***23 - Title*: Kidney Transplant Angiography: Outcomes and Predictors of Renal Artery Stenting**

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***Background*:** Up to 23% of patients with renal transplant may develop renal artery stenosis (TRAS) usually treated with observation or revascularization. Angiography, the gold standard to diagnose transplant renal artery stenosis, requires contrast which may be nephrotoxic. This study aims to identify predictors of TRAS and determine the safety and outcomes of angiography.

Methods/Research Design. Retrospective study of renal transplant patients at a single institution from August 2016 to August 2024 who underwent subsequent transplant renal artery angiography for suspected TRAS. Patient demographics, pre-operative ultrasound and creatinine, intraoperative findings, and post-operative creatinine were collected and analyzed using SPSS v.29.0.

***Results (or Preliminary Results, as applicable for a project in progress)*:** 103 patients (32 females, 71 males) with renal transplant also underwent primary transplant angiography with median contrast load 10mL +/- 13.0mL. Patients showed no significant difference in creatinine on post-op day 1 or 7 despite contrast load from angiography (ΔCr 0.02, p=0.904). 57 of these patients were confirmed to have TRAS requiring vascular stent insertion. These patients had higher pre-angiogram arterial velocities by renal transplant ultrasound (431.5 vs. 388.6 cm/s, p = 0.046). Risk factors for TRAS included deceased donor renal transplant kidney (p<.001), longer cold ischemia time (p=0.031), and shorter anastomosis time (p=0.025). After adjusting for all other covariates, patients with pre-operative ultrasound velocity >400 cm/s have 4-fold increased odds of arterial stenting (aOR = 4.47, 95% CI 1.43 – 13.95, p=0.01). By 1 month post-op, patients who were stented showed a significant decrease in Cr (ΔCr -0.74, p<0.001).

***Conclusion (or Preliminary Conclusion, as applicable for a project in progress)*:** Preoperative renal ultrasound velocity >400cm/s is a strong predictor of patients with TRAS requiring intervention. After angiography and stenting, patients with TRAS show a significant decrease in their creatinine. Patients without TRAS have no difference in creatinine, indicating the procedure is safe, efficacious, and requires a negligible contrast load.