TITLE: Epidemiology and Outcomes in Patients with Severe Sepsis Admitted to the Hospital Wards

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ABSTRACT

Purpose: Detail the trajectory and outcomes of patients with severe sepsis admitted from the emergency department to a non-ICU setting and identify risk factors associated with adverse outcomes.

Material and Methods: Single-center retrospective cohort study conducted at a tertiary, academic hospital in the United States between 2005 and 2009. The primary outcome was a composite outcome of ICU transfer within 48 hours of admission and/or 28-day mortality.

Results: Of 1853 patients admitted with severe sepsis, 841 (45%) were admitted to a non-ICU setting, the rate increased over time (p<0.001), and 12.5% of these patients were transferred to the ICU within 48 hours and/or expired within 28 days. In multivariable models, age (p<0.001), an oncology diagnosis (p<0.001), and illness severity as measured by APACHE II (p=0.04) and high (≥ 4 mmol/L) initial serum lactate levels (p=0.005) were associated with the primary outcome.

Conclusions:

Patients presenting to the ED with severe sepsis were frequently admitted to a non-ICU setting and the rate increased over time. One of eight patients admitted to the hospital ward was transferred to the ICU within 48 hours and/or expired within 28 days of admission. Factors present at admission were identified that were associated with adverse outcomes.