We sought to describe current IV fluid management in pediatric acute respiratory distress syndrome" Hassinger and Valentine (2018).

Abstract:

OBJECTIVES: Observational studies have shown that fluid overload is independently associated with increased morbidity in critically ill children, especially with respiratory pathology. It is unknown if recent evidence has influenced clinical practice. We sought to describe current IV fluid management in pediatric acute respiratory distress syndrome.

DESIGN: Multinational, cross-sectional electronic survey.

SETTING: Pediatric Acute Lung Injury and Sepsis Investigators Network.

SUBJECTS: Pediatric intensivists.

INTERVENTIONS: None.

MEASUREMENTS AND MAIN RESULTS: One-hundred fifty-four respondents (43% response rate) had a median 10 years of experience (Q1-Q3, 4-17.8), in ICUs with a median 24 beds (18-36), where 86% provided extracorporeal membrane oxygenation. For maintenance IV fluid, 96% used the “4-2-1” rule to determine rate, and 59% used dextrose with normal saline for content. For fluid resuscitation, 77% use normal saline in 10 milliliters per kilogram aliquots (42%) or as fluid challenges (37%). Less than 20% of respondents reported resuscitating with 20 mL/kg boluses. Documented intake over output is the favored vital sign to assess (75% vs 57%) and guide fluid management (97% vs 14%) over central venous pressure. The majority of respondents chose 10% fluid overload as the threshold to act in children with pediatric acute respiratory distress syndrome. The majority (77%) agreed that fluid accumulation contributes to worse outcomes in pediatric acute respiratory distress syndrome and should be treated. Ninety-one percent reported conservative fluid management in pediatric acute respiratory distress syndrome is likely to be beneficial or protective.

CONCLUSIONS: Pediatric intensivists agree that acting on 10% fluid overload in children with pediatric acute respiratory distress syndrome is important. Decisions are being made largely using intake and output documentation, not central venous pressure. These findings are important for future pediatric acute respiratory distress syndrome interventional trials.

Reference:
Self-reported management of IV fluids in children with acute respiratory failure | 2

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