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Heart Failure and Cardiomyopathies

AGGREGATE AND GENDER-SPECIFIC DIFFERENCES IN COST AND RESOURCE CONSUMPTION AMONG CARDIOGENIC SHOCK PATIENTS RECEIVING PERCUTANEOUS VENTRICULAR ASSIST DEVICES SUPPORT OVER AN EPISODE OF CARE

Poster Contributions

Poster Hall B1

Saturday, March 14, 2015, 10:00 a.m.-10:45 a.m.

Session Title: Stage D and Beyond: Advanced Heart Failure, Mechanical Circulatory Support and Transplantation

Abstract Category: 15. Heart Failure and Cardiomyopathies: Therapy

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Background: Percutaneous ventricular assist device (pVAD) support in cardiogenic shock (CS) patients has been associated with lower costs, shorter lengths of stay (LOS) and reduced readmissions when compared to extracorporeal membrane oxygenation (ECMO) support. The hospital cost and utilization profile of an episode of care (EOC, combining index hospitalization and readmissions) as well as gender-specific differences have not been explored.

Methods: A retrospective comparison of the EOC for CS patients treated by two alternative cardiac support devices during calendar years 2011-2012 was captured via the Medicare Inpatient Standard Analytic File (100% census file); 649 eligible cases (pVAD M=304, F=213, ECMO M=76, F=56) with 90 days of follow-up care were included.

Results: At 30 and 90 days following the index hospitalization, EOC costs were significantly lower at 30 and 90 days for patients treated with pVAD (30 day: pVAD = \$115,541, ECMO = \$275,897, $p < .001$; 90 day: pVAD = \$127,817, ECMO = \$310,005, $p < .001$). EOC LOS was significantly lower (55%) for patients treated with pVAD compared to ECMO (30-day LOS: pVAD = 21 days, ECMO = 47 days, $p < .001$; 90-day LOS: pVAD = 26 days, ECMO = 58 days, $p < .001$). Readmission rates at 30 and 90 days were also 24% to 27% lower for patients treated with pVAD (30 Day: pVAD = 25.9%, ECMO = 34.1%, $p = .064$; 90 Day: pVAD = 38.7%, ECMO = 53.0%, $p = .004$). Reductions in EOC cost, LOS and readmission rates followed similar trends once stratified by gender. For females, 90-day readmissions remained significantly lower for pVAD versus ECMO ($p = .004$), but not for males ($p = .100$). Forthcoming analyses will describe additional differences including the cost of post-acute care (PAC).

Conclusion: In CS patients, pVADs are associated with reduced EOC cost, LOS and readmissions. Moreover, preliminary evidence suggests that the consistent performance of pVADs across gender may help offset the heightened readmission risk experienced by female patients. Increased adoption of pVAD for treating patients with CS increases value and quality of care for patients, providers and payers. Additional investigation will utilize a cardiogenic shock patient cohort with medical management alone.