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Letter to Tuon et al.

Accepted: 27 November 2008
Published online: 16 December 2008
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An author's reply to this comment is available at:
doi:[10.1007/s00134-008-1370-7](https://doi.org/10.1007/s00134-008-1370-7).

I congratulate Tuon et al. authors of “Time-dependent behavioral recovery after sepsis in rats,” on their intriguing results [1]. Completing long-term, complex follow up testing in rats is impressive. More impressive is the application of methods from the behavioral sciences to a clinically important question in intensive care—what factors may contribute to long-term cognitive sequelae? One important factor, however, appears to have been unexplored.

In rats, the cecal-ligation and puncture (CLP) model of induced

sepsis is associated with hyperglycemia [2]. The use of ketamine-xylazine for anesthesia in various strains is also associated with hyperglycemia [3, 4]. Whether the use of ketamine-xylazine in conjunction with CLP may result in more severe hyperglycemia than either intervention alone is unknown.

Van den Berghe et al. [5] reported better long-term functional status and improved peripheral and central nervous system outcomes in surgical ICU patients who received intensive insulin therapy. In CLP-induced sepsis, ketamine-xylazine anesthesia might result in exacerbated hyperglycemia, contributing to the delayed behavioral recovery Tuon et al. observed; blood glucose levels, however, were not reported. The role of hyperglycemia in delayed behavioral recovery after CLP-induced sepsis is an important potential mechanism worth exploring.

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