

Medication Use Evaluation of Lactated Ringer's versus 0.9% Sodium Chloride in Patients with Sepsis

Purpose:

Recent studies that have evaluated crystalloid use in fluid resuscitation have demonstrated more favorable outcomes with balanced crystalloids compared to 0.9% sodium chloride (NaCl). At our institution, lactated Ringer's is not a readily available fluid option on the Sepsis Order Set. The purpose of this study will be to assess the usage of lactated Ringer's versus 0.9% NaCl prescribed for fluid resuscitation in patients diagnosed with sepsis.

Methods:

This is a single center, Institutional Review Board approved, retrospective chart review of patients that were diagnosed with sepsis at our institution from January 1st, 2020 to March 31st, 2020. In this study, the usage of lactated Ringer's versus 0.9% sodium chloride for fluid resuscitation in patients with sepsis will be evaluated. Data will be collected through the Meditech electronic medical record (EMR) using patient account numbers through the institution's quality department. For each EMR, the following information will be recorded: dates of admission, discharge and transfer (if applicable), reason for admission, diagnosis of sepsis/septic shock, the type of crystalloid used, patient age and gender, serum creatinine, need and length of time on dialysis, patient death, and development of acute kidney injury (AKI) at any time during admission. Data recorded will not include patient identifiers and will be kept confidential. Inclusion criteria will include all patients admitted to the hospital with a confirmed diagnosis of sepsis at any point in their admission. Patients readmitted to the hospital that meet inclusion criteria will be counted as a separate occurrence in the data set. The primary outcome will be the calculated percentage of patients that received lactated Ringer's compared to the percentage of patients that received 0.9% NaCl for fluid resuscitation.

Results:

From January 1st, 2020 to March 31st, 2020, a total of 143 patients met inclusion criteria for analysis. Patients were most commonly excluded for two reasons: receiving both crystalloids or no documentation of fluid resuscitation. In this study, 74.1% of patients received 0.9% NaCl for fluid resuscitation, while 24.9% of patients received lactate Ringer's. 6.6% of patients that received 0.9% NaCl required dialysis compared to 2.7% of patients that received lactated Ringer's.

Conclusion:

Overall, the results from this study have demonstrated that 0.9% NaCl remains the more commonly prescribed crystalloids for fluid resuscitation compared to lactated Ringer's in patients with sepsis at our institution. The impact of including lactated Ringer's to the current sepsis order set will be evaluated in future research.