**MARKERS OF IMPROVEMENT AFTER ECMO IMPLANTATION**

**A. Rifai**, T. Yousuf, A. Tatooles, W. Cotts, G. Bhat

Advocate Christ Medical Center, Chicago. IL, USA

*Objective:* The aim of this study was to compare lactic acid and BNP levels before and after Extracorporeal Membrane Oxygenation (ECMO) placement and to evaluate these markers for predicting mortality.

*Methods and Results*: We retrospectively collected data on 95 patients admitted between 2005 and 2015 requiring ECMO due to profound cardiogenic shock. The indications for ECMO were as follows: post myocardial infarction (n=41), postcardiotomy (n=18), severe congestive heart failure (n=15), post left ventricular assist device (LVAD) or heart transplant (n=8), post cardiac arrest (n=6), arrhythmia (n=4), and myocarditis (n=1). The 30 day mortality rate was 47.3%. Blood lactate level and BNP were significantly elevated before ECMO placement as these patients were in a state of poor systemic perfusion. These two values decreased significantly after 48 hours of being maintained on ECMO. Lactic acid decreased from 4.2±3.6 to 1.9±1.3 (p < 0.001). BNP decreased from 1261.7±1348.1 to 950.3±1142.2 (p = 0.019). Despite this decrease the predictive value of these two markers was not significant for 30 day mortality.

*Conclusion*: Blood lactate measurement and BNP can be used as tools for monitoring adequate tissue perfusion during extracorporeal life support as both values decline 48 hours after ECMO implantation .However, the improvement in these two markers did not have a significant effect on short-term mortality in this study.