

Comparison of Clinical Outcomes of Intraortic Balloon Pump versus Impella in Patients with Cardiogenic Shock: A Real-World Analysis

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Background

- Benefits of temporary mechanical circulatory support has not been successfully demonstrated in clinical trials despite their increase widespread use in the real-world management of patients with cardiogenic shock (CS).

Purpose

- To compare the survival, complications and use of advance heart failure therapies.

Methods

- Using the Nationwide Readmissions Database from Jan 2016 to Nov 2017, we identified all patients admitted with cardiogenic shock requiring either only intra-aortic balloon pump or Impella device implantation (IM) with 30-day follow up
- Propensity matched (1:1) was performed based on demographics and comorbidities

Results

- Out of a total of 236156 patients, 32850(13.9%) had IABP and 8389(3.5%; unweighted n= 4504) patients had IM implantation
- 4411-pairs of matched IABP vs IM patients had mean similar age (65 vs 64.9 years), women (29.2% vs 28.6%) and acute myocardial infarction (75.7% vs 75.8%).
- No differences in used of right heart catheterization/pulmonary catheter placement or vasopressor use(p>0.05 for all).
- IM group had higher mortality (45.8% vs. 28.6%, p <0.001) with increased rates of acute kidney injury
- IABP patients had higher rates OHT compared to IM group- with no difference in bridging to left ventricular assist device.
- Overall, 30-day readmission rate was ≈19% with no intergroup differences.

Conclusion

- Significant number of CS patients undergo IM implantations with have widely different survival as well as candidacy for heart transplant.

IABP versus Impella Clinical Outcomes

