Category :**Renal: failure**

A259 - ***Acute kidney injury, renal replacement therapy, and long-term outcomes in patients receiving veno-venous extracorporeal membrane oxygenation***

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Introduction:

Acute kidney injury (AKI) is a frequent complication in patients with severe respiratory failure receiving extracorporeal membrane oxygenation (ECMO). However, long-term renal function is rarely monitored in survivors. This study aimed to assess the long-term mortality and renal outcomes in patients receiving ECMO.

Methods:

This was a single-centre retrospective observational study of adult patients (≥ 18 years old) who were treated with veno-venous ECMO at Guy's & St Thomas' Hospital between January 1, 2010 and December 31st, 2017. We excluded patients with end-stage renal disease (ESRD), kidney transplant recipients, and patients who received veno-arterial ECMO. The primary outcome was 1-year mortality. The secondary outcomes were 1-year incidence of ESRD and chronic kidney disease (CKD) in patients with and without AKI.

Results:

A total of 300 patients (57% male; median age 44.5 (IQR, 34-54) were included in the final analysis. Past medical histories included diabetes (12%), hypertension (17%), and CKD (2.3%). The main indication for ECMO was respiratory infection (72%). AKI occurred in 230 patients (76.7%) [AKI stage 1 (79.4%), stage 2 (7.4%), stage 3 (13.2%)]. RRT was commenced in 59.5% of all patients. Patients with AKI were more likely to have longer mechanical ventilation duration, in-hospital mortality, RRT dependence, and higher creatinine at discharge. One-year mortality was 27.8% in AKI vs. 21.4% in non-AKI patients (p = 0.18). ESRD occurred in 3 patients in the AKI group. At 1-year, only 95/237 (40.1%) survivors had creatinine results available. Among these, CKD was found in 27% of AKI patients compared with 4% in non-AKI patients (p=0.02).

Conclusion:

In vv-ECMO patients, one-year mortality is non-significantly higher in patients with AKI than in those without AKI. Follow-up of renal function post ECMO was infrequent. In patients with follow-up creatinine measurements, the CKD incidence was extremely high at 1 year. More awareness about this serious complication is required.