

What's New in MCS

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Reviews:

1. [**Pre-operative Mortality Risk Assessment in Patients with Continuous-flow Left Ventricular Assist Devices: Application of the HM II risk score.**](#)

Thomas, S., Nahuma, N., Han, J., Lippel, M., Colombo, P., Yuzefpolskaya, M., Takayama, H., Naka, Y., Uriel, N., Jorde, U. JHLT, 33(7) pp. 675-681, July 2014.

Patient selection is a critical determinant of survival in continuous-flow VADs. The Columbia group conducted a retrospective analysis to test HMRS validity in predicting survival by evaluating 90-day mortality.

This study included a patient cohort from Columbia (n=205) who were recipients of the HMII VAD as either BTT or DT. A retrospective analysis was conducted on adult patients from March 31, 2004, to September 20, 2012. Pre-operative lab values within 48 hours of VAD implantation were recovered and the HMRS was calculated using the patient's: 1) age, 2) albumin, 3) creatinine, 4) INR, and 5) center's volume. Patients were stratified according to BTT or DT and into three groups of risk: high, medium, and low. The Columbia group found that the HMRS poorly discriminated 90-day mortality among their study population after HMII implantation.

This is a single center retrospective analysis study that attempts to validate a risk-score tool derived from a multi-center clinical trial population.

Analysis:

This study is important as it attempts to validate the HMRS, a previously validated prediction tool aimed at improving patient selection. This study indicates the tool might be limited and proposes that although no one risk score can capture every element in the decision-making process for patient selection, survival among patients with continuous-flow VADs still continues to improve. This reader's "take-away" is that the generalizability of the HMRS scoring tool may be limited.

2. [**Predictors of hospital length of stay after implantation of left ventricular assist device: An analysis of the INTERMACS registry.**](#)

Cotts, W. et al. (2014). JHLT, 33(7), pp. 682-688, July 2014.

With the increased utilization of VADs, hospital length of stay (LOS) has become a focus of hospitals, health-care professionals, third-party payers, and patients.

The authors conducted a retrospective analysis of collected data of LVAD patients (n= 2,200) implanted between June 23, 2006 and December 31, 2010 at 105 institutions from the INTERMACS.

The group of authors found that significant predictors of an increased hospital LOS included patients who were older, non-white, had a history of CABG or valve surgery, diabetes, ascites, INTERMACS profiles 1 or 2, low albumin, high BUN, and high right atrial pressure.

This study did not record pre-operative hemodynamic measurement time-points; thus, knowing how close to implant the patient is unknown. Additionally, this study is a retrospective analysis from a registry. Lastly, factors such as socioeconomic status and psychosocial variables, aspects that may affect LOS, were not analyzed.

Analysis:

This study is important as the current health-care climate has become increasingly focused on LOS of patients who have received VADs. This reader's "take-away" were the specific predictors that could affect the LOS. In being aware of these predictors, pro-active planning can take place by the team to help decrease the LOS and thus, possibly promote a better quality-of-life for the patient. Though limitations exist with this study, it does have a large sample.

JHLT (July 2014 Issue)

1. [A Contemporary review of Mechanical Circulatory Review of Mechanical Circulatory Support.](#)
Patel, C., Cowger, J. & Zuckerman, A. JHLT, 33(7), pp. 667-674, July 2014. ★
2. [Pre-operative Mortality Risk Assessment in Patients with Continuous-flow Left Ventricular Assist Devices: Application of the HM II risk score.](#)
Thomas, S., Nahuma, N., Han, J., Lippel, M., Colombo, P., Yuzefpolskaya, M., Takayama, H., Naka, Y., Uriel, N., Jorde, U. JHLT, 33(7) pp. 675-681, July 2014. ★★
3. [Predictors of hospital length of stay after implantation of left ventricular assist device: An analysis of the INTERMACS registry.](#)
Cotts, W. et al. (2014). JHLT, 33(7), pp. 682-688, July 2014. ★★
4. [Ventricular Assist Devices as Bridge-to-Transplant Improve Early Post-transplant Outcomes in Children.](#)
Davies, R., Haldeman, S., McCulloch, M., & Pizarro, C. (2014). JHLT, 33(7), pp. 704-712, July 2014. ★★

Annals of Thoracic Surgery (Volume 98, Issue 1, p1-392, e1-e29)

NO Literature published in the month of July 2014 regarding MCS.

Journal of the American College of Cardiology-Heart Failure (Volume 63, Issue 25 Volume 64, Issue 3)

1. [Extracorporeal Membrane Oxygenation in Cardiopulmonary Disease in Adults.](#)
Abrams, D., Combes, A. & Brodie, D. JACC-HF, 63(25), pp. 2769-2778, July 2014. ★

Circulation (Volume 130, Issue 2, 3, 4, and 5, e7-e43)

NO literature published in the month of July regarding MCS.

European Heart Journal

NO literature published in the month of July regarding MCS.

Journal of Cardiac Surgery

1. The Incidence, Risk, and Consequences of Atrial Arrhythmias in patients with Continuous-flow Left Ventricular Assist Devices.
Brisco, M., Sundareswaran, K., Milano, C., Feldman, D., Testani, J., Ewald, G., Slaughter, M., Farrar, D. & Goldberg, L. Journal of Cardiac Surgery, 29(4), pp. 572-580, July 2014. ★
2. Left ventricular assists device insertion via small right axillary incision in a pediatric patient.
Torregross, G., Pawale, A., El_eshmawi, A. & Nguyen, K. Journal of Cardiac Surgery, 29(4), pp. 581-583, July 2014.

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