A randomized trial of coronary stenting versus balloon angioplasty as a rescue intervention after failed thrombolysis in patients with acute myocardial infarction

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OBJECTIVES: This study was conducted to assess whether coronary stenting produces better results compared with balloon angioplasty in patients with acute myocardial infarction (AMI) after failed thrombolysis. BACKGROUND: Little evidence exists on the value of rescue mechanical reperfusion after failed thrombolysis. METHODS: This open-label, randomized study enrolled 181 patients with AMI referred for failed thrombolysis performed within the previous 24 h. The patients had to have a CONCLUSIONS: Patients with AMI and failed thrombolysis benefit from rescue mechanical reperfusion in terms of myocardial salvage. Coronary stenting is associated with a greater myocardial salvage in this setting compared with coronary balloon angioplasty.

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A randomized trial of rescue angioplasty versus a conservative approach for failed fibrinolysis in ST-segment elevation myocardial infarction: the Middlesbrough Early Revascularization to Limit INfarction (MERLIN) trial

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OBJECTIVES: We sought to compare emergency coronary angiography with or without rescue percutaneous coronary intervention (PCI) with conservative treatment in patients with failed fibrinolysis complicating ST-segment elevation myocardial infarction (STEMI). BACKGROUND: Most patients with STEMI receive fibrinolytic therapy and aspirin. The management of failed fibrinolysis is unclear. METHODS: A total of 307 patients with STEMI and failed fibrinolysis were randomized to emergency coronary angiography with or without rescue PCI or conservative treatment. RESULTS: Thirty-day all-cause mortality was similar in the rescue and conservative groups (9.8% vs. 11%, p = 0.7, risk difference [RD] 1.2%, 95% confidence interval [CI] -5.8 to 8.3). The composite secondary end point of death/re-infarction/stroke/subsequent revascularization/heart failure occurred less frequently in the rescue group (37.3% vs. 50%, p = 0.02, RD

12.7%, 95% CI 1.6 to 23.5), driven by less subsequent revascularization (6.5% vs. 20.1%, p < 0.01, RD 13.6%, 95% CI 6.2 to 21.4). Re-infarction and clinical heart failure were less common in the rescue group (7.2% vs. 10.4%, p = 0.3, RD 3.2%, 95% CI -3.3 to 9.9; and 24.2% vs. 29.2%, p = 0.3, RD 5.7%, 95% CI -4.3 to 15.6, respectively). Strokes and transfusions were more common in the rescue group (4.6% vs. 0.6%, p = 0.03, RD 3.9%, 95% CI 0.5 to 8.6; and 11.1% vs. 1.3%, p < 0.001, RD 9.8%, 95% CI 4.9 to 19.9, respectively). Left ventricular function at 30 days was the same in the two groups. CONCLUSIONS: Rescue angioplasty did not improve survival by 30 days, but improved event-free survival, almost completely due to a reduction in subsequent revascularization. Rescue angioplasty was associated with more strokes and more transfusions and did not result in preservation of left ventricular systolic function at 30 days.

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