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TRANSPLANTATION OF AORTIC ALLOGRAFTS IN COMPLICATIONS OF RECONSTRUCTIONS OF THE AORTO-FEMORAL SEGMENT

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Introduction. Prosthetic graft infection is one of the most dreaded vascular complications with mortality rate ranging from 9% to 28% and limb loss ranging from 10% to 20% of the cases. In this setting, prosthetic graft excision plays a decisive role for the eradication of infection [1]. A promising modern option for the restoration of in-line flow may be the use of allograft vascular structures with elements of transplantation technologies after explantation of synthetic material [2].

Aim of the study. To substantiate a modern tactical algorithm and the technical specifics of operational approaches for infection of synthetic explants after reconstruction of the aorto-femoral segment.

Materials and methods. 5 male patients (from 58 to 76 years old) with clinical manifestations of prosthetic infection and its complications in the early and late postoperative period underwent explantations of synthetic prosthetic structures and repeated reconstructions by allotransplantation of aortic homografts. In three patients, the phenomena of infection and suppuration of synthetic prostheses were observed. There was presence of groin fistula after surgery in 4 months and the formation of a secondary aortic fistula took place 6 years after the primary reconstruction in other two patients. The indications for repeated operations were suppuration and fistulas of postoperative wounds with septic somatic reaction and recurrent bleeding.

Results and discussion. In the early postoperative period, on the 6th day, one patient was diagnosed with bilateral total suppuration of a bifurcated aorto-femoral synthetic prosthesis and wounds in the projection of distal anastomoses, in another case, long-term lymphorrhea from an inguinal access wound led to paraprosthetic infection in the operated on two levels (general iliac-femoral + femoral-popliteal bypass surgery). In both cases, synthetic prostheses were explanted with the installation of allografts and autovenous bypass structures in the same positions. Homologous material was used as shunts (donor aorta and iliac arteries, as well as a large subcutaneous vein). Complete wound healing, revascularization and functional state of the limb were preserved in one patient. In one case, a fatal outcome was found from intoxication and multiple organ failure.

In two patients, complications developed 1.5 years and 6 years after primary aorto-bifemoral bypass surgery. Surgical intervention after receiving data on the presence of infection was the only therapeutic method of choice in a patient with an inflammatory general somatic reaction and an open purulent fistula of the postoperative scar of the inguinal region. Removal of an infected synthetic prosthesis with aortic homograft bypass proved to be an unambiguously possible life-saving solution for this type of complication. In the fourth clinical follow-up the complication began to manifest itself as recurrent profuse intestinal bleeding. Dissociation of the aorto-digestive fistula with restoration of intestinal integrity, removal of an infected synthetic prosthesis, revascularization of the extremities through transplantation of the aortic allograft with iliac and femoral arteries were the preferred option. The reformation of the fistula on the 6th day of the postoperative period between the jejunum and the necrotized wall of the implanted aorta led to the development of fatal profuse bleeding into the intestinal lumen.

Explantation of the synthetic graft and donor vascular iliofemoral graft indicated in the last clinical case, as a result of fistula formation in the left groin area after 4 months of primary revascularization and paraprosthetic infection. Aneurysmal dilation of distal anastomose, further allograft thrombosis lead to amputation of left lower limb. Lethal outcome was found due to septic multiorgan failure.

Conclusion. Transplantation of aortic homografts in postreconstructive inflammatory complications (suppuration, aorto-digestive fistula) provides effective relief of general somatic and local septic manifestations.

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