

## 172. EVALUATION OF HEMODYNAMICS DURING THE FORMATION OF THE ANASTOMOSIS DURING RENAL TRANSPLANTATION

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**Introduction.** Today, the need for kidney transplantation has increased steadily. As we all know is impossible without transplantation of the donor organ. Number of young patients is steadily growing, growing and having a history of infection transmissivnye. Currently, patients need to provide this type of aid is satisfied by 17 %. One solution to this problem is to use maximum pool of deceased donors as a resource for getting kidney. Optimize transplantation technique. Forming an anatomically correct arterial anastomosis during renal transplantation - one of the ways of such optimization.

**The aim** is to explore options for the anatomy of the iliac artery graft ( branch sheathe iliac artery), is used to evaluate the possible options for their use in the revascularization of renal graft using computational methods hemodynamics.

**Materials and methods** 1. Morphological stage of work was performed on the anatomical material ( 35 cases) Otpreparovannye materials PPA branches covered antialiasing powder scanned using 3D - Scanner Solutionix Rex Scan 3c post-processing in the application Leos.diametr utochnalsya vessels using morphometry. The resulting transformed polygonal model - optimized polygonal structure, reduced the number of polygons in Autodesk Maya application. 2. Radiological profile of the work carried out on the basis of the regional archive medical images of the Samara region. The study selected studies of the abdomen and pelvis without pathology of blood vessels made with intravenous contrast. Total produced 75 studies. DICOM data reconstruction was carried out with the help of the product BEAM-C, developed by a team of Samara State Medical University in the framework of the work under a state contract

3. The data loaded into the anatomy Flow Vision application (OOO "Tesis", Moscow) Hemodynamic parameters were calculated using the "Breeze" computing cluster SSMU (14 teraflops)

**Results.** The results of variant anatomy of the iliac arteries match ADACHI classification (1926) for the AL Talawah -Soames Three-dimensional models of all variants of the anatomy of the iliac arteries and performed their anastomozirovanie virtual models of renal bed. The findings of various embodiments of forming anastomoses allow appreciated that embodiments VPA relevant in predicting the blood flow volume in the graft. In the case of option I, IIA, IIB, IIIA options WPA uses for the formation of arterial anastomosis is a good prognostic value. In other cases, the more favorable is the use of the PPA to form an anastomosis.

**Conclusions.** Using options vascular structure is important in the choice of ways to revascularization of renal graft. Necessary clinical data evaluation computer hemodynamics. Virtual modeling vascular reconstruction in this zone can be effective in determining the affinity of therapeutic strategies.