

Title of Abstract:

Cannulating the Contraindicated: Effect of Low Birth Weight on Mortality in Neonates with Congenital Diaphragmatic Hernia on ECMO

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Abstract Description:

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Background/Purpose: Restrictions for ECMO in neonates include birth weight less than 2 kg (BW<2kg) and/or gestational age less than 34 weeks (GA<34 weeks). We sought to describe their relationship on mortality.

Methods: Neonates with a primary diagnosis code of CDH were identified in the Extracorporeal Life Support Organization (ELSO) registry and logistic regression models were used to examine the effect of BW<2kg and GA<34 weeks on mortality.

Results: We identified 7,564 neonates with CDH. The overall mortality was 50%. There was a significantly higher risk of death with unadjusted odds ratio (OR) 2.39 (95% confidence interval [CI]: 1.53 – 3.74; P = 0.0001) for BW<2kg neonates. The adjusted OR of death for BW<2kg

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neonates remained significantly high with over two-fold increase in the odds of mortality for BW<2kg neonates when adjusted for potential confounding variables (OR 2.11, 95% CI: 1.30-3.43; P = 0.0024). However, no difference in mortality was observed in neonates with GA<34weeks.

Conclusions: While mortality among CDH neonates with a BW<2kg was substantially increased, GA<34weeks was not significantly associated with mortality. Effort should be made to identify the best candidates for ECMO in this high-risk group and develop treatment strategies to optimize their survival.

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