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Reply to the Letter to the Editor “Hypoglycemia and Mortality in Critically Ill Patients with Type 2 Diabetes”

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We thank Jan Broz and Jana Malinová for their valuable comments on our recent article evaluating distinct roles of glucose deviations in patients with and without known type 2 diabetes [1]. We concluded that hyperglycemia was associated with mortality in critically ill patients admitted to an intensive care unit without known type 2 diabetes, whereas an episode of hypoglycemia, defined as glucose below 70 mg/dL, was independently associated with mortality in both patients with and without type 2 diabetes. Broz et al. bring up the important point that a glucose concentration below 70 mg/dL indicates an “alert” for hypoglycemia. However, additional insights might be gained by evaluating patients with glucose concentrations between 70 and 54 mg/dL. A glucose concentration <54 mg/dL indicates clinically significant hypoglycemia and was shown to be associated with mortality in patients with type 2 diabetes [2, 3].

Based on this input, we calculated intensive care unit mortality for patients with known type 2 diabetes and a hypoglycemic episode with glucose concentration between 54 and 70 mg/dL and below 54 mg/dL separately. Compared to patients without hypo-

glycemia, deviation in glucose levels between 54 and 70 mg/dL in hypoglycemic patients and the association of a hypoglycemic episode with mortality did not remain significant after correction for APACHE2 (OR 1.18, 95% CI 0.46–3.02; $p = 0.74$). However, in patients suffering from hypoglycemia with a glucose concentration <54 mg/dL, the association of hypoglycemia and mortality remained independent both after correction for APACHE2 (OR 8.26, 95% CI 2.41–28.29; $p = 0.001$) and lactate (OR 4.85, 95% CI 1.61–14.57; $p = 0.005$), another potent predictor of mortality [4].

Therefore, we agree with Broz et al., that analyzing data of hypoglycemic episodes in greater detail will provide more insights. In clinical practice, we think that in critically ill patients with type 2 diabetes, glucose levels ≤ 70 mg/dL should alert the clinician to take prompt and appropriate action.

Disclosure Statement

The authors have no conflicts of interest to declare.

References

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