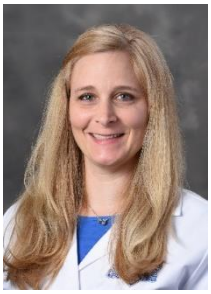
What's New in MCS

November 2017



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Reviews:

Multicenter Evaluation of Octreotide as Secondary Prophylaxis in Patients with Left Ventricular Assist Devices and Gastrointestinal Bleeding. Shah KB, Gunda S, Emani S, Kanwar MK, Uriel N, Colombo PC, Uber PA, Sears ML, Chuang J, Farrar DJ, Brophy DF, Smallfield GB. Circ Heart Fail. 2017 Nov;10(11)

Gastrointestinal bleeding (GIB) is a frequent complication for patients with continuous-flow left ventricular assist devices (LVADs). As many as a third of patients with LVADs will experience a significant bleed. GIB often leads to hospital admissions with associated high cost and added morbidity. Octreotide, a somatostatin analog, has been proposed as an adjunctive treatment for LVAD patient's with a GI bleed but the efficacy is unknown.

In this study, Dr. Shah and colleagues retrospectively evaluated 51 patients with continuous-flow LVADs who were started on octreotide as secondary prophylaxis between 2009 and 2015 at 5 different institutions. The patient characteristics for those with recurrent bleeding were compared to the patients that did not recur. The patients were also compared with matched historical control patients that were enrolled in the HeartMate II clinical trials as none of the trial patients received octreotide. Of the patients that were started on octreotide for secondary prophylaxis, 12 patients (24%) experienced recurrent bleeding within 6 months. They also found that the patients that had GI bleed prior to LVAD were more likely to have recurrent bleeding (33% vs 5%) after initiation of octreotide. Of the patients that did, those with atrial fibrillation were less likely to have recurrent events (8% vs 44%). There was no association identified with regards to the LVAD parameters (speed, power, pulsatility), renal function or hemoglobin. Most of the octreotide-treated patient received the monthly depot dose (67% of the patients with recurrent bleeding, 74% of the patients that did not a GIB) but daily subcutaneous dose was also used. Patients in the current study were then matched (1:1) to patients in the historical control group. They found that patients in the octreotide-treated group had fewer episodes of recurrent bleeding (24% vs 43%; P=0.04).
GIB continues to be a frequent complication for patient with LVADs. Despite changes in clinical practice and device therapy, there has not been a significant change in the rates of GIB. GIB lead to recurrent hospital admissions along with multiple procedures that can lead to high cost and increased morbidity. In this multicenter, retrospective study, Dr. Shah and colleagues evaluated patients that were started on octreotide after a GIB. They found that there was a significant decrease in the rate of recurrent GIB in patients treated with octreotide as an outpatient. The results of this study are encouraging and confirm the need for a randomized trial.

Utility of CHA2DS2-VASc and HAS-BLED Scores as Predictor of Thromboembolism and Bleeding After Left Ventricular Assist Device Implantation. Kemal, Hatice S.; Ertugay, Serkan; Nalbantgil, Sanem; Ozturk, Pelin; Engin, Cagatay, Engin; Yagdi, Tahir; Ozbaran, Mustafa. *ASAIO Journal*. 63(6):720-724, November/December 2017.

Continuous flow left ventricular assist devices (CF-LVADs) are increasingly being used in the management of end-stage heart failure as either destination therapy or as a bridge-to-transplant. Unfortunately, despite the improvements in devices there continues to be significant complications related to CF-LVADs. Two of the most common complications include bleeding (15-50%) and thromboembolic events (1%-6%). Scoring systems such as CHA_2DS_2-VASc and HAS-BLED have been used to help predict the risk of thromboembolic events as well as the risk of bleeding in patients with atrial fibrillation. Dr. Kemal and colleagues investigated whether these scores had similar utility in LVAD patients.

In this study, the authors retrospectively evaluated all of the patients who underwent CF- LVAD implantation between 2010 and 2014 at a single center. There were a total of 145 patients that were implanted with the majority (113 patients) receiving HVAD. All patients received warfarin with a goal INR 2-3 as well as 300 mg of aspirin. Of the 145 patients, 22(15%) experienced at least 1 thromboembolic event. Nine of 34 (26.4%) patients with a thromboembolic event had a CHA_2DS_2-VASc score of 1 compared to 4 of the 27 (14.8%) patients with a CHA_2DS_2-VASc of 4. There was no clear association between CHA2DS2-VASc score and the rate of thromboembolic events. Of the 145 patients, 32 (22.1%) had at least one bleeding event. Thirteen of 89 (14.6%) patients with a HAS-BLED score of 1 had an event vs 5 of 11 (45.4%) of patients with a HAS-BLED score of 3. The HAS-BLEED score did appear to correlate with the rate of bleeding.

Patients with CF-LVADs continue to be at high risk for complications associated with the device. It can be difficult to risk stratify patients prior to LVAD implantation. The CHA_2DS_2-VASc and HAS-BLED scores have been used to guide risk for patients with anticoagulation related to atrial fibrillation. There had been previous, single center studies that suggest the CHA_2DS_2-VASc score correlates with thromboembolic events after LVAD implantation. This finding was not validated by the current study. The HAS-BLEED score did appear to correlate to the rate of events for patients with LVADs and may be used as a tool to predict risk of bleeding events after implantation.

ASAIO Journal

Phan, Kevin; Luc, Jessica G. Y.; Xu, Joshua; More. Utilization and Outcomes of Temporary Mechanical Circulatory Support for Graft Dysfunction After Heart Transplantation. *ASAIO Journal*. 63(6):695-703, November/December 2017.

Amione-Guerra, Javier; Cruz-Solbes, Ana S.; Gonzalez Bonilla, Hilda; et al. Melding a High-Risk Patient for Continuous Flow Left Ventricular Assist Device into a Low-Risk Patient. *ASAIO Journal.* 63(6):704-712, November/December 2017.

Fujita, Kevin; Takeda, Koji; Li, Boyangzi; et al. Combined Therapy of Ventricular Assist Device and Membrane Oxygenator for Profound Acute Cardiopulmonary Failure. *ASAIO Journal*. 63(6):713-719, November/December 2017.

Iyengar, Amit; Kwon, Oh Jin; Tamrat, Msgana; et al. The In-Hospital Cost of Ventricular Assist Device Therapy: Implications for Patient Selection. *ASAIO Journal*. 63(6):725-730, November/December 2017.

Van Tuyl, Joseph S.; Hollis, Ian B.; Alburikan, Khalid A.; et al. Warfarin and Aspirin Versus Warfarin Alone for Prevention of Embolic Events in Patients with a HeartMate II Left Ventricular Assist Device. *ASAIO Journal*. 63(6):731-735, November/December 2017.

Hidalgo, Luis F.; Shah, Keyur B.; Cooke, Richard H.; et al. Infections in Patients with a Total Artificial Heart Are Common but Rarely Fatal. *ASAIO Journal*. 63(6):736-739, November/December 2017.

Wilhelms, Lidija A.; Blumenthal-Barby, Jennifer S.; Kostick, Kristin M.; et al. Patients' Perspectives on Transplantation While Undergoing Left Ventricular Assist Device Support. *ASAIO Journal*. 63(6):740-744, November/December 2017.

Maltais, Simon; Aaronson, Keith D.; Teuteberg, Jeffrey J.; et al. Adverse Event Rates Change Favorably Over Time for Patients Bridged With the HeartWare Left Ventricular Assist Device. *ASAIO Journal*. 63(6):745-751, November/December 2017.

Tozzi, Piergiorgio; Banfi, Carlo; Ahmadov, Kameran; et al. HeartMate 3 in Lowest INTERMACS Profile Cohort: The Swiss Experience. *ASAIO Journal*. 63(6):752-758, November/December 2017.
Boehme, Amelia K.; Pamboukian, Salpy V.; George, James F.; et al. Anticoagulation Control in Patients With Ventricular Assist Devices *ASAIO Journal*. 63(6):759-765, November/December 2017.

Journal of Cardiac Failure
No mechanical circulatory support articles in November

Circulation Heart Failure
Rabea Asleh, Alexandros Briasoulis, Sarah D. Schettle, Vakhtang Tchantchaleishvili, Naveen L. Pereira, Brooks S. Edwards, Alfredo L. Clavell, Simon Maltais, David L. Joyce, Lyle D. Joyce, Richard C. Daly, Sudhir S. Kushwaha, John M. Stulak. Impact of Diabetes Mellitus on Outcomes in Patients Supported With Left Ventricular Assist DevicesA Single Institutional 9-Year Experience. *Circulation: Heart Failure*. 2017;10:e004213

Omar Saeed, Sabarivinoth Rangasamy, Ibrahim Selevany, Shivank Madan, Jeremy Fertel, Ruth Eisenberg, Mohammad Aljoudi, Snehal R. Patel, Julia Shin, Daniel B. Sims, Morayma Reyes Gil, Daniel J. Goldstein, Marvin J. Slepian, Henny H. Billett, Ulrich P. Jorde. Sildenafil Is Associated With Reduced Device Thrombosis and Ischemic Stroke Despite Low-Level Hemolysis on Heart Mate II Support. *Circulation: Heart Failure*. 2017;10:e004222.

European Journal of Heart Failure
No mechanical circulatory support articles in November

Journal of Thoracic and Cardiovascular Surgery
No mechanical circulatory support articles in November

Journal of American College of Cardiology
No mechanical circulatory support articles in November