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Reply to Kaufman

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We wish to thank the valuable commentary from Dr. Kaufman and we agree that several major points are not covered by our published article. In this context, as mentioned by Dr. Kaufman, hyperglycemia could contribute to the observed long-term cognitive impairment, but also hypoglycemia could be related to long-term cognitive alterations, as recently demonstrated [1]. We have proposed that the cecal ligation and perforation model could mimic some of the long-term deficits observed in humans and that this model was as a useful tool to study possible mechanisms and experimental interventions to deal with long-term cognitive impairment in sepsis survivors [2–4]. As of today, the mechanisms related to long-term alterations are not well understood. Using such a model, we could show that brain oxidative

damage is related to long-term cognitive impairment [5], and that the acute administration of glucose in the late phase of disease could reverse long-term cognitive impairment [6]. In addition, cytokine effects on brain function [7], brain mitochondrial dysfunction [8], brain cell apoptosis [7] could provide some rational explanation to long-term cognitive impairment in sepsis survivors. We anticipate that, in the next few years, there will be an increase in our understanding on the mechanisms of long-term cognitive impairment observed in sepsis survivors, and we hope that our model could contribute to the field.

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