This study aimed to compare BG control, time in target BG range, and the rate of hypoglycemia when critically ill patients were managed with an insulin infusion guided by paper-based protocol (PBP) versus eGMS” Rabinovich et al (2017).

Abstract:

BACKGROUND: Insulin infusions are commonly utilized to control hyperglycemia in critically ill patients and decrease hyperglycemia associated complications. Safety concerns have been raised in trials evaluating methods of glycemic control regarding the incidence of hypoglycemia and its relationship to increased mortality. Electronic glycemic management systems (eGMS) may result in less variable blood glucose (BG) control and less hypoglycemia. This study aimed to compare BG control, time in target BG range, and the rate of hypoglycemia when critically ill patients were managed with an insulin infusion guided by paper-based protocol (PBP) versus eGMS.

METHODS: This retrospective review compared critically ill patients ≥ 18 years old that received insulin infusion from March to May 2015 (PBP group) and October to January 2017 (eGMS group). The primary outcome was the incidence of hypoglycemia. Secondary outcomes included frequency and severity of hypoglycemia, duration in glycemic target, length of insulin therapy, as well as ICU and hospital length of stay.

RESULTS: Fifty-four patients were evaluated, 27 in each group. Percentage of days with BG <70 mg/dL was significantly reduced after eGMS implementation (21.5% v 1.3%, P < .0001) including the frequency of severe hypoglycemia (BG < 40 mg/dL) (5.4% v 0.01%, P < .0001). Patients in the eGMS group spent a greater amount of time in target BG range (31.5% v 63.7%, P < .0001).

CONCLUSIONS: An eGMS has the potential to address many of the unmet needs of an optimal glycemic control strategy, minimizing hypoglycemia, and glycemic variability in a
heterogeneous critically ill population.

Reference:


Thank you to our partners for supporting IVTEAM