

What's New in MCS

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Reviews:

Donor Oversizing Results in Improved Survival in Left Ventricular Assist Device Patients.
Schumer EM, Black MC, Rogers MP, Trivedi JR, Birks EJ, Lenneman AJ, Cheng A, Slaughter MS.
ASAIO J. 2016 Jun 1

The UNOS database was queried for patients transplanted after being bridged with or without left ventricular assist device (LVAD). Those groups were further subdivided for donor:recipient body mass index (BMI) ratios < 0.8 (undersized), ≥ 0.8 and ≤ 1.2 (matched), and > 1.2 (oversized). The authors found that LVAD patients who receive a donor heart oversized by at least 20% have improved survival post-transplantation. Additionally, donor undersizing in patients without a LVAD appears to be safe. Despite the increasing number of patients with advanced heart failure, the number of donor organs has remained stable. Furthermore, the patient population with LVADs awaiting heart transplantation is increasing steadily. This has led physicians to accept donor organs that may not be ideal for an individual recipient, including those organs that may be a size mismatch for the recipient. The findings from this study help to better allocate organs and this may decrease mortality for patients on the wait list and after cardiac transplantation.

Effect of CYP2C9 and VKORC1 Gene Variants on Warfarin Response in Patients with Continuous-Flow Left Ventricular Assist Devices (CF-LVADs).
Topkara VK, Knotts RJ, Jennings DL, Garan AR, Levin AP, Breskin A, Castagna F, Cagliostro B, Yuzefpolskaya M, Takeda K, Takayama H, Uriel N, Mancini DM, Eisenberger A, Naka Y, Colombo PC, Jorde UP.
ASAIO J. 2016 Jun 1.

The authors characterized the prevalence of CYP2C9/VKORC1 mutations in 80 CF-LVAD patients and to analyzed the impact of these mutations on warfarin dose response in the early post-implant period. The authors found gene variants for CYP2C9 and VKORC1 (-1639 G>A), especially in European-American CF-LVAD recipients. Furthermore, VKORC1 genotype predicted INR response and warfarin dose requirements in the early post-implantation period. CF-LVAD patients are of risk for both, bleeding and thrombotic events. Warfarin genotype data has the potential to predict these adverse events in genetically susceptible individuals. This may in the future guide physicians in the optimal treatment of each individual patient, potentially reducing these adverse events once an association between these mutations and adverse events has been found.

OTHER ARTICLES IN JUNE 2016 ASAIO JOURNAL:

The University of Michigan Experience with Venovenous (VVA) Hybrid Mode of Extracorporeal Membrane Oxygenation.

Werner NL, Coughlin M, Cooley E, Haft JW, Hirschl RB, Bartlett RB, Mychaliska GB.

ASAIO J. 2016 Jun 24.

Outcomes of Patients Implanted Using a Left Thoracotomy Technique for a Miniaturized Centrifugal Continuous-Flow Pump.

Sileshi B, O'Hara BK, Davis ME, Haglund NA, Meng X, Deegan R, Stulak JM, Kushwaha SS, Shaw A, Maltais S.

ASAIO J. 2016 Jun 24.

Anticoagulation Reversal Strategies for Left Ventricular Assist Device Patients Presenting with Acute Intracranial Hemorrhage.

Wong JK, Chen PC, Falvey J, Melvin AL, Lidder AK, Lowenstein L, Miranpuri AS, Knight PA, Massey HT.

ASAIO J. 2016 Jun 24.

Mechanical Ventilation in Patients with the Acute Respiratory Distress Syndrome and Treated with Extracorporeal Membrane Oxygenation: Impact on hospital and 30-day post-discharge survival.

Modrykamien AM, Hernandez OO, Im Y, Walters RW, Schrader CL, Smith LE, Lima B.

ASAIO J. 2016 Jun 24.

Costs and outcomes in the care of bi-ventricular support as a bridge to cardiac transplant.

Swartz MF, Angona R, Smith K, Kraenzlin F, Stypula CM, Joshi D, Tchanchalishvili V, Hicks GL Jr, Massey HT.

ASAIO J. 2016 Jun 1.

Outcomes of Various Treatment Strategies for Patients with Continuous-flow Ventricular Assist Device Thrombosis: A Retrospective Analysis.

Ertugay S, Engin C, Daylan A, Pektok E, Ozturk P, Nalbantgil S, Zoghi M, Yagdi T, Ozbaran M.

ASAIO J. 2016 Jun 1.

Development of Risk Indices for Neonatal Respiratory Extracorporeal Membrane Oxygenation.

Maul TM, Kuch BA, Wearden PD.

ASAIO J. 2016 Jun 1.

Donor Oversizing Results in Improved Survival in Left Ventricular Assist Device Patients.

Schumer EM, Black MC, Rogers MP, Trivedi JR, Birks EJ, Lenneman AJ, Cheng A, Slaughter MS.

ASAIO J. 2016 Jun 1

Permanent Continuous Flow Left Ventricular Assist Devices Use After Acute Stabilization for Cardiogenic Shock in Acute Myocardial Infarction.

Chou J, Bermudez C, Kormos R, Teuteberg J.

ASAIO J. 2016 Jun 1.

Effect of CYP2C9 and VKORC1 Gene Variants on Warfarin Response in Patients with Continuous-Flow Left Ventricular Assist Devices (CF-LVADs).

Topkara VK, Knotts RJ, Jennings DL, Garan AR, Levin AP, Breskin A, Castagna F, Cagliostro B, Yuzefpolskaya M, Takeda K, Takayama H, Uriel N, Mancini DM, Eisenberger A, Naka Y, Colombo PC, Jorde UP.

ASAIO J. 2016 Jun 1.

Acute biventricular interaction in pediatric patients with continuous or pulsatile flow LVAD: a simulation study.

Di Molfetta A, Ferrari G, Iacobelli R, Fresiello L, Pilati M, Toscano A, Filippelli S, Morelli S, Amodeo A. ASAIO J. 2016 Jun 1.

Optimization of Centrifugal Pump Characteristic Dimensions for Mechanical Circulatory Support Devices.

Korakianitis T, Rezaenia MA, Paul GM, Rahideh A, Rothman MT, Mozafari S. ASAIO J. 2016 Jun 1.

Electron microscopy as a tool for assessment of anticoagulation strategies during extracorporeal life support: the proof is on the membrane.

Beely BM, Campbell JE, Meyer A, Langer T, Negaard K, Chung KK, Cap AP, Cancio LC, Batchinsky AI. ASAIO J. 2016 Jun 1.

A Case Series of Acute Myocardial Infarction in Left Ventricular Assist Device-Supported Patients.

Godishala A, Nassif ME, Raymer DS, Hartupee J, Ewald GA, LaRue SJ, Vader JM. ASAIO J. 2016 Jun 1.

Journal of Cardiac Failure:

Left Ventricular Assist Devices or Inotropes for Decreasing Pulmonary Vascular Resistance in Patients with Pulmonary Hypertension Listed for Heart Transplantation.

Al-Kindi SG, Farhoud M, Zacharias M, Ginwalla MB, ElAmm CA, Benatti RD, Oliveira GH.

J Card Fail. 2016 Jun 30. pii: S1071-9164(16)30546-2. doi: 10.1016/j.cardfail.2016.06.421.

Screening for Outflow Cannula Malfunction of Left Ventricular Assist Devices (LVADs) With the Use of Doppler Echocardiography: New LVAD-Specific Reference Values for Contemporary Devices.

Grinstein J, Kruse E, Collins K, Sayer G, Fedson S, Kim GH, Sarswat N, Adatya S, Ota T, Jeevanandam V, Mor-Avi V, Uriel N, Lang RM.

J Card Fail. 2016 Jun 8. pii: S1071-9164(16)30104-X. doi: 10.1016/j.cardfail.2016.06.002.

Circulation Heart Failure:

No MCS related articles in June 2016

European Journal Heart Failure:

Myocardial recovery with mechanical circulatory support.

Chaggar PS, Williams SG, Yonan N, Fildes J, Venkateswaran R, Shaw SM.

Eur J Heart Fail. 2016 Jun 14. doi: 10.1002/ejhf.575.

Journal of Thoracic and Cardiovascular Surgery:

Did you like Terminator 3 better than Terminator 2? "Rise of machines" with HeartMate 3?

Takayama H.

J Thorac Cardiovasc Surg. 2016 Jun 2. pii: S0022-5223(16)30482-2. doi: 10.1016/j.jtcvs.2016.05.044.

Lower-extremity complications with femoral extracorporeal life support.

Vallabhajosyula P, Kramer M, Lazar S, McCarthy F, Rame E, Wald J, Szeto W, Williams M, Atluri P, Desai N, Acker M.

J Thorac Cardiovasc Surg. 2016 Jun;151(6):1738-44. doi: 10.1016/j.jtcvs.2015.11.044. Epub 2016 Mar 3.

Venovenous extracorporeal membrane oxygenation and single-ventricle patients: A good match?

Chai PJ.

J Thorac Cardiovasc Surg. 2016 Jun;151(6):1737. doi: 10.1016/j.jtcvs.2016.03.030. Epub 2016 Mar 28.

Knife saves life.

Takayama H.

J Thorac Cardiovasc Surg. 2016 Jun;151(6):1659-60. doi: 10.1016/j.jtcvs.2015.12.069. Epub 2016 Jan 27.

Journal of American College of Cardiology:

Managing VAD Complications: Our Growth Industry.

Rogers JG.

J Am Coll Cardiol. 2016 Jun 14;67(23):2769-71. doi: 10.1016/j.jacc.2016.04.011.

Diagnosis and Treatment Algorithm for Blood Flow Obstructions in Patients With Left Ventricular Assist Device.

Scandroglio AM, Kaufmann F, Pieri M, Kretzschmar A, Müller M, Pergantis P, Dreysse S, Falk V, Krabatsch T, Potapov EV.

J Am Coll Cardiol. 2016 Jun 14;67(23):2758-68. doi: 10.1016/j.jacc.2016.03.573.