UNPLANNED HOSPITAL READMISSIONS FOLLOWING HEARTMATE® II IMPLANTATION: FREQUENCY, RISK FACTORS, AND IMPACT ON SURVIVAL

ACC Moderated Poster Contributions
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Background: The Heartmate® II (HM2) left ventricular assist device (LVAD) improves survival and quality of life for patients with end-stage heart failure. Whether these improved outcome measures are similarly accompanied by a reduction in unplanned hospital readmissions is unknown. We systematically evaluated the frequency, etiology, and impact of unplanned hospital readmissions following HM2 implantation.

Methods: Between 10/21/2004 and 12/31/2009, N=118 consecutive patients underwent HM2 implantation; N=92 were discharged. Using a prospectively maintained clinical database reasons for rehospitalizations were analyzed and destination therapy (DT) and bridge to transplant (BTT) were compared. Significant factors shown with coefficient and reliability-% of occurrence of factors in a 500 bootstrapped model.

Results: Forty-eight patients (52%) had 177 unplanned hospital readmissions, with a mean length of stay of 11 days. The number of non-LVAD associated and LVAD-related readmissions were similar (N=93 vs. 84, respectively). Non-LVAD related readmissions were more frequent in DT patients and included management of comorbidities or progression of cardiac pathology (N=56), psychosocial (N=18), and infections (N=18). LVAD-associated readmissions were similar for DT and BTT and included device infection (N=45), management of nontherapeutic INR level or device malfunction (N=22), and hemorrhagic events (N=14). Risk factors for readmissions were destination therapy (0.6/81%), increased number of intraoperative RBC transfusions (0.3/66%), absence of preoperative inotropes (-0.7/62%), and blood urea nitrogen levels (0.6/81%). Increased number of unplanned readmissions and elevated serum creatinine were predictive of mortality.

Conclusions: LVAD- and non-LVAD related readmissions are common during support, related to insertion strategy and reduce survival. Improving patient selection, long term management of comorbidities and anticoagulation therapy, reducing infectious complications and optimization of device settings, are needed to reduce unnecessary rehospitalizations.