

Renal infarction in Kidney Transplantation mimicking thrombotic microangiopathy

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Anatomical variation of graft is one of remained problems in kidney transplantation (KT). Here we reported a rare case of renal infarction with acute kidney injury (AKI) mimicking thrombotic microangiopathy (TMA) in KT with multiple renal arteries. A 65-yr-old man with ESRD of unknown origin underwent ABO compatible living donor KT in Seoul St. Mary's hospital. Donor was his 39-yr-old son. One of HLA was mismatched, and panel reactive antibody and crossmatch results were negative. He was given induction with basiliximab and maintained with triple immunosuppressive therapy of tacrolimus, methylprednisolone and mycophenolic acid. On second day after transplantation however, serum creatinine (SCr) increased to 2.61 mg/dL and urine output decreased. There are several causes of AKI during post-KT such as infection, acute allograft rejection, obstructive nephropathy, dehydration, nephrotoxic drugs, graft vascular complications and TMA. Anti-thymocyte immunoglobulin (ATG) 1.25 mg/kg was initiated suspecting acute T-cell mediated allograft rejection, but on third day, SCr increased to 4.0 mg/dL. Hemoglobin dropped to 7.0 g/dL, platelet was 65,000 /mm³, and LDH increased to 893 U/l. Thus, we suspected TMA and started plasmapheresis (TPE). But on fourth day, SCr increased to 5.59 mg/dL, while TMA labs were normal. We stopped TPE, and on sixth day, renal MR angiography showed wedge shaped perfusion defect on the upper pole of the graft kidney, suggesting infarction (Figure 1). We found 1.3 mm sized upper polar branch arising from aorta in donor's renal CT angiogram (Figure 1). Discussion with surgeon revealed that there was an extra artery supplying kidney's upper pole, which was ligated before implantation. Thus, the final diagnosis was renal infarction due to multiple renal arteries. Kidney function improved with conservative care, and on twenty-first day, patient was discharged with SCr 1.21 mg/dL. Anatomic complexity is not rare in KT, however renal infarction with AKI is rare complication. Thus, during the early graft function monitoring, paying attention to multiple renal arteries is highly required.

