the Treatment of Patients with Acute Thrombosis of Deep Veins of the Lower Extremities

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ABSTRACT

Abbreviations: VTEU: Venous Thromboembolic Complications; PTH: Post-Thrombotic Disease; CCT: Catheter-Controlled Thrombolysis

Opinion

Venous thromboembolic complications (VTEU), which include deep vein thrombosis (TGV) and pulmonary embolism (TIA), are a topical problem in modern medicine due to one of the frequent causes of mortality and disability [1-3]. In Ukraine annually there are about 260 cases of deep vein thrombosis and their complications per 100 000 population with a fatality rate of TSE at the level of 20-25% [4]. When involved in the thrombotic process of the proximal segment of the veins of the lower limb, irreversible damage to the valvular apparatus of the vein, resulting in venous dysfunction and, subsequently, the development of post-thrombotic disease (PTH). Despite the existence of a large arsenal of effective anticoagulants and the use of modern antithrombotic regimens, 30-75% of patients in the remote period have HRT of varying degrees of severity, and 10-40% of them suffer from severe edema of the lower extremities, chronic pain and / or trophic ulcer, which leads to persistent signs of disability [5,6]. Thus, in the structure of primary disability due to diseases of the veins of the lower extremities, the consequences of postponed VTEU make up 77.4% of cases [7]. In this regard, the tactics of treating patients with proximal DVT remains the subject of active discussion both in our country and abroad [8].

Today, thrombolytic therapy is an alternative treatment for acute thrombosis in the system of the lower vena cava, which is indicated in the recommendations of the American College of Thoracic Physicians [9-11]. According to interdisciplinary clinical guidelines - "Venous thromboembolism: diagnosis, treatment, prevention", Kyiv, 2017. - the use of systemic thrombolysis in DVT promotes a reduction in the frequency of relapsing DVT and PTX. According to randomized trials, for systemic use of streptokinase, the function of venous valves was better than with heparin [11]. In a review of 6 clinical trials, systemic thrombolysis was 3.7 times more effective than heparin. In a combined analysis of 13 randomized trials, only 4% of patients who received heparin achieved significant or complete lysis, after systemic administration of streptokinase - 45%. However, prolonged infusion of streptokinase is often the cause of the occurrence of allergic reactions and hemorrhagic complications - 3 times more often than in patients who were prescribed heparin. In addition, the frequency of satisfactory lysis of blood clots is not high enough to make positive conclusions about the use of systemic thrombolysis.

Studies have shown that systemic administration of thrombolytic agents in the widespread occlusive thrombosis of deep veins is ineffective, probably due to the lack of contact area of the drug with thrombotic masses in conditions of disturbed regional hemodynamics [12,13]. This fact played a decisive role in the increasingly frequent use of regional thrombolysis instead of systemic administration of the thrombolytic drug. Further research in this direction led to the development of the method of catheter-controlled thrombolysis (CCT), with the introduction of which in clinical practice there was an opportunity to restore the permeability of deep veins in 80% of patients without increasing the amount of bleeding [12,14,15]. Direct streptokinase catheter therapy for proximal DVT provided complete thrombus lysis in 72% of patients for concomitant symptom relief. The selective delivery of a thrombolytic agent allows for a high concentration of substance within the thrombus, which would be impossible provided it is systemic [1]. Due to this, catheter-controlled thrombolysis is increasingly used as a method of choice in the treatment of patients with proximal phlebothrombosis [11,16-17].

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