

ANEURYSM REMOVAL FROM THE PLACE OF ARTERIOVENOUS ANASTOMOSIS WITH SUBSEQUENT RE-ANASTOMOSIS AND TISSUE DEFECT RECONSTRUCTION BY USING ROTATION FLAPS TECHNIQUE (CASE REPORT)

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Abstract—The aneurisms of the arterioveins anastomosis may be found in 5-6% of the cases with patients on hemodialysis treatment. Usually, they are found around the punctuation places of the outflow vein. No reference data are published to indicate the aneurism frequency within the area of the anastomosis itself.

We hereby report about 32-year man with an aneurism found at the place of a functioning termino-terminal, arterio-venous anastomosis, wherein we applied aneurysmectomy, later-terminal radio-cephalic re-anastomosis and skin defect covering by “rotation lamb” within the area of the forearm.

The appropriate professional collaboration between nephrologists and surgeons provides opportunity for applying unusual options for the purpose of preserving the vascular access during the surgery course.

Index Terms— vascular access, aneurysm, rotation flaps

I. INTRODUCTION

The aneurisms of the arteriovenous anastomosis (AVA) may be found in 5-6 % of the patients on hemodialysis treatment. They are usually located around the punctuation places of the outflow vein.

The reasons for the formation are repetitive trauma of the vessel wall in a fixed segment during dialysis sessions. If the aneurisms are not treated, they can develop thrombosis with consequent embolisations, infections and ruptures.

No reference data are published to indicate the aneurism frequency within the area of the anastomosis itself (1, 2).

II. CASE REPORT

We report a 32-year-old man with unknown nephropathy who has been undergoing dialysis for 7 years. He has an aneurysm at the site of a functional termino-terminal AV-anastomosis and there is pain and redness in this place during the last 3-4 months (figure № 1).



Fig. № 1 – Overall view of the aneurysmal distension in the area of the anastomosis

We applied aneurysmectomy (figure №2), latero-terminal radio-cephalic re-anastomosis and skin defect covering by rotation flaps within the area of the forearm (figure №3)



Fig. №2 – The removed real aneurysm



Fig. №3 – The covered skin defect by rotation flaps - immediately after surgery

A year after the surgery, the fistula shows excellent hemodynamic parameters and the skin defect is well adapted (figure №4)



Fig. №4. – The operation zone one year later

III. DISCUSSION

The skin flaps are classified according to their blood supply, tissue composition of the lamb, method of movement and design. Movement and design classifications are most commonly used. The rotating flaps rotate around a fixed base that is part of the tissue defect. Classically, they curve at 30 degrees or less, with the arc radius is 2-3 times greater than the diameter of the defect, and the length is 4-5 times greater than the width of the defect (3).

The aneurysms of the AV fistula are serious problem because of a potentially fatal complication - rupture. Furthermore, their presence significantly reduces the possibility of venepuncture in dialysis sessions (4).

Methods of treatment such as anastomosis ligation, plication of the aneurysmally expanded outflow vein, endovascular implantation of the prosthesis, injection of fibrin are recommended.

Surgical methods remain the "gold standard" in the treatment of dialysis fistula aneurysms. They should be performed on-time and they should preferably preserve the vascular access (1).

IV. CONCLUSION

The appropriate professional collaboration between interventional nephrologist and surgeon provides opportunity for application of unusual options for the purpose of preserving the vascular access during the surgery course.

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