

Adherence to antibiotic guidelines in patients admitted to ICU with severe sepsis and septic shock

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Background

Sepsis remains associated with high morbidity and mortality and is a common reason for requiring intensive care. Several landmark studies have demonstrated the benefit of prompt antibiotic usage and the Swedish Society of Infectious Disease Medicine has since 2008 provided national guidelines for the treatment of sepsis in Sweden. Compliance with the Swedish national guidelines is largely unknown and further it is unknown if compliance to guidelines improves patient outcome. The aim of this study is to assess the current compliance to Swedish guidelines and secondly to investigate whether compliance to guidelines improves outcome for patients admitted to a mixed intensive care unit for severe sepsis and septic shock.

Method

A retrospective, journal audit was conducted on all patients admitted to the general ICU at Linköping University hospital from the 1st of January 2011 to the 31st of December 2015 with ICD-10(SE) diagnosis codes 65: 1 (Severe Sepsis) and 57: 2 (Septic Shock) identified through the Swedish ICU Registry (SIR).

Results

Full compliance to national antibiotic guidelines was observed in 35.3 % of patients, partial compliance in 45.7%, and no compliance in 18.9%. Partial compliance was significantly associated with a 2-fold increase in risk of 30-day mortality (OR 2.155 [CI 1,19-3,87], $p=0.01$). Furthermore no significant association was observed between time to appropriate antibiotics and patient outcome. No compliance to guidelines was surprisingly not associated with an increased risk compared to full compliance.

Conclusions

Only 35 % of the most critically ill patients receive antibiotics in line with Swedish national guidelines for severe sepsis and septic shock. Full compliance with guidelines was associated with decreased mortality. Efforts should be made to increase the awareness and compliance to the current guidelines.