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A Retrospective Analysis of the Outcomes of Extracorporeal Cardiopulmonary Resuscitation (ECPR)

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BACKGROUND

• Extracorporeal cardiopulmonary resuscitation (ECPR) is a form of veno-arterial extracorporeal membrane oxygenation (VA-ECMO) wherein the support is administered during cardiac arrest to externally sustain circulation.
• Once it is determined that a patient undergoing cardiac arrest has the potential for recovery and eventual weaning, ECPR is utilized in attempt to increase survival to discharge, which is otherwise low with traditional cardiopulmonary resuscitation (CPR).
• ECPR is a temporary treatment to allow for a duration of cardiopulmonary rest due to anticipated system healing with time, yet is not a curative measure.

OBJECTIVE

As a single-center, retrospective chart analysis, this study aims to determine the overall outcomes of patients who underwent ECPR at Lehigh Valley Health Network from 2013-2017.

OUTCOMES

Comparison of Survival to Discharge Between Cohorts

Disposition at Discharge of all ECPR Patients

Comparison of Survival to Discharge Between Cohorts

Days on ECMO for all ECPR Patients

RESULTS

• With 29% (95%CI 16-42%) overall survival outcomes, LVHN is consistent with published survival rates.
• There was a 14% increase in survival to discharge between the cohorts (Cohort 1: 2013-2015, Cohort 2: 2016-2017).
• All ECPR patients had been weaned by or on day 8 with the exception of two patients on day 24 and 26, which were converted to veno-venous (V) ECMO on day 8 and 2, respectively.
• No correlation could be seen between days on ECPR and survival to discharge.

CONCLUSIONS

• Survival of cardiac arrest patients without ROSC is poor without adjunctive treatment.
• Survival rates improved with increased experience of the team and institution over time.

REFERENCES


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