

PVSS2 Surgical Management Of Renal Fibromuscular Dysplasia: Challenges In The Endovascular Era

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OBJECTIVE: Percutaneous transluminal renal angioplasty (PTRA) is the primary treatment for renal fibromuscular dysplasia (RFMD). Surgical revascularization is often limited to patients who fail or are unsuitable for PTRA. We reviewed our surgical experience in this subgroup.

METHODS: All patients who were operated with RFMD since PTRA became the standard treatment in our institution were retrospectively reviewed. Renal artery patency was based on the last imaging study.

RESULTS: Twenty-six patients had reconstruction of 32 renal arteries between 1998-2004. The mean age was 47.1±14 years; the majority (77.8%) were female. Six patients had bilateral disease and 4 had a solitary kidney. Operations were done for hypertension in 24 patients, renal artery aneurysm in 8, and chronic dissection in 1. Six patients had a failed PTRA and 20 were unsuitable for PTRA primarily due to anatomic constraints. Aorto-renal bypass was done in 28 cases and hepato-renal bypass in 2 using autologous saphenous vein or artery in 25 and prosthetics in 5. Two other patients had in situ repair of a renal artery aneurysm. The distal anastomosis was to the main renal artery in 15 but extended to the secondary or polar branches in 17. Ex-vivo repair was needed in 5 patients. Five intraoperative revisions were necessary because of abnormalities seen on duplex scan. There were no deaths and only 1 major complication (pneumonia). Median follow-up was 299 days (range 6-1667 days) and was complete in 85% (n=22). All but one patient had at least one postoperative imaging study. Two bypasses occluded at 3 and 376 days, which resulted in loss of the kidney. Both occlusions occurred in patients with renal artery aneurysm. One graft stenosis was identified at 239 days and successfully treated with PTRA. One year cumulative primary patency was 89±8%. Graft occlusion and stenosis occurred only in men (3 of 6). Neither prior PTRA nor complex (secondary/polar branch or ex-vivo) reconstructions affected 12-month primary patency (100%; 93.3±6%). No patient had a permanent rise (>0.5 mg/dl) in serum creatinine during follow-up.

CONCLUSION: Surgical reconstruction for RFMD has excellent short-term patency. Failed PTRA or complex reconstructions did not adversely affect outcome.