A direct correlation between the MRC-ICU score and fluid balance in the intensive care setting is expected.

Background

Complications of Fluid Overload

- Mortality
- Mechanical ventilation time
- Length of stay
- Disposition

Figure 1: Fluid overload is common within the intensive care setting and is known to cause pathophysiologic alterations and negative patient care outcomes.

Fluid Stewardship

- Right Patient
- Right Drug
- Right Duration
- Right Dose

Figure 2: Pharmacists play a key role in fluid stewardship in critically ill patients including evaluation of need of resuscitation, determining proper fluid choice, assessing volume status, and determining resuscitation volume.

ROSE Curve for Timing of Fluid Interventions

Figure 3: Prospective identification of patients at risk for fluid overload may help optimize timing of clinical interventions for pharmacists.

MRC-ICU Scoring Process

- Analyze medications
- Assess medical device utilization
- Assign point values
- Add total points

Figure 4: The MRC-ICU scoring tool measures medication regimen complexity and may be able to predict patients in highest need of fluid stewardship.

Methods

- Patients admitted to the medical intensive care unit between January 1, 2017, and April 2018 were included.
- Inclusion criteria will consist of patients aged 18 years or older, admitted to the intensive care unit for over 72 hours.
- Total fluid volume and specific IV medication administration data will be collected for the first three intensive care unit days.
- Data will be collected via chart review of the electronic medical record.
- Sample size was estimated to be 50 patients.

Future Implications

- Does the MRC-ICU score correlate to positive fluid balance in critically ill patients?

Figure 5: Accurately predicting fluid overload in ICU patients may help minimize negative patient outcomes and optimize pharmacist workflow.

Hypothesis

Does the MRC-ICU score correlate to positive fluid balance in critically ill patients?

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