

Glycemic Control in the Pediatric Intensive Care Unit of Leuven: Two Years of Experience

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Abstract

Stress hyperglycemia and hypoglycemia are associated with increased mortality and morbidity in critically ill patients. Three randomized controlled trials, in the surgical, medical, and pediatric intensive care unit (PICU) of the Leuven University in Belgium, demonstrated the beneficial response of tightly controlling blood glucose levels within age-adjusted narrow limits by applying intensive insulin therapy. Follow-up studies could not confirm the results obtained in the Leuven studies but revealed the complexity associated with tight glycemic control (TGC). This article gives an overview of the methodological aspects typical of the Leuven TGC concept, with the focus on the PICU. Differences between the adult and the PICU are described. This overview article might help other ICUs by addressing potential differences in clinical practice when implementing TGC.

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Abbreviations: (CIT) conventional insulin therapy, (ICU) intensive care unit, (IIT) intensive insulin therapy, (IU) insulin unit, (KCl) potassium chloride, (NaCl) sodium chloride, (PICU) pediatric intensive care unit, (TGC) tight glycemic control

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