Parenteral nutrition (PN) is required with pediatric procedures such as hematopoietic stem cell transplantation (HSCT). However, risks associated with temporary PN infusion interruption remain unclear” Yanagisawa et al (2016).

Abstract:

Background: Parenteral nutrition (PN) is required with pediatric procedures such as hematopoietic stem cell transplantation (HSCT). However, risks associated with temporary PN infusion interruption remain unclear.

Materials and Methods: We retrospectively analyzed in 22 children undergoing HSCT receiving PN with the same daily routine: temporary PN infusion interruption before breakfast for administering a saline-diluted acyclovir drip. After correcting patients’ glucose levels, we examined minimum blood glucose levels between preparative regimen initiation and post-HSCT day 30. Patients were divided into 2 groups according to a minimum glucose cutoff of 60 mg/dL. Patient background characteristics and hypoglycemia risk factors were compared between both groups.

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Results: The hypoglycemia group had a significantly lower body surface area, higher glucose infusion rate (GIR), lower cholinesterase levels, and higher zinc levels at the onset of the minimum blood glucose level (P < .05). Multivariate analyses revealed an association only between higher GIR (≥5 mg/kg/min) and hypoglycemia during the temporary PN infusion interruption. A time course analysis of blood glucose and immunoreactive insulin (IRI) levels in 1 patient revealed a combined high-caloric and saline flush before acyclovir initiation, causing temporary increased IRI, as the etiology for hypoglycemia.

Conclusions: Particular attention and several precautions are required to prevent complications associated with temporary PN infusion interruption in children with higher GIR.

Reference:


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