

“Renal Artery Stenosis as a Cause of Acute Kidney Injury in a Post-kidney Transplant Patient”

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Introduction: The most common complication of kidney transplantation is allograft dysfunction, which can present as acute kidney injury (AKI). Here, we report a case of transplant renal artery stenosis (TRAS) presenting with acute elevation in creatinine in concomitant with resistant hypertension.

Case Presentation: A 69-year-old African American male with history of end stage renal disease status post living unrelated kidney transplant presented for evaluation of worsening kidney function. Past medical history included hypertension, diabetes mellitus type 2, coronary artery disease. Physical exam was significant for blood pressure 164/85, bilateral crackles, lower extremities edema. Blood work showed creatinine 3.8 mg/dL (up from base line 2 mg/dL), BUN 69 mg/dL. Doppler Ultrasound of transplant kidney showed anastomotic luminal stenosis. His hypertension remained refractory to multiple antihypertensive medications. Patient underwent renal artery angiogram with primary stenting of transplanted renal artery. The creatinine improved to 3.4 mg/dL. His blood pressures were also under-controlled with oral medications. Patient was discharged with creatinine of 3.3 mg/dL and improved to 3.1 mg/dL at his 1-week follow-up with transplant specialist.

Discussion: Common causes of allograft dysfunction include acute tubular necrosis, acute rejection, infection, urinary obstruction. TRAS is a less common cause but should be suspected among patients with concomitant hypertension. Renal arteriography with potential angioplasty and stenting is gold-standard diagnosis and treatment of choice for TRAS. However, this procedure involves IV contrast, which can potentially worsen kidney function. Therefore, risk and benefit of pursuing work-up for TRAS should be considered carefully and always start with non-invasive alternatives.