Poster presentation

Compliance with sepsis resuscitation but not management bundles improves the survival of surgical patients with septic shock

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Introduction

The purpose of this study was to describe the effectiveness of the Surviving Sepsis Campaign bundles with regard to both implementation and outcome in surgical patients with septic shock.

Methods

A single centre prospective observational study of surgical patients admitted to the ICU from September 2005 to August 2008 fulfilling criteria for the international sepsis definitions.

Results

We analyzed prospectively 149 surgical patients with septic shock. The mean age was 69 ± 13 years, APACHE II score: 23 ± 7, Sequential Organ Failure Assessment: 8 ± 2. The mortality rate was 34.2% in the ICU and 42.3% in the hospital. There were no significant differences in the characteristics and the severity of septic shock between the compliant (C) and noncompliant (NC) groups. We found differences in the ICU and hospital mortality between the C and NC groups in two Resuscitation Bundles (RB): central venous oxygen saturation ($ScvO_2$) ≥ 70% (25% vs. 43%, $P = 0.01$ and 32% vs. 52%, $P = 0.02$) and source control (14% vs. 56%, $P < 0.001$ and 24% vs. 63%, $P < 0.001$, respectively). The compliance rate of all RB was 27% and there were significant differences in mortality between the C and NC groups (17% vs. 40%, $P = 0.01$ and 35% vs. 49%, $P = 0.009$ in the ICU and hospital, respectively). There were no significant differences in the ICU

and hospital mortality with the Management Bundles compliance. In the multivariate analysis, source control, $ScvO_2$ ≥ 70%, compliance of all RB, mechanical ventilation, APACHE II and Sequential Organ Failure Assessment were independently associated with mortality. When the influence of age and severity was controlled by logistic regression, source control was independently associated with survival (OR = 0.17, 95% CI = 0.05 to 0.55, *P* = 0.003).

Conclusion

Implementation of the RB was associated with decrease mortality of surgical patients with septic shock. Among all sepsis bundle elements, the source control was the only independent predictor of survival. The compliance of Management Bundles had no impact on survival.