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DEVICE THERAPY

INFARCT SIZE NOT REDUCED BY IABC

Early routine use of intra-aortic balloon counterpulsation (IABC) prior to reperfusion by percutaneous coronary intervention (PCI) does not reduce infarct size in patients with high-risk anterior STEMI without cardiogenic shock. The findings of the open, multicenter, randomized controlled CRISP AMI trial were published in *JAMA*.

IABC mechanically augments coronary blood flow and its use in patients with acute MI and cardiogenic shock is recommended in guidelines. In one of the biggest trials of IABC, CRISP AMI investigators randomly assigned 337 hemodynamically stable patients with acute STEMI without cardiac shock to receive either PCI or PCI plus IABC (for >12 h).

The blinded evaluation of MRI images taken 3–5 days after the procedure revealed no difference in infarct size between groups (37.5% for PCI only vs 42.1% for PCI + IABC; $P=0.06$). In a subanalysis of patients with the highest risk (due to proximal occlusions in the left anterior descending artery), IABC did not affect infarct size either (42.3% vs 46.7%; $P=0.11$). Bleeding or major vascular complications within 30 days, and the time to the composite end point of death, recurrent MI, or new or worsening heart failure during 6 months of follow-up were comparable in both arms.

Interestingly, 15 patients of the PCI group were crossed over at the treating physician's discretion as their condition deteriorated rapidly. The use of IABC in these patients might have reduced the development of shock—with five recorded events in the PCI group versus none in the PCI + IABC group. The trial investigators suggest that IABC might have a role in the treatment of patients at risk for rapid deterioration and conclude that "future studies should be aimed at identifying the patient features associated with early deterioration."

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Original article Patel, M R. *et al.* Intra-aortic balloon counterpulsation and infarct size in patients with acute anterior myocardial infarction without shock. The CRISP AMI randomized trial. *JAMA* doi:10.1001/jama.2011.1280