ECMO is a Team Sport: Institutional Survival Benefits of an ECMO Team

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Introduction:

Extracorporeal membrane oxygenation has grown in popularity over the last decade with many institutions becoming referral centers for specialized care of these patients. At our institution prior to 2014 patients requiring care in the peri-ECMO period were treated by intensivists with specific training in ECMO but worked independently. This isolated form of care was addressed in late 2013 with the formal initiation of an ECMO Team starting in 2014. The new multidisciplinary team established a set of protocols and guidelines to care for ECMO patients. The team addressed each phase of ECMO therapy from pre cannulation ECMO care, ECMO care, and post decannulation ECMO care. The formal ECMO team consisted of: cardiac surgery, cardiac anesthesia, intensivists, cardiology heart failure specialist, ICU nursing (NP/RN), perfusion services, respiratory therapy, nutrition, physical and occupational therapy, and an ethics committee member. Constant communication between all facets of the team throughout the peri-ECMO period facilitated safe care for these complex patients resulting in an improvement in survival to discharge.

Methods:

All adult patients at our institution who required ECMO support between the years of 2009 and 2016 were retrospectively reviewed to identify key demographic and survival information.

Manual chart review was conducted and survival to discharge was collected and separated into two groups, 2009-2013 and 2014-2016.

Results:

There was a total of 265 patient charts reviewed who required ECMO support, 130 patients were placed on ECMO between June 2009- December 2013 and 135 patients between January 2014-December 2016. Survival to discharge for patients between 2009-2013 was 37.7% compared to a survival to discharge of 51.9% between 2014-2016 (P value = 0.02).

Conclusions:

The growth in utilization of ECMO at our institution triggered the need to form a structured multidisciplinary team for appropriate management of these complex patients. Prior to Jan 1, 2014 there was no concrete “ECMO Team”, the patient was managed by individuals providing siloed care for these patients. After initiation and implementation of the “ECMO Team” a more collaborative approach to caring for these patients developed and outcomes seemed to reflect this benefit. Survival to discharge is an important marker to determine efficacy of a care team and patients who were cared for after 2014 by the ECMO Team showed improved survival compared to patients on ECMO who were treated at our institution prior to 2014. Further analysis of morbidity will need to be done to completely understand the true impact of this care team approach but the crude simplistic measurement of survival provides valuable insight into this team based care for ECMO patients.