Excellent outcomes in a small volume neonatal-pediatric ECMO center

Sean Skinner, MD
Hubert Ballard, MD
Erich C. Maul, DO, MPH, University of Kentucky
Ashwin Krishna, MD
Michael Wittkamp, MD, et al.

Available at: https://works.bepress.com/erich_maul/32/
The management of patients on ECMO requires a highly trained multidisciplinary team. Recent literature contends that superior outcomes depend on large patient volumes. Our experience suggests that lower volume, rural centers can attain excellent outcomes with the right combination of simulation enhanced education, standardized work with checklists and order sets, and constant quality improvement processes.

**Methods**

We are a smaller neonatal/pediatric ECMO center that performs 7-12 respiratory ECMO runs a year. Our institution does not have a cardiac surgical program. We reviewed our ECMO data reported to the ELSO registry for the past 3 years, looking at all Neonatal and Pediatric respiratory failure ECMO patients and then compared our results with those of the international ELSO registry data from Jan 2015.

**Results**

We had a total of 28 patients over the 3 year period, with a better survival compared to the international ELSO survival:
- Looking at overall survival
- Comparing venovenous versus venoarterial ECMO
- Breaking down the neonatal population into PPHN and MAS.
- Separating out our pediatric numbers

There were various other diagnoses identified in patients requiring ECMO that included 5 with sepsis, 1 pertussis, 1 CDH, 1 pulmonary fibrosis, 1 drug overdose, 1 severe asthma, and 1 Mycoplasma pneumonia.