

SURGERY VS. ANGIOPLASTY IN DIABETIC PATIENTS

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The National Heart, Lung and Blood Institute issued a clinical alert regarding the Bypass Angioplasty Revascularization Investigation six years ago. The alert warned that angioplasty was inferior to surgery in multivessel disease patients who had diabetes.¹ In the 5 years since that warning, there has been additional evidence that tends to confirm the earlier impression. The EAST trial at 8 years shows a trend in the same direction² as does the Emory registry of diabetic patients on insulin.³

There have been many changes in the therapy of patients since those previous trials and registries and therefore current data would be valuable. Recently, the Northern New England Study Group compared 2,766 diabetic patients with baseline features similar to the BARI trial patients treated between 1992 and 1996.⁴ Treatment was selected based on the physician judgment. Seven hundred and thirty six underwent initial percutaneous intervention and 2,030 initial surgery. After adjustment for baseline features, the intervention group had 1 ½ times greater risk of dying (HR 1.49, p=0.037) than those having initial bypass surgery. The hazard ratio for the BARI trial favoring surgery was 1.78. Only 14% of this series had stenting although other improvements in medical therapy were applied during this observation. The only multivessel trial comparing stenting to angioplasty that has been completed is the ARTS trial. The diabetic group in that trial had a mortality of 6.4% in the stent group and 3.1% in the surgery group at one year.⁵ This difference was not significant.

Why do diabetic patients seem to do better with surgery? The possibilities include the potential that angioplasty may be harmful to these patients or the more likely explanation that bypass surgery is somehow protective. The benefit in the diabetic patients is limited to those who received an internal mammary to the anterior descending coronary artery. Is it possible that over years of followup, the bypass of the LAD has protected against the possibility of plaque rupture producing acute events in the more proximal part of the LAD? This protection would not be afforded by stenting of the proximal LAD.⁶

Regardless of the cause of the late mortality in the diabetic groups, intense surveillance and vigorous medical therapy seems warranted. Additional data supports the use of tighter blood pressure control, vigorous lipid lowering, and the use of ACE inhibitors in the diabetic patients with coronary artery disease. Multivessel patients who do undergo percutaneous intervention must have these secondary

prevention therapies applied vigorously. The upcoming BARI 2D trial will investigate whether revascularization is helpful for a subset of diabetic patients without severe ischemic symptoms. It will also study a strategy of providing insulin to obtain excellent glycemic control vs. improving insulin sensitivity in an attempt to control the blood sugar. This promises to be an important pivotal trial in the evaluation of diabetic patients.

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