

Predictors of Mortality after Prolonged Intra Aortic Balloon Counterpulsation (IABC) Support: ABCD-1 Trial

Limor Ilan Bushari, Khalid Suleiman, Hana Yuker, Alexander Feldman, Mohamed Jabaren,
Lev Bloch, Yoav Turgeman

Heart Institute, ICCU, Ha'Emek Medical Center, Afula, Israel

Background: Death rate in patients under IABC support is approximately 21%, half of them occurring while the balloon still counterpulsates. Causes for mortality are different in various studies.

Objectives: To evaluate causes and predictors of mortality in patients under prolonged support (≥ 4 days).

Methods: Data was collected from computerized medical records in 162 consecutive patients who underwent IABP insertion between the years 2004 - 2008. Patients with balloon support < 4 days were excluded.

Results: 53/162 (32.7%) needed prolong support. Mean age 71.4 ± 10.1 ; 13/53 (24.5%) were males. In-hospital mortality occurred in 10 patients (18.9%). Seven (21.9%) additional patients died within 30 days. Multivariate backward stepwise regression analysis using age, gender, hypertension, diabetes, prior PCI or CABG, thrombocytopenia, acute renal failure, infections, CHF, LVEF% and days with balloon as potential predictors showed that age ($p < 0.02$), male gender ($p < 0.02$), diabetes ($p < 0.05$) and days with IABC ($p < 0.08$) were significant predictors of death. Addition of mitral insufficiency, need for mechanical ventilation and pacing did not change the model. There was nearly an 11% increase in the probability of death for every year older the patient was. Male patients were 11 times more likely to die than females. Diabetics were 6 times more likely to die than non diabetics. The odd of death was 1.5 times for every additional day the IABC was still in place.

Conclusion: Our data demonstrate that predictors for death in pts with prolonged IABC support are male gender, older age, diabetes and longer periods with balloon counterpulsating.