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Heart Failure and Cardiomyopathies

OUTCOMES OF INTRA-AORTIC BALLOON PUMP USE IN MYOCARDITIS COMPLICATED BY CARDIOGENIC SHOCK

Poster Contributions
Poster Hall, Hall C
Saturday, March 18, 2017, 3:45 p.m.-4:30 p.m.

Session Title: Heart Failure and Cardiomyopathies: What Next When All Else Is Failing?
Abstract Category: 14. Heart Failure and Cardiomyopathies: Therapy
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Background: Temporary mechanical support may be necessary in patients with myocarditis. Our study describes the outcomes of intra-aortic balloon pump (IABP) use in patients with myocarditis complicated with cardiogenic shock.

Methods: We identified patients with cardiogenic shock and a primary diagnosis of myocarditis using ICD-9 codes in the National Inpatient Sample Database. We compared outcomes in the patients who received IABP and in those who did not. We also compared the effects of early (within 24 hours of admission) versus late (after 24 hours) IABP use on mortality, length of stay and treatment cost. We performed logistic regression analysis with mortality as the primary outcome.

Results: We identified 7,972 patients with primary diagnosis of myocarditis, 427 (5.4%) of whom developed cardiogenic shock. Of these, 187 (42.8%) received an IABP. Both groups (IABP and no IABP) were not different in terms of common comorbidities (old myocardial infarction, chronic Ischemic heart disease, congestive heart failure, diabetes mellitus and hypertension]. There was significantly less incidence of stroke (1.1% vs. 5.0% p=.028), use of other ventricular assist devices (11.2 vs. 20.8 p=.008) and occurrence of heart transplant (0.5% vs. 4.2% p=.027) in the IABP group. Patients that died in the IABP arm had more ventricular tachycardia (p= .047) and ventricular fibrillation (p= .043). Overall, mortality did not significantly differ in patients on IABP support versus no IABP (25.5 vs. 21.5; p=.334). However there was significantly less mortality in this cohort when the IABP was deployed within 24 hours of admission than after 24 hours (23.8% vs. 35.2% p=.032). After adjusting for age, sex, race and comorbidities, this benefit of early IABP use remained significant (OR= .57; 95%CI .34-.98; p value= .041).

Conclusions: The use of IABP in patients with cardiogenic shock is fairly common. The early use of this device (within the first 24 hours of presentation) appears to offer a mortality benefit. This finding needs to be confirmed in randomized clinical trials.