

The Experience of Successful Reconstructive Surgery for Recurrent Rethrombosis of the Femoral Artery and Thrombosis of the Graft in the Iliac Artery of the Right Lower Extremity

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ABSTRACT

In this report, the authors present the case of clinical observations on the results of reconstructive surgical intervention secondary rethrombosis of the femoral artery and thrombosis of the graft in the iliac artery of the right lower extremity. Currently, the problem of surgical treatment of chronic lower limb ischemia associated with atherosclerotic lesions of the main vessels still retains its relevance in clinical surgery. Still, after reconstructive surgery found complications in the postoperative period in the form of thrombosis of prosthetic and rethrombosis. Based on their clinical observations the authors recommend thrombosis of prosthetic rethrombosis and recurrent to do a cross-reconstruction of the arterial iliac-femoral bypass grafting (PTFE-Ecoflon L8-80) as the most effective and promising method of operations.

Keywords: ischemia, thrombosis of the prosthesis, the secondary rethrombosis, cross-reconstruction of the main vessels.

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INTRODUCTION

High prevalence of chronic obliterating diseases of lower limb arteries among the population led to an increase in the number and types of performed vascular reconstructive operations on arteries of the lower extremities. At the same time, the increase in the number of vascular reconstructions performed has increased and the number of patients needing re-operations in connection with the development of reocclusions and restenosis in the region of the restored arterial segment [1,2]. The main reason that leads to the obliteration of the recovered arterial segments is the progression of the atherosclerotic process [3]. So according to the Russian society of angiologists and vascular surgeons (2013), after aorto-femoral reconstruction 5-year patency of vascular grafts reaches 80-94%, and 10-year-old 78-92%. According to some authors, in the early postoperative period, reconstructive surgery is complicated by thrombosis of the prostheses and operated on vessels at 7-37,0% of patients, and the frequency of late (more than 3 4месяцев) thrombosis ranges from 8.5% to 30% for aorto-iliac and from 22% to 60% for a femoral-popliteal bypass surgery [5,6,9]. The problem of surgical treatment of chronic lower limb ischemia caused by obliterating atherosclerosis is considered one of the urgent issues in surgery [4,7]. Developed operations aimed at both improving the main and collateral blood flow of the lower extremities. In the case of occlusive lesions of the abdominal aorta and pelvic

arteries, the tactics of surgical treatment are quite clearly defined and consist of performing shunting or prosthetic operations with a distal border at the level of bifurcation of the common femoral artery [5,8]. The incidence of prosthesis thrombosis in the early postoperative period after such interventions, as a rule, does not exceed 8% [1]. 5 years after the intervention, shunt occlusion is detected in 5-10% of the operated patients [6]. The situation is much more complicated with reconstructive surgical operations in the femoral-popliteal zone, which are 10 times more complicated in the early postoperative period than interventions in the aorto-femoral segment. The frequency of early thromboses of arterial prostheses can reach 25%, significantly increasing with interventions of no more than distal limb segments [3,9].

CLINICAL CASE

Here is a case of clinical observation: the patient Babaev B. 62 years old (case history No. 2372/176) 31.01.2020 hospitalized in the division of cardiovascular surgery clinic of ASMI in a planned manner with a diagnosis of "Atherosclerosis, atherosclerosis of the abdominal aorta and lower extremity arteries. Leriche's Syndrome. Occlusion of the iliac artery system right, thrombosis of the shunt on the right". Condition after surgery of aorto-femoral bypass, the elimination of rethrombosis of the prosthesis thrombectomy

(2015). Complication: Chronic arterial obstruction 2 "B" according to Savelyev, ischemia grade 3-4 according to Pokrovskiy. Upon receipt complained of the presence of pain in the right lower extremity aggravated by walking and physical activity accompanied by alternating lameness, a feeling of cold and numbness, as well as a periodical increase of pain in the right lower extremity especially at night. It also notes the weakness, feeling of fatigue in the lower limbs, poor sleep and decreased disability. It is established that the patient suffers for a number of years and the beginning of disease associates with periodic cooling of the lower extremities, disorders of a healthy lifestyle including frequent Smoking. The patient initially had pain in the extremities, and then the disease gradually progressed and joined the feelings of cold and numbness in the right lower extremity. Subsequently became to worsen intermittent claudication, as the patient is passing a distance of 50-100 meters is forced to stop due to the increase in pain. Of anamnestic information revealed that he was treated in hospital and on an outpatient basis, and was under the supervision of angiosurgeon on the residence. But unfortunately, the ongoing complex conservative of the event was not a success and in connection with frequent exacerbations of the disease in 2013 June 11, the patient was produced in a specialized clinic "cardiovascular surgery" Chelyabinsk "Aorto-right femoral bypass graft PTFE". In the postoperative period, the above complaints were eliminated, and for several years the patient's condition was quite satisfactory. It should be noted that due to the constant violation of a healthy lifestyle, non-compliance with the recommendations of experts over the last 2-3 years the patient's condition began to deteriorate and the disease was intensively progressed. For this reason, the patient in

the Department of cardiovascular surgery 20.12.2019 year produced "operation Thromboembolotomy femoral artery on the right". But despite this, there was a tendency towards an increase in the main clinical signs of the disease, and therefore the patient was hospitalized in the department of cardiovascular surgery. Upon admission, the general condition of the patient was evaluated as moderate. The osteoarticular system without deformation, peripheral lymph nodes are not enlarged. BH - 18-20 times per minute, A / D 130/90 mm Hg, pulse 98-100 beats per minute, heart sounds are arrhythmic, muffled, the borders of the heart are not expanded.

Status localis

Upon examination, the skin of the right lower extremity is pale, marbled, cold to the touch, on the popliteal artery (a.poplitea) and on the peripheral arteries of the foot (a.tibialis posterior et. Al., Dorsalis pedis) there is no pulsation. The clinic conducted a number of instrumental and laboratory research methods. With USDG dated 4.02.2020, on the right, the common femoral artery is thrombosed, prosthetized, 60% stenosis in the popliteal artery, collateral blood flow. The iliac artery is prosthetized, there is no blood flow. In the anterior tibial artery - stenosis is 70% of the diameter of the vessel, and on the posterior tibial artery - blood flow is not determined. When ultrasound scan revealed signs of thrombosis of the common iliac, external iliac and common femoral arteries of the right lower limb, ischemia of the right lower limb. When MSCT - angiograms of the arteries of the lower extremity revealed signs of atherosclerosis of the abdominal aorta, arteries of the lower extremity and exfoliating aneurysm of aortic bifurcation.

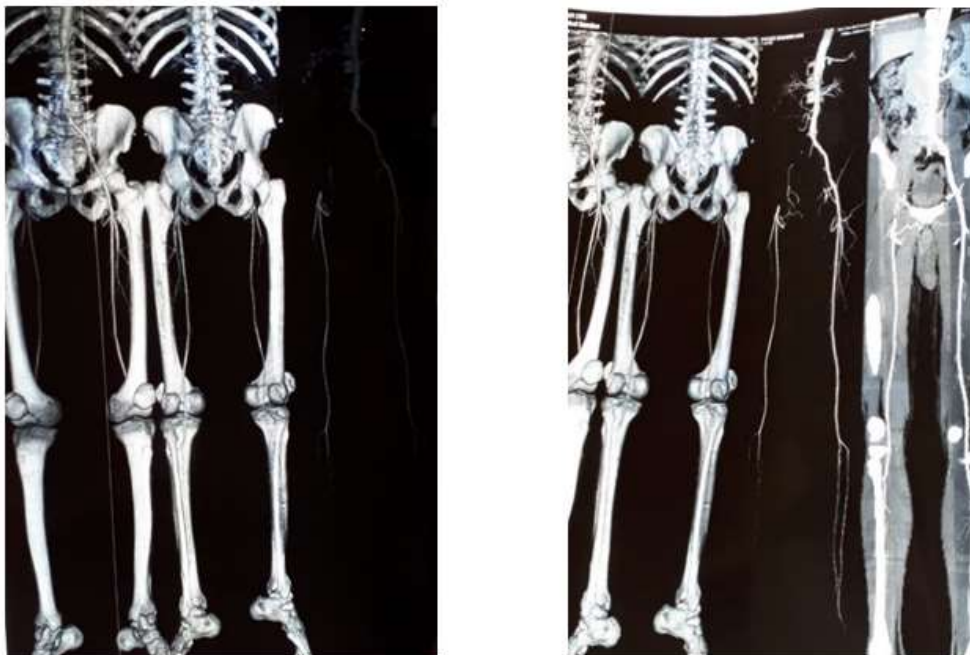


Fig. 1: Occlusion of the system of the right iliac artery

When ECHO – PV 60%; KDO – 133,0; the cavity of the heart is not extended, the leaves are not uniform, AO 1 degree of regurgitation.

When echocardiography revealed associated ischemic heart disease. Correct ECG sinus rhythm, the horizontal position of the electrical axis of the heart, signs of hypoxia of the myocardium. Fluoroscopy lung fields clear. Ultrasound – cyst on both kidneys, hyperplasia of the prostate.

In the General analysis of blood: hemoglobin-110 g/l; erythrocytes -4,10x10¹²/l; colour index of 0.9; leukocytes - 7,9x10⁹/l; platelets-170x10⁹/l; stab neutrophils -4; -66 segmented neutrophils; lymphocytes -27; -3 monocytes; ESR –6 ml/h; time of blood coagulation 355-400.

In biochemical: ALT-0.52 mmol/l; AST-0.18 mmol/l; total protein-72,7 g/l; PETIT-105%; tolerance heparin 5*30; thrombotest-4-5 степени; the recalcification of plasma-90; fibrinogen by Rutberg-6660; blood sugar is 5.3; the DS-ELISA-HBs Ag-0,023; DS-ELISA-HCV-0,026;

In the clinic, taking into account the results of the clinical examination, Doppler ultrasound and CT with angiography were exhibited a clinical diagnosis of "Reritrans right femoral artery, thrombosis of the prosthesis in the iliac artery of the right lower extremity. Condition after surgery of aorto-femoral bypass and thrombectomy. A complication of the underlying disease: Chronic arterial obstruction 2 „B" on Savelyev, ischemia grade 3-4 according to Pokrovskiy."

The patient received comprehensive treatment (anticoagulants, vasodilators, tools, improve blood rheology and microcirculation, pain treatment) but in connection with deterioration of General condition as the disease progresses, as well as relying on the results of Doppler ultrasound and MSCT, and seeing no prospect conservative measures patient 15.02.2020 year produced "operation Cross from the left iliac-femoral prosthesis" (prosthesis Ecoplan 8). From the Protocol operation in the area of the femoral triangle to the right excised postoperative scar, a dedicated distal anastomosis of deep femoral artery and superficial femoral artery.



Fig.2: Proximal anastomosis, which was performed on the type of "end to side" external iliac artery with a prosthesis (PTFE-Ecoflon L8-80).



Fig. 3: Stage of shunt through the fascia of the pubic bone from left to right.

The distal shunt of the prosthesis was isolated; an attempt to thrombectomy from the jaw was unsuccessful. In connection with this, a separate incision was made in the inguinal region on the left along Pirogov and access was made to the retroperitoneal space and the external iliac artery was highlighted. Next, a site was prepared for the proximal anastomosis, which was performed as end-to-side external iliac artery with a prosthesis (PTFE-Ecoflon L8-80). A shunt (prosthesis) was made through the fascia of the pubic region from left to right (Fig. 3). Further, it was not possible to create a site for CFA on the right, since a distal anastomosis at the CFA level on the right. Given the above distal anastomosis created by the type of "end to end" PFA with a prosthesis (PTFE-Ecoflon L8-80). (fig. 4)

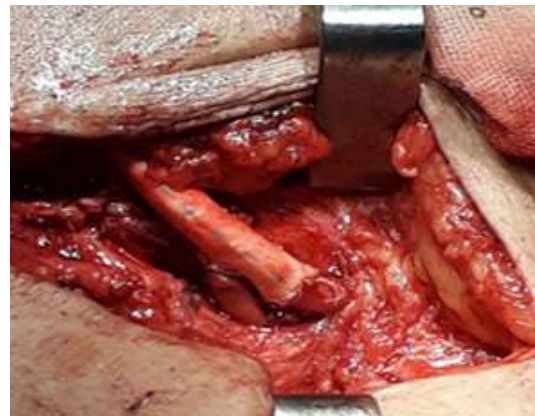


Fig. 4: The final view of the type of "end to end" PFA with a prosthesis (PTFE-Ecoflon L8-80)



Fig. 5: The final view. The anastomosis of the type of end of the HAB side of the prosthesis.

The tightness of the anastomosis is preserved. Start blood flow on a shunt and below the distal anastomosis in the PFA. When you audit the SFA is also suitable for the reconstruction of the created anastomosis by type of end PFA side of the prosthesis. (Fig.5) the start of blood flow, the anastomosis sealed pulse on PFA and SFA distinct. Careful hemostasis. Suturing layer-by-layer on the wound of the operation. In the early postoperative period, the patient was conducted conservative events including (anticoagulants, antibacterial, infusion, and analgesic therapy) as a result of the patient's condition has stabilized. The patient was discharged in satisfactory condition 20.02.2020 year recommendation is under the supervision of a specialist angiosurgeon at the place of residence and come to the control examination after a month after surgery. At discharge from hospital, almost no complaints, General health is good. Examined 3 months after surgery, the condition is satisfactory, practical, no complaints.

CONCLUSION

Thus, if clinical observations suggest that the diagnosis and treatment of trunk vessels and thrombosis of the graft after aorta-femoral bypass grafting and thromboembolectomy is quite complex in terms of the definition of the tactical and technical techniques in reconstructive surgery. When the diagnosis of recurrent thrombosis shunt and main vessels should use informative and high-tech research methods (Doppler ultrasound, CT with angiography), which make it possible to perform reconstructive surgery. In the same non-standard clinical situations the choice of the surgical method, we consider the use of "cross-reconstruction of the main vessels with iliofemoral prosthesis" (PTFE-Ecoflon L8-80).

CONFLICT OF INTEREST

None

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