



Alexander M. Bernhardt, MD
VAD fellow
University Heart Center Hamburg
Hamburg, Germany
al.bernhardt@uke.de

Reviews:

Mitral Valve Repair at the Time of Continuous-Flow Left Ventricular Assist Device Implantation Confers Meaningful Decrement in Pulmonary Vascular Resistance. Taghavi S, Hamad E, Wilson L, Clark R, Jayarajan SN, Uriel N, Goldstein DJ, Takayama H, Naka Y, Mangi AA. *ASAIO J.* 2013 September/October;59(5):469-473.

In this matched pair analysis of four centers patients undergoing HMII implantation with concomitant MVR were compared with those undergoing HMII implantation alone. Of the 57 patients undergoing cf-LVAD implantation, 21 (36.8%) underwent concomitant MVR and 36 (63.2%) underwent cf-LVAD implantation alone. The authors found that patients receiving MVR had greater decrement in PVR (59.4% vs. 35.2%, $p = 0.01$). Decrease in end-diastolic diameter was greater for patients receiving MVR without statistical significance. Duration of mechanical ventilation, inotropic support, change in creatinine, increase in bilirubin, intensive care unit stay and overall length of stay were comparable. There was no difference in survival at 3 months (89.7% vs. 83.3%) and 1 year (83.7 vs. 67.3%, $p = 0.34$).

Current guidelines of the ISHLT for MCS state that routine mitral valve surgery is not recommended for severe mitral valve regurgitation unless recovery is expected. This study shows that although there was no significant difference in survival there could be a benefit in certain patients with high PVR thought to be ineligible for transplantation to become candidates.

Acute lung injury after mechanical circulatory support implantation in patients on extracorporeal life support: an unrecognized problem. Boulate D, Luyt CE, Pozzi M, Niculescu M, Combes A, Leprince P, Kirsch M. *Eur J Cardiothorac Surg.* 2013 Sep;44(3):544-50.

In this retrospective study from a single center data from 55 consecutive cardiogenic shock patients who underwent a bridge-to-bridge strategy between January 2004 and March 2012 were analyzed. Acute lung injury (ALI) was observed in 15 of 55 (27%) patients. 11 patients required VV-ECMO or VA-ECLS and 4 were treated medically. Mortality while on long-term support was significantly higher in patients who developed ALI (87%) than in those who did not (53%; $P = 0.03$). Hazard ratio for death while on support in patients who developed ALI when compared to those who did not was 3.390 ($P = 0.001$). Univariate risk factors for postimplant ALI included: signs of pulmonary oedema while under extracorporeal life support (ECLS), mechanical ventilation, the incomplete recovery of renal and hepatic functions, the number of red blood cell units transfused at the time of long-term device implantation, and use of pulsatile, biventricular support.

This paper deals with an important topic of lung injury during VAD implantation that has not been addressed in literature so far. It highlights the importance of pre-implant diagnostics to identify lung injury and shows the poor outcome once ALI developed. However, if ALI can be prevented in this very sick patient cohort, mostly being in INTERMACS class I and been rescued by an ECMO, needs to be determined.

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3. Cheng A, Swartz MF, Massey HT. Impella to unload the left ventricle during peripheral extracorporeal membrane oxygenation. *ASAIO J.* 2013 Sep-Oct;59(5):533-6. **
4. Jabbar AA, Yau R, Frazier OH, Delgado R 3rd. Direct thrombolytic therapy for thrombosis of a centrifugal flow left ventricular assist device. *ASAIO J.* 2013 Sep-Oct;59(5):530-2. **
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1. Nahumi N, Jorde U, Uriel N. Letter to the Editor: Slope calculation for LVAD ramp test. *J Am Coll Cardiol.* 2013 Sep 2. *

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