

Reviparin reduces mortality associated with acute myocardial infarction

Clinical question Is the low molecular weight heparin reviparin beneficial in the treatment of acute myocardial infarction?

Bottom line Reviparin reduces the rate of reinfarction and overall mortality when used in addition to standard therapy for patients with acute ST-segment elevation or new left bundle-branch block myocardial infarction.

Synopsis The investigators randomised (using concealed allocation assignment) 15,570 patients with ST-segment elevation or new left bundle-branch block acute MI to seven days of subcutaneous reviparin twice daily or placebo. In addition, all patients received usual therapy, including reperfusion therapy, aspirin, beta-blockers, and angiotensin-converting enzyme inhibitors, as indicated. Patients weighing less than 50kg received 3,436 IU of reviparin every 12 hours, patients weighing between 50kg and 75kg received 5,153 IU every 12 hours and patients weighing more than 75kg received 6,871 IU every 12 hours. In patients undergoing primary percutaneous coronary intervention, unfractionated heparin was used during the procedure, and study medication was started one hour after removal of the sheath. Outcomes were assessed by individuals blinded to treatment group assignment. More than 99 per cent

of subjects were followed up at seven and 30 days after randomisation. Using intention-to-treat analysis, the primary composite outcome of death, myocardial reinfarction or stroke, was significantly reduced at 30 days in patients in the reviparin group compared with those in the placebo group (11.8 per cent vs 13.6 per cent, number needed to treat = 58; 95 per cent confidence interval 36–149). Reviparin treatment was better when it was initiated soon after symptoms developed. There was an increase in life-threatening bleeding at seven days with reviparin compared with placebo, but overall mortality at 30 days was lower in patients treated with reviparin. By itself, reviparin reduced the rate of reinfarction, but there was no significant reduction in stroke risk compared with placebo.

Level of evidence 1b (Individual RCT with narrow confidence interval)

Reference Yusuf S, Mehta SR, Xie C, et al, and the CREATE Trial Group Investigators. Effects of reviparin, a low-molecular-weight heparin, on mortality, reinfarction, and strokes in patients with acute myocardial infarction presenting with ST-segment elevation. *JAMA* 2005; 293:427–36.

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