OhioHealth Vascular Institute

OHVI RECOMMENDATIONS

Renal Intervention Guidelines

A) Clinical clues to diagnose RAS:

a. Moderate-- severe HTN in a pt with diffuse atherosclerosis, a unilateral small kidney, or asymmetrical kidneys (≥ 1.5 cm not otherwise explained)
b. Moderate-- severe HTN in a pt with recurrent flash pulmonary edema
c. Acute increase in serum Cr of at least 30% after ACEi or ARB
d. Onset of stage II HTN (≥160/100) after age 55
e. Recent or rapid development of accelerated, resistant, or malignant HTN
f. Otherwise unexplained progressive renal insufficiency

B) Indications for revascularization[1]

a. Asymptomatic stenosis
   i. Bilateral severe RAS or solitary functioning kidney (IIb)
   ii. Unilateral severe RAS (IIb)
b. Accelerated HTN
   i. Despite adequate medical Rx (IIa)
   ii. With unexplained unilateral small kidney (IIa)
   iii. Intolerant to HTN meds (IIa)
   iv. Associated with fibromuscular dysplasia (I)
c. Preservation of renal function
   i. Progressive acute or acute on CKI with bilateral RAS (ischemic nephropathy) (IIa)
   ii. RAS in solitary functioning kidney (IIa)
   iii. Unilateral RAS in CKD (IIb)
   iv. As necessary during complex aortic procedures (ie – fenestrated EVAR, bailout)
d. Recurrent, unexplained CHF and/or pulmonary edema (I)
e. Unstable angina (IIa)

C) Definitions

a. Severe RAS2:
   i. Greater than or equal to 50-70% diameter stenosis with associated translesional gradient of ≥ 20 mmHg or a mean ≥ 10 mmHg (using FFR)
   ii. Any stenosis ≥ 70 % diameter by visual estimate
   iii. Greater than or equal to 70% diameter stenosis by IVUS
b. Asymptomatic severe RAS
   i. Absence of end-- organ dysfunction (pulmonary edema, CVA, visual loss, HTN, refractory angina)
c. Accelerated HTN
   i. Sudden and persistent worsening of previously controlled HTN
d. Resistant HTN
   i. Failure to achieve goal BP in patients adhering to full tolerated doses of 3-- drug regimen that includes a diuretic
e. Malignant HTN
   i. Acute end-- organ dysfunction (acute kidney injury, acute decomp heart failure, pulm edema, visual or neurologic disturbances, advanced retinopathy)
f. Adequate medical therapy – not well defined by guidelines
   i. ACC/AHA specify ACE inhibitors, ARBs, and CCBs as effective for treatment of unilateral RAS, beta blockers for RAS
   ii. Maximally tolerated doses of 3 or more antihypertensive medications of complementary classes, one of which should be a diuretic at an appropriate dose 3 g. Viable kidney: > 7cm in length

1. Rooke TW, Hirsch AT, Misra S, et al. Management of patients with peripheral artery disease (compilation of 2005 and 2011 ACCF/AHA Guideline Recommendations): a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013;61(14):1555-1570. doi:10.1016/j.jacc.2013.01.004.

2. Olin JW. Role of duplex ultrasonography in screening for significant renal artery disease. Urol Clin North Am. 1994;21(2):215-226.

3. Bhatt DL, Kandzari DE, O'Neill WW, et al. A controlled trial of renal denervation for resistant hypertension. N Engl J Med. 2014;370(15):1393-1401. doi:10.1056/NEJMoa1402670.

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