Category :**Nutritional support**

A87 - ***Effects of a carbohydrate-modified, diabetes-specific enteral tube feed high in monounsaturated fatty acids on glycemic variability in neurocritical care patients – a randomized, double-blind, multicenter study***

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Introduction:

High glycemic variability (GV) may exacerbate secondary injury in neurocritical care patients and is associated with adverse outcomes. We investigated whether a high-caloric (1.5 kcal/mL), diabetes-specific formula (DSF) improves blood glucose (BG) control in patients with poor-grade hemorrhagic stroke receiving intensive insulin therapy and enteral nutrition.

Methods:

Mechanically ventilated patients with intracerebral (ICH) or subarachnoid hemorrhage (SAH) were randomized at day 3-4 after ICU admission to receive either DSF (Diben 1.5 kcal HP tube feed; n=13) or an isocaloric, isonitrogenous standard formula (SF, Fresubin HP energy fibre tube feed; n=15) for at least 5 days. Primary endpoint: GV (standard deviation of BG values) on intervention day (D) 3; other endpoints: insulin requirement, dysglycemic events, nutritional adequacy (ratio actual/planned calories), gastrointestinal (GI) tolerance.

Results:

On D3, there was a trend towards lower GV with DSF vs. SF (within patient standard deviation [SD] 18.6±8.7 vs. 21.2±7.7 mg/dl, pooled SD 20.4 vs. 22.9 mg/dl; P=0.349). The number of patients with hypoglycemic events (8/13 vs. 15/15) and events per patient (2.6±4.5 vs. 5.3±6.7) was significantly lower in the DSF than in the SF group (P=0.013 and P=0.026). More SAH patients receiving DSF required insulin over time. The insulin dose tended to be higher in the DSF than in the SF group. Nutritional adequacy was app. 90% overall and higher with DSF vs. SF from D2-D5 (P=0.036 at D3). GI tolerance was comparable between groups. Fewer patients receiving DSF experienced GI adverse events potentially related to the feeding formula (6/13 vs. 9/15, P=0.70).

Conclusion:

In poor-grade hemorrhagic stroke patients, a DSF tempered GV and reduced the number of hypoglycemic events compared to a SF. The DSF was safe and well-tolerated, allowing an increased nutrition delivery while contributing to improved BG control. The DSF may be considered as a meaningful feeding formula in this vulnerable patient population.