

ORIGINAL ARTICLE

Coronary Angiography after Cardiac Arrest without ST-Segment Elevation

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ABSTRACT

BACKGROUND

Ischemic heart disease is a major cause of out-of-hospital cardiac arrest. The role of immediate coronary angiography and percutaneous coronary intervention (PCI) in the treatment of patients who have been successfully resuscitated after cardiac arrest in the absence of ST-segment elevation myocardial infarction (STEMI) remains uncertain.

METHODS

In this multicenter trial, we randomly assigned 552 patients who had cardiac arrest without signs of STEMI to undergo immediate coronary angiography or coronary angiography that was delayed until after neurologic recovery. All patients underwent PCI if indicated. The primary end point was survival at 90 days. Secondary end points included survival at 90 days with good cerebral performance or mild or moderate disability, myocardial injury, duration of catecholamine support, markers of shock, recurrence of ventricular tachycardia, duration of mechanical ventilation, major bleeding, occurrence of acute kidney injury, need for renal-replacement therapy, time to target temperature, and neurologic status at discharge from the intensive care unit.

RESULTS

At 90 days, 176 of 273 patients (64.5%) in the immediate angiography group and 178 of 265 patients (67.2%) in the delayed angiography group were alive (odds ratio, 0.89; 95% confidence interval [CI], 0.62 to 1.27; $P=0.51$). The median time to target temperature was 5.4 hours in the immediate angiography group and 4.7 hours in the delayed angiography group (ratio of geometric means, 1.19; 95% CI, 1.04 to 1.36). No significant differences between the groups were found in the remaining secondary end points.

CONCLUSIONS

Among patients who had been successfully resuscitated after out-of-hospital cardiac arrest and had no signs of STEMI, a strategy of immediate angiography was not found to be better than a strategy of delayed angiography with respect to overall survival at 90 days. (Funded by the Netherlands Heart Institute and others; COACT Netherlands Trial Register number, NTR4973.)

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