Patients admitted to an intensive care unit are prone to cumulated fluid overload and receive intravenous volumes through the aggressive resuscitation recommended for septic shock treatment, as well as other fluid sources related to medications and nutritional support” Lopes and Piva (2017).

Abstract:

Patients admitted to an intensive care unit are prone to cumulated fluid overload and receive intravenous volumes through the aggressive resuscitation recommended for septic shock treatment, as well as other fluid sources related to medications and nutritional support. The liberal liquid supply strategy has been associated with higher morbidity and mortality. Although there are few prospective pediatric studies, new strategies are being proposed.

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This non-systematic review discusses the pathophysiology of fluid overload, its consequences, and the available therapeutic strategies. During systemic inflammatory response syndrome, the endothelial glycocalyx is damaged, favoring fluid extravasation and resulting in interstitial edema. Extravasation to the third space results in longer mechanical
Fluid overload in children undergoing mechanical ventilation, a greater need for renal replacement therapy, and longer intensive care unit and hospital stays, among other changes. Proper hemodynamic monitoring, as well as cautious infusion of fluids, can minimize these damages. Once cumulative fluid overload is established, treatment with long-term use of loop diuretics may lead to resistance to these medications. Strategies that can reduce intensive care unit morbidity and mortality include the early use of vasopressors (norepinephrine) to improve cardiac output and renal perfusion, the use of a combination of diuretics and aminophylline to induce diuresis, and the use of sedation and early mobilization protocols.

Reference:

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