Systemic symptoms as markers for severe sepsis

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INTRODUCTION
The objective of this study was to evaluate six general symptoms as markers for severe sepsis in patients with suspected bacterial infections. Severe sepsis is a common cause of death and morbidity. Early detection and treatment is critical for outcome. Clinical presentation varies widely and no single test is able to discriminate severe sepsis from uncomplicated infections or non-infectious emergencies. Apart from local symptoms of infection, the systemic inflammatory reaction itself may give rise to general symptoms such as muscle weakness and vomiting.

METHODS
We present an observational, consecutive study. Data from ambulance and hospital medical records were analyzed. The survey included 298 patients (median age: 74 years; male: 48 %) that were admitted to a 550-bed secondary care hospital in March 2012, receiving intravenous antibiotics for suspected community-acquired infections. General symptoms (fever/shivering, dyspnea, muscle weakness, gastrointestinal symptoms, localized pain, altered mental status) that were part of the reason the patient sought medical care were registered. Patients that within 48 hours from admission fulfilled any criteria for severe sepsis were compared with patients that did not. Odds ratios for severe sepsis were computed and adjusted for age and gender as confounders.

RESULTS
Severe sepsis criteria were fulfilled in 32 % (n=94) of the patients. These were older (median age: 80 years vs. 71 years) and experienced more symptoms (mean: 2.2, SD 0.9 vs. mean: 1.4, SD 0.7) than patients without severe sepsis.
Among individual symptoms, altered mental status (OR: 3.9, 95 % CI: 1.9-7.8), dyspnea (OR: 3.2, 95 % CI: 1.9-5.4), and gastrointestinal symptoms (OR: 2.0, 95 % CI: 1.0-4.0) were significantly related to severe sepsis. Additionally, bacteremia and in-hospital death were more common in patients with more symptoms.

CONCLUSIONS:
General symptoms, especially altered mental status, dyspnea, and gastrointestinal symptoms, appear to be more common in severe sepsis than in milder infections. These symptoms might be utilized as a diagnostic aid for early detection of severe sepsis in the clinical setting, complementing vital signs and laboratory tests.