

Balanced resuscitative fluids (BF) have been associated with decreased incidence of hyperchloremic metabolic acidosis in sepsis” Sethi et al (2017).

Abstract:

Objective: Balanced resuscitative fluids (BF) have been associated with decreased incidence of hyperchloremic metabolic acidosis in sepsis. We hypothesized that higher proportions of BF during resuscitation would thus be associated with improved mortality in Emergency Department (ED) patients with sepsis.

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Methods: This was a retrospective chart review of adult ED patients who presented with sepsis to a large, urban teaching hospital over one year. The choice of resuscitation fluid in the first 2 days of hospitalization was defined as either normal saline (NS) or balanced fluids (BF; Lactated Ringer’s or Isolyte). The primary study outcome was in-hospital mortality, which was analyzed with multivariable logistic regression based on the proportion of BF received during the initial ED resuscitation.

Results: Of 149 patients screened, 33 were excluded, leaving 115 for analysis, of whom 18 died (16% overall mortality). Sixty-one (53%) patients received BF and NS, 6 (5%) patients received BF exclusively, while 48 (42%) patients received NS only. The mean number of liters administered was 5.4, and the mean percentage of BF administered was 29%. In univariate analysis, a higher proportion of BF was associated with lower odds of mortality (OR 0.973 [95% CI 0.961-0.986], $p = 0.00003$). This association held true in multivariable models controlling for comorbidities and admission lactate level.

Conclusions: We found that the proportion of BF during the initial ED resuscitation in septic patients was associated with a significant reduction in mortality. This association provides the necessary rationale for future randomized clinical trials of BF resuscitation in sepsis.

Reference:



Sethi, M., Owyang, C.G., Meyers, C., Parekh, R., Shah, K.H. and Manini, A.F. (2017) Choice of resuscitative fluids and mortality in emergency department patients with sepsis. October 6th. .

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