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 intra-operative 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.