Renal artery stenosis management strategies: an updated comparative effectiveness review

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Record Status
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Authors' objectives
Compare the effectiveness and safety of percutaneous transluminal renal angioplasty with stent placement (PTRAS) versus medical therapy, and also versus surgical revascularization, to treat atherosclerotic renal artery stenosis (ARAS). Identify predictors of outcomes by intervention. Treatment options for ARAS include medical therapy alone or renal artery revascularization with continued medical therapy, most commonly by PTRAS. This review updates a prior Comparative Effectiveness Review of management strategies for ARAS from 2006, which was updated in 2007.

Authors' conclusions
There is a low strength of evidence of no statistically significant or minimal clinically important differences in important clinical outcomes (death, cardiovascular events, RRT) or BP control between PTRAS and medical therapy alone, and that kidney function may improve with PTRAS. Clinically important adverse events related to PTRAS are rare; however, studies generally did not report medication-related adverse events. Based on the evidence, subsets of patients benefit from revascularization, but the evidence does not clearly define who these patients are, except that case reports demonstrate that some patients with acute decompensation benefit from revascularization. Evidence is limited regarding differences in outcomes based on different PTRAS-related treatments. The RCTs had limited applicability to many patients for whom PTRAS is recommended, particularly those who present with pulmonary edema or rapidly declining kidney function. All nonrandomized trials were inadequately adjusted to account for underlying differences between patients undergoing different interventions. New studies or reanalyses of data in existing studies are needed to better understand the comparative effectiveness of PTRAS versus medical therapy.

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