

#5 **MANAGEMENT OF RENAL ARTERY STENOSIS: EFFECTS OF A
SHIFT FROM OPEN SURGICAL INTERVENTION TO
PERCUTANEOUS THERAPY ON INDICATIONS AND
OUTCOMES IN A VASCULAR SURGERY PRACTICE**

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Objective: The treatment of renal artery stenosis (RAS) has shifted from open surgical repair to percutaneous methods of revascularization. Whether this shift to a less invasive modality will lead to changes in indications for intervention has been questioned. We reviewed our experience to determine if the increase in volume of renal artery interventions we encountered after a shift to percutaneous management of RAS was associated with changes in either indications or patient outcomes.

Methods: Over an 8 year period (1994-2001) 165 patients had intervention for renal artery stenosis by our vascular teaching service. Patients were divided into three groups: 1) Endovascular (Endo), 2) open renal revascularization (Renal), and 3) open combined renal and aorto-iliac revascularization (Aorto-renal). Patient demographics, indications for intervention, and outcomes were analyzed.

Results: Over the 8 year period there was a dramatic increase in total renal artery interventions per year (4 patients 1994 to 66 patients 2001). There was also a shift from open to endovascular management (100% open repair in 1994 vs 83% endovascular in 2001). Patient demographics and indications for intervention showed no difference between groups in terms of age, gender, number of blood pressure medications used pre-operatively, or baseline serum creatine. Pre-operative screening evaluation differed between groups as more patients in the Endo group had a screening renal duplex prior to intervention (72% Endo vs 32% Renal and 3% Aortorenal) while pre-op angiography was more commonly seen in open interventions (28% Endo vs 100% Renal and 100% Aorto-renal). Outcome analysis revealed similar technical success rates between groups but a significantly higher morbidity and mortality rate in the open interventions.

Conclusions: A shift from open to percutaneous treatment of renal artery occlusive can occur without changes in treatment indications. Such a shift in management may be associated with a significant increase in patient volume, which probably reflects a bias towards percutaneous treatment by referring physicians.