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One-Year Outcomes after PCI Strategies in Cardiogenic Shock

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ABSTRACT

BACKGROUND

Among patients with acute myocardial infarction, cardiogenic shock, and multivessel coronary artery disease, the risk of a composite of death from any cause or severe renal failure leading to renal-replacement therapy at 30 days was found to be lower with percutaneous coronary intervention (PCI) of the culprit lesion only than with immediate multivessel PCI. We evaluated clinical outcomes at 1 year.

METHODS

We randomly assigned 706 patients to either culprit-lesion-only PCI or immediate multivessel PCI. The results for the primary end point of death or renal-replacement therapy at 30 days have been reported previously. Prespecified secondary end points at 1 year included death from any cause, recurrent myocardial infarction, repeat revascularization, rehospitalization for congestive heart failure, the composite of death or recurrent infarction, and the composite of death, recurrent infarction, or rehospitalization for heart failure.

RESULTS

As reported previously, at 30 days, the primary end point had occurred in 45.9% of the patients in the culprit-lesion-only PCI group and in 55.4% in the multivessel PCI group (P=0.01). At 1 year, death had occurred in 172 of 344 patients (50.0%) in the culprit-lesion-only PCI group and in 194 of 341 patients (56.9%) in the multivessel PCI group (relative risk, 0.88; 95% confidence interval [CI], 0.76 to 1.01). The rate of recurrent infarction was 1.7% with culprit-lesion-only PCI and 2.1% with multivessel PCI (relative risk, 0.85; 95% CI, 0.29 to 2.50), and the rate of a composite of death or recurrent infarction was 50.9% and 58.4%, respectively (relative risk, 0.87; 95% CI, 0.76 to 1.00). Repeat revascularization occurred more frequently with culprit-lesion-only PCI than with multivessel PCI (in 32.3% of the patients vs. 9.4%; relative risk, 3.44; 95% CI, 2.39 to 4.95), as did rehospitalization for heart failure (5.2% vs. 1.2%; relative risk, 4.46; 95% CI, 1.53 to 13.04).

CONCLUSIONS

Among patients with acute myocardial infarction and cardiogenic shock, the risk of death or renal-replacement therapy at 30 days was lower with culprit-lesion-only PCI than with immediate multivessel PCI, and mortality did not differ significantly between the two groups at 1 year of follow-up. (Funded by the European Union Seventh Framework Program and others; CULPRIT-SHOCK ClinicalTrials.gov number, NCT01927549.)

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*A complete list of the investigators in the CULPRIT-SHOCK trial is provided in the Supplementary Appendix, available at NEJM.org.

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