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SPECIAL ARTICLE

Underuse of Coronary Revascularization Procedures in Patients Considered Appropriate Candidates for Revascularization

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Abstract

Background. Ratings by an expert panel of the appropriateness of treatments may offer better guidance for clinical practice than the variable decisions of individual clinicians, yet there have been no prospective studies of clinical outcomes. We compared the clinical outcomes of patients treated medically after angiography with those of patients who underwent revascularization, within groups defined by ratings of the degree of appropriateness of revascularization in varying clinical circumstances.

Methods. This was a prospective study of consecutive patients undergoing coronary angiography at three London hospitals. Before patients were recruited, a nine-member expert panel rated the appropriateness of percutaneous transluminal coronary angioplasty (PTCA) and coronary-artery bypass grafting (CABG) on a nine-point scale (with 1 denoting highly inappropriate and 9 denoting highly appropriate) for specific clinical indications. These ratings were then applied to a population of patients with coronary artery disease. However, the patients were treated without regard to the ratings. A total of 2552 patients were followed for a median of 30 months after angiography.

Results. Of 908 patients with indications for which PTCA was rated appropriate (score, 7 to 9), 34 percent were treated medically; these patients were more likely to have angina at follow-up than those who underwent PTCA (odds ratio, 1.97; 95 percent confidence interval, 1.29 to 3.00). Of 1353 patients with indications for which CABG was considered appropriate, 26 percent were treated medically; they were more likely than those who underwent CABG to die or have a nonfatal myocardial infarction -- the composite primary outcome (hazard ratio, 4.08; 95 percent confidence interval, 2.82 to 5.93) -- and to have angina (odds ratio, 3.03; 95 percent confidence interval, 2.08 to 4.42). Furthermore, there was a graded relation between rating and outcome over the entire scale of appropriateness (P for linear trend = 0.002).

Conclusions. On the basis of the ratings of the expert panel, we identified substantial underuse of coronary revascularization among patients who were considered appropriate...
candidates for these procedures. Underuse was associated with adverse clinical outcomes. (N Engl J Med 2001;344:645-54.)

**Source Information**

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