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Successful Transplantation Of The Kidney Graft With 5 Arteries And Intimal Dissection Injury - 9 Year Follow Up

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Purpose: Utilization of the Carrel patch allows easier implantation of the kidney graft with multiple small renal arteries. If it is not feasible, side-to-side renal artery reconstruction prior to recipient anastomosis is still a good option but is more technically challenging and has higher risk of complication. Here, we present a case of successful transplantation of a kidney with 5 renal arteries and intimal dissection with 9 year follow up.

Methods: Inspection of the deceased donor kidney graft at the back-table revealed 5 renal arteries: two main (4mm diameter) located centrally, two smaller (1mm and 2 mm diameter) supplying the upper pole and a fifth (2mm diameter) supplying the lower pole of the kidney. We also found an injury with intimal dissection in the main renal artery extending from the aortic orifice into the hilum.

Results: Injured artery was amputated leaving a short 2 cm stump. The two main renal arteries were connected side-to-side to each other. The upper and lower 2mm arteries were anastomosed to the sides of the main arteries forming one common orifice for 4 arteries, connected subsequently to the side of the recipient external iliac artery. The upper pole 1 mm artery was ligated. The patient recovered uneventfully. Currently, over 9 years after the transplant, kidney graft function remains excellent (creatinine of 1.2mg/ml), imaging confirmed patent all 4 renal arteries and uniform perfusion of the kidney graft

Conclusion: Side to side vascular reconstruction remains an effective surgical technique even in case of intimal injury and as many as 4 small renal arteries.

Fig 1. In the circle- 4 renal arteries on abdominal CT scan years after transplant



Fig 2. Doppler ultrasound shows uniform blood flow through the renal graft.

