

Evaluating the Impact of Evidence-Based Use of Lactated Ringer's in Patients with Sepsis

Purpose:

To evaluate the impact and prescribing patterns of fluid resuscitation boluses when adding LR to our institution's general sepsis order set.

Methods

This was a single center and retrospective chart review divided into two different phases. Data was collected from two different timelines: pre-intervention, which occurred from January 1st, 2020 to March 31st, 2020, and post-intervention, which occurred from January 1st, 2021 to March 31st, 2021. The primary outcome was the change in proportion of administered lactated Ringer's versus 0.9% NaCl between the pre- and post-intervention timelines. Secondary outcomes were incidence of acute kidney injury (AKI) and need for dialysis.

Results

Between the pre- and post- intervention timelines, a total of 229 patients met criteria for analysis. 143 patients were included in the pre-intervention group and 86 patients were included in the post-intervention group. Most patients were excluded for either receiving both 0.9% NaCl and LR or no documentation of administered crystalloid. In the pre-intervention group, 24.9% of patients received lactated Ringer's compared to 41.8% in the post-intervention group. Overall incidence of AKI was 23.1% in the pre-intervention group compared to 20.9% in the post-intervention group. Patients requiring dialysis during admission pre- and post- intervention was 5.6% and 3.5%, respectively.

Conclusions

Overall, the addition of our intervention allowed for an increase in the usage of LR for patients with sepsis by 16.9%. There was also a numerical decline in the overall incidence of AKI and requirement for dialysis. Evidence-based use of LR should increase over time as familiarity and education surround balanced crystalloids grow.