Clinical and Ultrasound Characteristics in Treatment Groups of Patients with Acute Thrombosis of Deep Lower Extremity

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Abstract

The article is dedicated to the study of the effectiveness, immediate and long-term results, according to ultrasound examination, catheter-aspiration thrombectomy, thrombolysis and antiplatelet therapy in patients with acute vein thrombosis of the lower extremities, since there is no consensus in the available literature on the feasibility and results of endovascular catheter-aspiration thrombectomy and thrombolysis with thrombosis of the veins of the lower extremities.

Materials and Methods

We analyzed the results of endovascular intervention in 34 patients with THVLE who were hospitalized in the 2nd clinic of the Tashkent Medical Academy from 08/01/2016 to 02/01/2019; 19 patients were female, 14 patients were male, aged 30 to 70 years. Patients turned on 3-8 days from the onset of the disease with complaints of edema and soreness of the lower limb. Etiological factors included the following: postoperative period after orthopedic surgery, abdominal interventions, hormone therapy, and idiopathic thrombosis.

The most obvious reason for the positive dynamics of outcomes in patients with pulmonary embolism over the years of the registry was the improvement of diagnostic approaches using a combination of prognostic scales, measuring the level of D-dimer, as well as multi-spiral computer angio-pulmonography. Another reason for improving outcomes of treated patients was the optimization of anticoagulant therapy.

Results and discussion

In order to achieve the objectives of the study, 105 patients were examined, the results of the examination and treatment of patients with acute deep vein thrombosis of the lower extremities were analyzed, and who received treatment in the emergency surgery department of the TMA multidisciplinary clinic for the period from 2014 to 2019. Of the 105 patients, the risk of factors was as follows (Table 5).
Table 5. Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Abs.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term immobilization</td>
<td>6</td>
<td>5.7</td>
</tr>
<tr>
<td>Injuries / fractures</td>
<td>7</td>
<td>6.6</td>
</tr>
<tr>
<td>postpartum</td>
<td>7</td>
<td>6.6</td>
</tr>
<tr>
<td>postoperative</td>
<td>10</td>
<td>9.5</td>
</tr>
<tr>
<td>Hormone therapy</td>
<td>14</td>
<td>13.3</td>
</tr>
<tr>
<td>Idiopathic nature</td>
<td>61</td>
<td>58</td>
</tr>
</tbody>
</table>

Upon admission, a thorough collection of complaints, medical history and physical examination was carried out. The most common symptoms are edema and pain in the lower extremities, which shows a high diagnostic significance (Table 6).

Table 6. The clinical picture of THVLE upon admission to the clinic

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Edema</th>
<th>Pain</th>
<th>Cyanosis</th>
<th>Cramps</th>
<th>Lack of symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs.</td>
<td>102</td>
<td>100</td>
<td>20</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>97,1</td>
<td>95,2</td>
<td>19</td>
<td>14,2</td>
<td>2,8</td>
</tr>
</tbody>
</table>

These symptoms are the first sign of patient alertness and are the reason for seeking medical help. It is the clinic of impaired venous outflow from the lower extremity that leads to a decrease in the QOL of patients with THVLE, affecting both the physical functioning of a person at home and in society, and psychological status.

Table 7. Prescription THVLE in Patients on Admission

<table>
<thead>
<tr>
<th>Prescription</th>
<th>1-3 day</th>
<th>4-7 day</th>
<th>7-10 day</th>
<th>11-14 day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs.</td>
<td>48</td>
<td>31</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>%</td>
<td>45,7</td>
<td>29,5</td>
<td>15,2</td>
<td>9,5</td>
</tr>
</tbody>
</table>

We divided the patients into the study groups according to the duration of the disease according to two clinical signs: edema and pain in the lower extremities (Table 7). It was noted that the number of patients with edema is constant at any prescription of the pathological process, and the pain syndrome decreases in all groups with an increase in the duration of the disease, which is due to the compensatory ability of the venous collaterals. Timing of THVLE plays an important role during the course of the disease and can affect the effectiveness of anticoagulation, fibrinolysis of patients because, if a person does not experience pain in the legs, he can perform a little housework, minor physical exertion, and therefore less worry about your condition. To determine the tactics of treatment, an important point is the determination of the localization and nature of the proximal border of the thrombus; For this purpose we used the classification LET.

1. This classification is convenient, as it reflects the clinic of the disease, the tactics of the endovascular method of treatment for THVLE and prophylaxis in the development of pulmonary embolism. 2. The nature of the proximal part of the thrombus: floating, occlusal and parietal.
3. The length and diameter of the floating part of the thrombus.

The distribution of patients into groups according to this classification is presented in table 8.

Table 8. The distribution of patients by the level of thrombosis

<table>
<thead>
<tr>
<th>Classification on localization</th>
<th>Control group (55 patients)</th>
<th>Main group (50 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-class</td>
<td>3</td>
<td>6 %</td>
</tr>
<tr>
<td>2-class</td>
<td>5</td>
<td>9,0 %</td>
</tr>
<tr>
<td>3-class</td>
<td>6</td>
<td>10,9 %</td>
</tr>
<tr>
<td>4-class</td>
<td>5</td>
<td>9,0 %</td>
</tr>
<tr>
<td>2-class + 3-class</td>
<td>35</td>
<td>63,6 %</td>
</tr>
<tr>
<td>1-class + 2-class + 3-class</td>
<td>6</td>
<td>10,9 %</td>
</tr>
</tbody>
</table>
According to the LET classification, in the control and main groups, class 2 is more common with a combination of class 3 (thrombosis of PBV, OBV, HBV and iliac veins), a smaller amount of class 1 (thrombosis of the lower leg veins) and class 4 (IVC thrombosis at a level below the renal veins) are almost equally patients in groups; these patients were identified interoperatively during cavagraphy at the stage of cavafilter installation. The prevalence of these segments is most common taking into account the clinical picture. For example, with thrombosis of sural veins, the edema is insignificant or may be absent due to passable veins-compensators (HBV) or powerful collaterals (in our study this was noted in 3 (6%) patients), and the diagnosis can only be established with instrumental methods of research. Thrombosis of OBV and ilial veins is characterized by swelling of the leg and thigh, which leads to the patient immediately seeking medical help and subsequent hospitalization. By the nature of the top of the thrombus, the following groups were distinguished: floating, parietal, and occlusal thrombi (Table 9).

### Table 9.

<table>
<thead>
<tr>
<th>Character proximal thrombus parts</th>
<th>Control group (55 patients)</th>
<th>Main group (50 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating</td>
<td>7 (12.7%)</td>
<td>11 (22%)</td>
</tr>
<tr>
<td>Parietal</td>
<td>14 (25.4%)</td>
<td>15 (30%)</td>
</tr>
<tr>
<td>Occlusal</td>
<td>34 (61.8%)</td>
<td>24 (48%)</td>
</tr>
</tbody>
</table>

In group 1, floating thrombi were noted in 7 (12.7%) patients, in group 2 - in 11 (22%) patients. The occlusal form in group 1 - in 34 (61.8%) patients, in group 2 - in 24 (48%) patients. Parietal thrombi were noted in group 1 - in 14 (25.4%) patients, in group 2 - in 15 (30%) patients.

Thus, the obtained clinical data suggest that edema and pain in the lower extremities are of high diagnostic value in cases of suspected DVT. This allows you to refer the patient to an ultrasound scan, which is not only a diagnostic tool, but also an indicator of the effectiveness and thrombosis, thrombolysis and the duration of the ACT. The most common patients are those with thrombosis of the iliopelvic segment (a combination of grade 2 and grade 3 according to the LET classification) and with thrombosis of DFV, SFV and popliteal vein (grade 2 according to the LET classification).

### References

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