

17. Single Center Experience with Combined Renal and Mesenteric Revascularization: Options, Safety, and Efficacy

Nanette R. Reed, MD, Manju Kalra, MBBS, Thomas C. Bower, MD, Gustavo S. Oderich, MD, Michael McKusick, MD, Audra A. Duncan, MD, Joseph J. Ricotta, II, MD and Peter Gloviczki, MD

From: Vascular Surgery, Mayo Clinic, Rochester, MN

OBJECTIVES: Few patients require both mesenteric and renal revascularization. Open surgical treatment has been considered high risk and the advent of endovascular intervention has impacted management. The aim of this study was to evaluate the safety and long-term efficacy of concomitant and sequential revascularization with open and endovascular techniques.

METHODS: Data from 56 consecutive patients who underwent both mesenteric and renal revascularization over a 26 year period from 1978 to 2004 were retrospectively analyzed. Early and late outcomes were evaluated over two time periods. Period A 1978 to 1995 (n=33), concomitant open renal and mesenteric revascularization (COR); Period B 1996 to 2004 (n=23), 12 COR and 11 sequential open/endovascular repairs (SOER).

RESULTS: There were 19 males and 37 females (median age 68 years). All procedures were performed for symptomatic occlusive disease in renal and mesenteric arterial beds. The incidence of renal insufficiency was 27% and coronary artery disease (CAD) 52%. Open surgical reconstruction was performed in 77 renal and 103 mesenteric arteries; PTA and stenting in 14 and 3 respectively. Thirty-eight patients had concomitant aortic reconstruction (AR). Seven patients had previously undergone AR; 6 in Period A and 1 in Period B. Hospital mortality was 16% overall; 8 (24%) in Period A and 1 (4%) in Period B. Causes of early death included hemorrhage (n=3) and multisystem organ failure (n=5). Over a mean follow-up of 4.7 years (range 0-18.9 years), 4 patients progressed to hemodialysis, one died from renal failure, and none from mesenteric ischemia. Seven patients in Period A and 5 in Period B (1 COR and 4 SOER) required further procedures (9 renal, 3 mesenteric). On univariate analysis, CAD ($p=0.007$) and prior AR ($p=0.03$), but not concomitant AR ($p=0.58$) predicted early mortality. Five year survival was 65% overall, but 78% in patients surviving the operation, with no difference between treatment groups.

CONCLUSIONS: Concomitant open mesenteric and renal revascularization in patients with prior aortic reconstruction is associated with high early mortality. It remains a viable procedure in carefully selected patients, especially those requiring concomitant aortic reconstruction. Survivors of COR and SOER fare well long-term with low risk of recurrent symptoms.