PHYSICAL THERAPY AND EXTRACORPOREAL MEMBRANE OXYGENATION: A RETROSPECTIVE CHART REVIEW

Hellyer NJ, Balch SA, Hagen RL, Niemann JT, Woodberry NS No funding
The Mayo Clinic Institutional Review Board (IRB) approved the retrospective chart review study on patients who had received ECMO services at Mayo Clinic in Rochester, Minnesota. Patients were assigned numbers to ensure the safety of patient confidentiality.

BACKGROUND AND PURPOSE: Little is known about individual characteristics of, and physical therapy (PT) interventions for, patients on extracorporeal membrane oxygenation (ECMO) support. The present study aims to examine functional characteristics and outcomes for patients who received PT during and after ECMO support. The study also examines the expected PT clinical course for patients who received ECMO support.

METHODS AND MATERIALS: A retrospective chart review was performed on 280 patients who received veno-arterial or veno-venous ECMO as an inpatient, at a tertiary care facility between the years 2009 and 2015. The number of PT visits before, during and after a trial of ECMO was recorded for each patient. Patients who received physical therapy were retrospectively scored on the AM-PAC “6 Clicks” at date of evaluation and discharge.

ANALYSES: To describe the average patient in our study, we recorded the summary statistics of many demographic and functional variables. We describe the relationship between therapeutic intervention during or following ECMO support and hospital length of stay, discharge location, and readmittance rates by using t-tests.

RESULTS: Patients ranged from 18.03 to 91.8 years of age and on average were 56.5 ± 16.4 years old, 61.1% were male. Of 280 patients, 140 patients survived to hospital discharge, 114 received no physical therapy, 15 received therapy while on ECMO, and 143 received therapy following ECMO removal. In patients who had therapy during ECMO placement, AM-PAC “6 Clicks” changed by 3.6 ± 4.7 points from therapy evaluation to discharge. Patients who had therapy following ECMO removal had a 5.5 ± 5.5 point change from evaluation to discharge.

CONCLUSIONS: The severity of overall health conditions and low survival rates of patients who receive ECMO influence the therapeutic interventions available and ultimately patient outcomes.

IMPLICATIONS: Description of this population and general outcomes can provide expectations for patients and their family members while going through ECMO support. Knowing the parameters of successful therapeutic interventions for patients on ECMO can further guide therapist clinical reasoning.