ICU
MANAGEMENT & PRACTICE

Educational intervention leads to improved sepsis treatment

The incidence of sepsis – a condition that is associated with high morbidity and mortality – seems to be increasing. Early appropriate antibiotic treatment is essential to improve survival. Researchers in Spain say that despite advances in sepsis treatment in recent years, educational interventions can still improve the delivery of care. Further improvements might also improve outcomes, according to the researchers.

Infection control is the cornerstone of treatment, and both the timeliness and appropriateness of empirical antibiotic treatment are considered essential aspects of sepsis management. Given the importance of infection control in sepsis management, the researchers designed a multifaceted educational intervention to improve antimicrobial therapy in patients with sepsis: the Antibiotic Intervention in Severe Sepsis (ABISS) study.

"We hypothesised that the intervention would decrease the time to the administration of empirical antibiotics, increase the proportion of patients receiving appropriate empirical antibiotics, favour de-escalation, and decrease mortality," according to the research team.

Investigators prospectively studied all consecutive patients with sepsis/septic shock admitted to 72 intensive care units (ICUs) throughout Spain in two 4-month periods (before and immediately after the 3-month intervention). They compared process-of-care variables (resuscitation bundle and time-to-initiation, appropriateness, and de-escalation of empirical antibiotic treatment) and outcome variables between the two cohorts. The primary outcome was hospital mortality. Investigators also evaluated the intervention's long-term impact in a subset of 50 ICUs.

The study included 2,628 patients (age 64.1 ± 15.2 years; men 64.0%; APACHE II, 22.0 ± 8.1): 1,352 in the preintervention cohort and 1,276 in the postintervention cohort. In the postintervention cohort, the mean (SD) time from sepsis onset to empirical antibiotic therapy was lower (2.0 (2.7) vs. 2.5 (3.6) h; $p = 0.002$), the proportion of inappropriate empirical treatments was lower (6.5% vs. 8.9%; $p = 0.024$), and the proportion of patients in whom antibiotic treatment was de-escalated was higher (20.1% vs. 16.3%; $p = 0.004$).

According to researchers, the expected reduction in mortality did not reach statistical significance (29.4% in the postintervention cohort vs. 30.5% in the preintervention cohort; $p = 0.544$). A possible explanation is that the study focused mainly on improving antimicrobial treatment. "It is unlikely that a limited intervention at a single point in time would have a profound impact on survival," the researchers pointed out.

Importantly, gains observed after the intervention were maintained in the long-term follow-up period.

It should also be noted that the intervention targeted all professionals caring for septic patients. "The key to improving outcomes in sepsis is motivating professionals to implement evidence-based measures and providing them with feedback about the impact of these measures," the researchers explain. "To this end, it is important to monitor process-of-care variables and outcome variables. One of the greatest benefits of interventions like ours is their contribution to shaping a culture that fosters the desire to improve, and an ongoing commitment to excellence in patient care."

Source: Critical Care
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