

RESEARCH HIGHLIGHTS

ACUTE CORONARY SYNDROMES

Early versus late intervention in NSTEMI

Invasive strategies are known to be beneficial in high-risk patients with acute coronary syndromes, and early primary percutaneous coronary intervention reduces the risk of mortality in patients with ST-segment elevation myocardial infarction. However, whether patients with non-ST-segment elevation myocardial infarction (NSTEMI) benefit more from delaying intervention, to allow intensive antithrombotic therapy for a more-stable plaque, or from avoiding delay, to prevent potential ischemic events, is unknown. The TIMACS investigators have now reported that early intervention did not result in a substantially better outcome than delayed intervention in 3,031 patients with NSTEMI, except in those at high baseline risk.

“...high-risk patients should undergo coronary angiography and revascularization as soon as possible...”

Patients who presented to hospital within 24 h of the first symptoms of unstable angina or NSTEMI were randomly assigned to coronary angiography within 24 h and subsequent revascularization with as little delay as

possible ($n = 1,593$), or to a delay of at least 36 h before coronary angiography, with subsequent revascularization at any time ($n = 1,438$).

At 6 months, the primary outcome of first occurrence of death, new MI, or stroke was observed in a comparable number of patients in each group (9.6% vs 11.3% for early vs delayed intervention, respectively; hazard ratio [HR] for the early intervention group 0.85, 95% CI 0.68–1.06, $P = 0.15$). The secondary outcomes of first occurrence of death, MI, or refractory ischemia, and of first occurrence of death, MI, refractory ischemia, or repeat intervention, occurred in fewer patients in the early intervention group (9.5% vs 12.9%; HR 0.72, 95% CI 0.58–0.89, $P = 0.003$, and 16.6% vs 19.5%; HR 0.84, 95% CI 0.71–0.99, $P = 0.04$, respectively) mainly because incidence of refractory ischemia was reduced with early intervention (1.0% vs 3.3%; HR 0.30, 95% CI 0.17–0.54, $P < 0.001$). Rates for other events did not vary with time of intervention.

The data were also analyzed with respect to the patients' baseline risk. Although no differences were observed for patients with low-to-moderate risk, among those at highest baseline risk (GRACE risk score >140), the primary outcome occurred in



substantially fewer patients in the early intervention group (13.9% vs 21.0%, HR 0.65, 95% CI 0.48–0.89, $P = 0.006$).

The results of this study indicate that most patients with NSTEMI can be treated safely with either early or delayed intervention, but that high-risk patients should undergo coronary angiography and revascularization as soon as possible after symptom onset.

Bryony M. Mearns

Original article Mehta, S. R. *et al.* Early versus delayed invasive intervention in acute coronary syndromes. *N. Engl. J. Med.* 360, 2165–2175 (2009).