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Letter to the Editor

A modified goal-directed protocol improves clinical outcome in intensive care unit patients with septic shock patients: a randomized controlled trial. *Shock 26:551–557, 2006.*

To the Editor: We read with great interest the article by Lin et al. (1) regarding the effect of a modified early goal-directed protocol in patients with septic shock admitted to a medical intensive care unit (ICU). The reported data clearly indicate that the goal-directed therapy targeting central venous pressure, mean arterial pressure, and urine output has a beneficial effect on these patients. We really compliment the authors for the results obtained, but we think some points of the article deserve further elucidation.

Using a simple arithmetic calculation, taking into account the number of patients randomized by the authors in 8 months (n = 224) and the mean length of stay (17.4 days), leads to the result that 68% of beds in the 24-bed medical ICU in the study were occupied by patients with septic shock. This "rough" calculated bed occupancy greatly exceeds the data observed by other investigators (2). Moreover, the world-wide reported incidence rate of severe sepsis (not only septic shock) in ICU, including patients developing severe sepsis after admission, ranges between 10% and 25% (2–5). By applying an average incidence rate (18%), we calculated that in 8 months, around 1,000 patients would have been admitted in the authors' medical ICU and that the mean length of stay of patients without septic shock would be only 1.9 days. We think that the number of patients with septic shock per number of ICU admissions should be clarified in the study.

The definition and the treatment of septic shock seem controversial in the article. In fact, only 72% of randomized patients with septic shock received vasopressor therapy, and the mean duration of amine administration (2.3 h) was largely shorter than the mean time needed for shock reversal (56 h). Similarly, the renal failure definition and incidence in the studied cases are unclear: a persistent low urine output was reported only in 2 patients (1.9%), whereas sepsis-associated renal failure was diagnosed in 106 patients (47%).

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REFERENCES

1. Lin S, Huang C, Lin H, Liu C, Wang C, Kuo H: A modified goal-directed protocol improves clinical outcomes in intensive care unit patients with septic shock: a randomized controlled trial. *Shock* 26:551–557, 2006.
2. Padkin A, Goldfrad C, Brady AR, Young D, Black N, Rowan K: Epidemiology of severe sepsis occurring in the first 24 hours in intensive care units in England, Wales and Northern Ireland. *Crit Care Med* 31:2332–2338, 2003.
3. Finfer S, Bellomo R, Lipman J, French C, Dobb G, Myburgh J: Adult-population incidence of severe sepsis in Australian and New Zealand intensive care units. *Intensive Care Med* 30:589–596, 2004.
4. Van Gestel A, Bakker J, Veraart CP, van Hout BA: Prevalence and incidence of severe sepsis in Dutch intensive care units. *Crit Care* 8:R153–R162, 2004.
5. Brun-Buisson C, Meshaka P, Pinton P, Vallet B, EPISEPSIS Study Group: EPISEPSIS: a reappraisal of the epidemiology and outcome of severe sepsis in French intensive care units. *Intensive Care Med* 30:580–588, 2004.

Dr. Lin did not reply.