

Hyperglycemia in Critically Ill Patients

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Abstract:

Despite a high amount of medical monitoring in one of the highest levels of care in the hospital, Acute Hyperglycemia still occurs in critically ill patients. Reasons for and consequences of acute hyperglycemia in this fragile patient population are complex. Controversy exists regarding what the exact treatment regimen should be because there is conflicting data from large clinical trials the most recent of which is in the NICE-SUGAR study (2009). This paper reviews why controversy still surrounds treatment of acute hyperglycemia and how severe hypoglycemia is theorized to be the primary confounder of large clinical trials. I have compiled and analyzed the preliminary data in a rat model to show that treating hyperglycemia while avoiding severe hypoglycemia in an acute lung injury rat model can improve markers of lung injury, which may warrant future clinical trials with a stricter definition of acute hypoglycemia. The data was presented at the Western Society of Clinical Research in Carmel, California in 2021. There is an ongoing need to further investigate and gain additional understanding of proper control of blood glucose levels in hospitalized patients to improve patient morbidity and mortality.