Experience of Endovascular techniques in treatment of long superficial femoral artery occlusions.

Chernyavskiy Mikhail, Chernova Daria, Chernov Artemii, Zherdev Nikolay.
Almazov National Medical Research Centre,
St. Petersburg, Russian Federation

Introduction: The main objective of our research is to assess the immediate and long-term outcome results of endovascular recanalization long superficial femoral artery occlusions.

Methods:
For the year 2017 in the clinic of Vascular and Intervention Surgery department Federal Almazov National Medical Research Centre in the hybrid operating room (Artis Zeego Siemens), performed 64 patients with long occlusions of superficial femoral artery. The patient's age were from 50 to 81 years. The length occlusions was from 9 to 24 cm (mean 13.6 ± 2.4 cm). Indications for treatment included 18 cases (28.1 %) type B, 31 (48.4 %) - type C and 15 (23.4 %) type D lesions. Stage of chronic lower extremity lesion 2 and 3. Diabetes mellitus in 34 (53.1 %) patients. Patient with a smoking history – 41 (64 %). Critical lower limb ischemia in 13 cases. Antegrade recanalization was performed in 49 (76.5 %) patients, retrograde recanalization in 15 (23.4 %) patients. Using the Crosser System in 16 cases for patients with occlusions length more than 15 cm. Clinical and ultrasound evaluation was performed at discharge, after 30 days and 6-9 months.

Results:
Technical success of recanalization of the arteries was in 93.5 % cases. Compensation for critical lower limb ischemia was achieved in all patients in both groups. 30-days patency was 100%.

The 6-9 months follow up preservation of arterial patency are in 92.1 %.

Table 1. Effect of the length of the stented section on the patency of the reconstruction zone

<table>
<thead>
<tr>
<th>Length of Stent (cm)</th>
<th>Patency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>92.1</td>
</tr>
<tr>
<td>24-28</td>
<td>87.8</td>
</tr>
<tr>
<td>28-30</td>
<td>78.9</td>
</tr>
</tbody>
</table>

Figure 1. Case 1. (A) CT-angiography before surgery. (B, C) 3D CT-angiography before surgery.
Figure 2. Case 1. Angiography. (A) Recanalization. (B, C) Balloon angioplasty and stenting.
Figure 3. (A, B) Angiography.
Figure 4. Angiography. (A) Balloon angioplasty. (B, C) Stenting.

Conclusions:
These results demonstrated the safety and high efficacy of endovascular treatment of TASC II C and D long superficial femoral artery lesions.

References: