

Böbrek Transplantasyonu Sonrası Gelişen Dissekan Aort Anevrizmasının Cerrahi Onarımı: Olgu Sunumu

SURGICAL REPAIR OF DISSECTING AORTIC ANEURYSM AFTER RENAL TRANSPLANTATION: CASE REPORT

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Özet

Böbrek transplantasyonu olan hastaların sayısı giderek artmaktadır ve bu hastalar değişik patolojiler ile başvurabilmektedirler. Biz de kliniğimizde böbrek transplantasyonundan yaklaşık 9 yıl sonra gelişen DeBakey tip II aort disseksiyonu olan bir hastayı ameliyat ettik. Bu ameliyat sırasında miyokardın, böbrek fonksiyonlarının ve spinal kordun korunması son derece önemlidir ve bu amaçla sağ brakiyal arter kanülasyonu güvenli bir metottur.

Anahtar kelimeler: Aort disseksiyonu, aksiller arter kanülasyonu, transplantasyon, spinal kord

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Summary

The number of patients with renal transplantation has been increased and these patients can present with different pathologies. A patient with DeBakey type II aortic dissection was operated successfully 9 years after renal transplantation. It is important to protect myocardium, renal perfusion and spinal cord during the operation, and the right upper brachial artery cannulation is a safe method for this purpose.

Keywords: Aortic dissection, axillary artery cannulation, transplantation, spinal cord

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Introduction

The number of renal transplantations has been increased in patients with uremia, and these patients can present with different pathological conditions [1]. DeBakey type I and type II aortic dissections after renal transplantation are rare, and there are only a few reported cases in the literature [2,3].

Case

Fifty-one years old male patient presented with sudden onset chest and back pain, and there were no pathological findings other than hypertension. He had an uncomplicated renal transplantation 9 years ago and he was using immunosuppressive treatment composed of cyclosporine, azothiopurin and corticosteroids. On chest X-ray ascending aorta enlargement was observed (Figure 1) and there was a suspicious flap image in the ascending aorta on trans-thoracic echocardiography. We started β -bloker and nitroprusside therapy to control blood pressure. The diameter of the ascending aorta was 6 cm on magnetic resonance imaging (MRI) and there was an intimal flap image which begins 4 cm above the aortic valve towards the beginning of arcus aorta (Figure 2). Aortography verified the dissection and his coronary arteries were normal. The patient's urea and creatinin

values were normal preoperatively.

After median sternotomy with the right brachial artery and caval cannulation cardiopulmonary bypass initiated, and the patient was cooled down to 27°C. Cross-clamp was placed on distal ascending aorta, and antegrade and retrograde cardioplegia were delivered and aortotomy was done. The flap was just above the orifice of right coronary artery. Aortic leaflets were normal and aortic valve coaptation was well. Dacron graft was sutured at supracoronary position. The pump flow was lowered to 650 mL/min and clamps were placed on the truncus brachiocephalicus and left common carotid artery. Dissection was not continue beyond the origin of the truncus brachiocephalicus. Another dacron graft was sutured to the arcus aorta as in hemi-arc replacement. After that, cross-clamp was placed distal of the graft and other clamps were removed, and turned back to normal flow. Two grafts were anastomosed to each other and clamps were removed and after rewarming cardiopulmonary bypass was ended. Cardiopulmonary bypass time was 101 minutes, aortic cross-clamp time was 77 minutes and selective antegrade cerebral perfusion time was 17 minutes. There was no aortic insufficiency with transeosophagal echocardiography. The patient was delivered to the ward on postoperative first day with no hemodynamic or neurological problem. The urine output, urea and creatinin values were normal postoperatively and the patient continued

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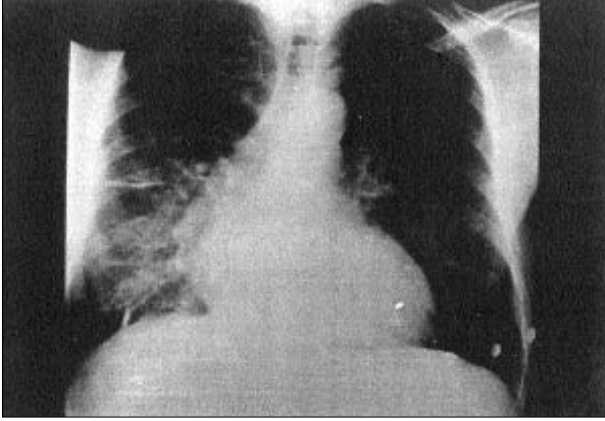


Figure 1. Chest X-ray.



Figure 2. Magnetic resonance imaging.

to the same immunosuppressive treatment as preoperatively and he was discharged on the 10th day. The patient was in good condition at 3rd postoperative month.

Discussion

Acute dissections of ascending aorta should be operated urgently because of serious mortality and morbidity. Different aortic complications has been reported after cardiac transplantation. Vigano and associates [4] reported 4 patients with aortic dissection after cardiac transplantation in their series of 453 patients. Kesler and associates [5] reported 4 aortic dissections in their 11 patients with cardiac transplantation all of whom had Marfan syndrome. The number of patients who had aortic reconstruction after renal transplantation has been increasing. But these are especially thoracoabdominal aortic dissection or aneurysms [1]. There were only a few reported cases who had a repair of type I dissecting aortic aneurysm after renal transplantation in the literature, but type II has not been reported [2,3]. The mechanism of aneurysm formation after transplantation is unknown. The probable reasons are collagen-weakening effect [5], increased tissue collagenase reported to predispose patients to abdominal aortic aneurysms after major operations [6] and hypertension secondary to immunosuppression [5]. It is important to protect myocardium, renal perfusion and spinal cord during the operation. The right brachial artery cannulation is a safe method for this purpose [7]. This was applied accordingly in this patient as well, and resulted in uncomplicated surgery and postoperative period.

References

1. Panneton JM, Gloviczki P, Canton LG, et al. Aortic reconstruction in kidney transplant recipients. *Ann Vasc Surg* 1996;10:97-108.
2. Wolfe WG, Williams JM. Surgical correction of type I dissecting aortic aneurysm after renal transplantation. *Ann Surg* 1984;200:131-3.
3. Tireli E, Korkut AK, Haberal C, Bostancı K, Onursal E. Open heart operations after renal transplantation. *Ann Thorac Surg* 1998;65:596.
4. Vigano M, Rinaldi M, D'Armini AM, Pederzoli C, Minzioni G, Grande AM. The spectrum of aortic complications after heart transplantation. *Ann Thorac Surg* 1999;68:105-11.
5. Kesler KA, Hanosh JJ, O'Donnell J, et al. Heart transplantation in patients with Marfan's syndrome: A survey of attitudes and results. *J Heart Lung Transplant* 1994;13:899-904.
6. Swanson RJ, Littooy FN, Hunt TK, Stoney RJ. Laparotomy as a precipitating factor in the rupture of intra-abdominal aneurysms. *Arch Surg* 1980;115:299-304.
7. Taşdemir O, Sarıtaş A, Küçükler Ş, Özatic MA, Şener E. Aortic arch repair with right brachial artery perfusion. *Ann Thorac Surg* 2002;73:1837-42.