Pediatric Fulminant Hepatic Failure: Are We Improving Outcome?

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The article published in this issue of Critical Care Medicine by Deep et al (1) is a break through in the care and survival of children with Fulminant Hepatic Failure (FHF).

Historic data in the care of renal replacement therapy (RRT) in children with FHF showed survival in the range of 17–31%, whereas these authors have demonstrated a survival of 58% (2, 3). Historic data were a combination of RRT modalities and within the context of continuous RRT (CRRT) the use of both convection (continuous venovenous hemofiltration [CVVH]) as well as diffusion (CVVHD).

Deep et al (1) have approached this systemically using a preprescribed protocol for evaluation of the FHF as well as implementation of CRRT when indicated. A series of clinical indications were considered to begin CRRT including plasma ammonia greater than 200 μmol/L, persistent lactic acidosis or metabolic acidosis, hyponatremia, hyperkalemia, and fluid overload. Many studies to date have determined fluid overload as a sole indicator of initiation of CRRT, yet these authors have weighted the effect of solute clearance as important indicator of risk.

The uniqueness of the prescription was predominantly convection as has been shown by Flores et al (4) may be superior in patients with a highly metabolic state. Additionally, anticoagulation was based upon the patients’ needs but mostly using prostacyclin that may have an added benefit of platelet effect in these highly thrombotic patients without the risk of excessive bleeding that could result with the use of heparin (5). Further, the concept of “high volume” CVVH was used to the range of 100 mL/kg/hr following the ideas of Honore et al (6). Finally, the institution of CRRT was early (average of 27 hr after admission), which has been shown by Modem et al (7), to improve survival in children undergoing CRRT.

The U.K. system is unique for it consolidates patients with specific diseases to specific locations of care. Whereas, this may not be as convenient for families to have to travel to specific locations for expertise in care, what results is a high level of familiarity and care due to redundancy of disease processes being cared for at the location.

In summary, a protocol-based approach to FHF with early intervention of CRRT as well as techniques that enhance solute clearance and minimized risk have resulted in a significant improvement in the care and survival of these gravely ill children. These authors need to be congratulated on their excellent outcome in these highly complicated patients.

REFERENCES

*See also p. 1910.

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