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ENDOVASCULAR ABDOMINAL AORTIC ANEURYSM REPAIR IN RENAL TRANSPLANT RECIPIENTS: REPORT OF THREE CASES TREATED WITH THREE DIFFERENT STENT GRAFT SYSTEMS

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Rationale. Endovascular aortic aneurysm repair (EVAR) dates back to 1991 as revolutionary treatment option for patients who are in high risk for open surgery. Kidney transplant recipients in presence of abdominal aortic aneurysm (AAA) are especially vulnerable. Open surgery involves closing the flow of blood in aorta just below renal arteries, shutting the blood supply to further vessels. Graft ischemia would be major complication in that situation because the transplant is commonly anastomosed to the right external iliac artery. Endovascular repair is an effective method to avoid ischemic and reperfusion injury of the graft because it does not impair the flow of blood in abdominal aorta.

Objective: the aim of the study is to evaluate the safest treatment option for patients with abdominal aortic aneurysm with prior renal transplantation.

Material and methods. We describe endovascular treatment in three patients after kidney transplantation using three different bifurcated aortic stent graft systems. All of the patients preoperatively had well-functioning graft and were on immunosuppressive therapy. All of them had infrarenal abdominal aortic aneurysms. Outcome of the three cases was successful with stable renal graft function before and after procedure.

The first patient was a 60-year-old woman with past history of stroke 1,5 year earlier and diagnosed hypertension. The second patient was a 67-year-old man presenting with an asymptomatic 8,0 cm aneurysm and in addition, past history of cardiomyopathy, chronic heart failure, mitral and tricuspid valve regurgitation and persistent AF.

The third patient was 86 year old woman with 5,6 cm AAA, there were circumferential atherosclerotic plaque in the abdominal aorta and iliac arteries.

Results and discussion. In all cases post procedure period ran with no complications. Laboratory values of renal function and urine production did not deteriorate in post procedure period in all cases. The flow of blood in aorta, arteries of lower extremity and in the kidney graft was preserved excellent. In two of all three patients a type IIb endoleak was noted on the follow-up but it was insignificant in both cases.

Conclusions. Our study confirms that recipients of a kidney transplant may be successfully treated with endovascular surgery for abdominal aortic aneurysm, despite major comorbidities and calcifications in arteries.

Nowadays longer life expectancy of patients with CKD might cause increasing occurrence of atherosclerosis and aortic aneurysms in renal recipients. Due to that fact, determining the safest treatment option in those patients is essential.