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Original Article

Coronary-Artery Revascularization before Elective Major Vascular Surgery

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Abstract

Background:

The benefit of coronary-artery revascularization before elective major vascular surgery is unclear.

Methods:

We randomly assigned patients at increased risk for perioperative cardiac complications and clinically significant coronary artery disease to undergo either revascularization or no revascularization before elective major vascular surgery. The primary end point was long-term mortality.

Results:

Of 5859 patients scheduled for vascular operations at 18 Veterans Affairs medical centers, 510 (9 percent) were eligible for the study and were randomly assigned to either coronary-artery revascularization before surgery or no revascularization before surgery. The indications for a vascular operation were an expanding abdominal aortic aneurysm (33 percent) or arterial occlusive disease of the legs (67 percent). Among the patients assigned to preoperative coronary-artery revascularization, percutaneous coronary intervention was performed in 59 percent, and

bypass surgery was performed in 41 percent. The median time from randomization to vascular surgery was 54 days in the revascularization group and 18 days in the group not undergoing revascularization ($P<0.001$). At 2.7 years after randomization, mortality in the revascularization group was 22 percent and in the no-revascularization group 23 percent (relative risk, 0.98; 95 percent confidence interval, 0.70 to 1.37; $P=0.92$). Within 30 days after the vascular operation, a postoperative myocardial infarction, defined by elevated troponin levels, occurred in 12 percent of the revascularization group and 14 percent of the no-revascularization group ($P=0.37$).

Conclusions:

Coronary-artery revascularization before elective vascular surgery does not significantly alter the long-term outcome. On the basis of these data, a strategy of coronary-artery revascularization before elective vascular surgery among patients with stable cardiac symptoms cannot be recommended.

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