
Erythropoiesis-stimulating agents (ESAs) have been investigated in small studies in patients with ST-elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI). Erythropoiesis-stimulating agents did not show a clear effect on left ventricular function or clinical outcome, but some studies suggested an increased risk of thromboembolic events. A systematic literature search in MEDLINE was performed, until December 2012. We included randomized clinical trials investigating the effect of ESAs in STEMI patients undergoing primary PCI, with \( \geq 30 \) days of follow-up. The primary end point was a composite of all-cause mortality, myocardial infarction, and stent thrombosis after PCI. Secondary end point was all-cause mortality. Individual patient data were obtained from 10 of 11 trials, including 97.3\% (1,242/1,277) of all patients randomized to control (n = 600) or to ESAs (n = 642). Baseline characteristics were well balanced between the treatment allocations. Mean follow-up time was 248 (±131) days. The primary end point occurred in 3.5\% (20/577) in the control group and in 2.1\% (13/610) in the ESA group (hazard ratio for ESAs, 0.63; 95% CI
Mortality occurred in 13 (2.3%) in the control group and 5 (0.8%) in the ESA group (hazard ratio for ESAs, 0.38; 95% CI [0.13-1.06]; P = .06). Erythropoiesis-stimulating agent administration does not result in an increased risk of adverse cardiac events in STEMI patients undergoing primary PCI. Results of ongoing studies may provide further insight to the potential beneficial clinical effects of ESAs in STEMI patients.