
Abstract:

Conflicting data on intra-aortic balloon counterpulsation (IABC) as adjunctive therapy in high-risk acute myocardial infarction (AMI) without cardiogenic shock (CS) have been published. We performed a meta-analysis of randomized trials evaluating the benefits of IABC in patients with AMI without CS. We searched Medline, EMBASE, the Cochrane Central Register of Controlled Trials, and relevant Web sites for randomized trials comparing IABC versus no IABC in patients with AMI without CS. No language, publication date, or publication status restrictions were applied. Primary end point was all-cause death. Secondary end points were congestive heart failure (CHF), reinfarction, recurrent myocardial ischemia, cerebrovascular accidents (CVA), and bleeding (moderate to severe) according to per protocol definitions. Six trials were included (1,054 patients, 49.1% IABC vs 50.9% no IABC). At follow-up, counterpulsation does not reduce all-cause death (4.4% vs 4.1%, odds ratio [OR] [95% CI] 1.11 [0.49-2.54], P = .80), CHF (17.1% vs 18%, OR 0.92 [0.43-1.96], P = .83), or reinfarction (5.3% vs 7.7%, OR 0.68 [0.23-1.76], P = .42). Intra-aortic balloon counterpulsation versus no IABC significantly reduces recurrent myocardial ischemia (3.6% vs 20.3%, OR 0.15 [0.08-0.28], P < .00001), but it increases the risk of CVA (2% vs 0.3%, OR 4.39 [1.11-17.36], P = .03).
and bleeding (21.4% vs 16.1%, respectively, OR 1.46 [1.05-2.04], P = .02). Counterpulsation does not reduce death, CHF, or reinfarction in patients with AMI without CS. The significant reduction of recurrent myocardial ischemia associated with IABC use is offset by a higher risk of CVAs and bleeding.