

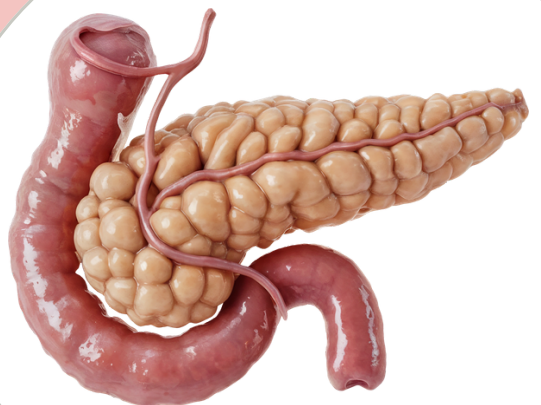
Refractory seizures and hypotonia: **HIE** or a **more concealed condition?**

A **practical example** from Challenging Cases in Neonatology (AAP) that perplexes even seasoned teams.

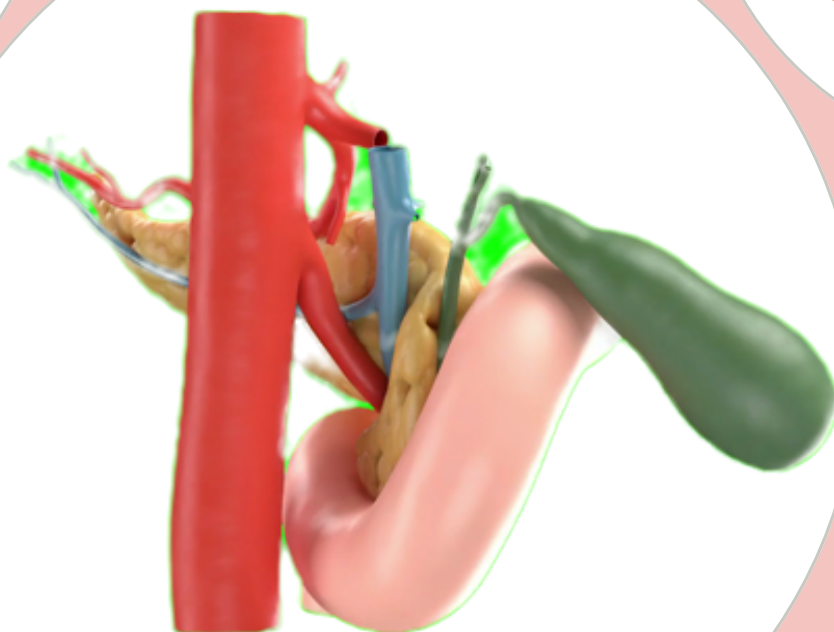


THE LABEL

VS



THE REASON



THE PRESENTATION

Day 5 of life, transferred from an alternate service.

A full-term infant, delivered via forceps, who exhibited crying only one hour post-delivery. The infant presents as **lethargic and hypotonic**, displaying **cyanosis of the lips and extremities**, along with generalized tonic-clonic seizures that are refractory to standard anticonvulsants.

THE ORIGINAL LABEL

"Hypoxic brain injury — likely perinatal asphyxia (HIE)."

Instrumented delivery and birth depression validated the diagnosis in the perceptions of the previous team.



Case closed?

CONCEALED INDICATORS

What did **not conform** to the "**asphyxiation**" category?

> 15

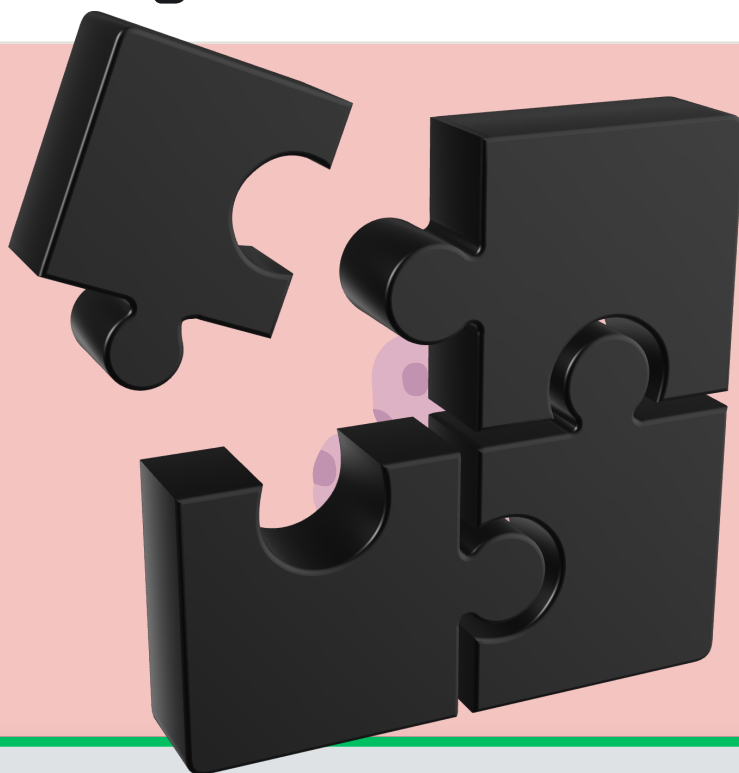
mg/kg/min of TIG to sustain euglycemia and revert to hypoglycemia with each weaning attempt.

+54 g

Weight gain per day during continuous glucose infusion. Enhanced anabolism.

Ø

Negative ketonuria in complete hypoglycemia. No fasting ketosis observed.



Hypoglycemia combined with anabolism and the absence of ketosis indicates excessive insulin secretion.

THE DIAGNOSIS

The essential sample

Collected precisely at the moment of hypoglycemia, glucose and insulin were measured concurrently in 11 samples.

INSULIN-GLUCOSE RATIO

A value **exceeding 0.4** confirms hyperinsulinism.

0,65 – 3,08

Variations in the total sample range.
Physiological Suppression Deficiency

Diagnosis: Congenital Hyperinsulinism - Persistent Hyperinsulinemic Hypoglycemia of Childhood (PHHI), diffuse variant.

At the age of three: neurodevelopment is entirely normal. There was no occurrence of primary asphyxia.



NEOFAST IN OPERATION

Meanwhile, while on duty...

The remedy was achieved through a **near-total pancreatectomy** on the 34th day of life. Prior to this intervention, euglycemia relied on concentrated glucose infusions administered under stringent fluid management, which was recalibrated following each complication.

Calculate significantly elevated TIG and constrained cerebrospinal fluid, under duress, at 3 AM?

NEOFAST • NIGHTSTAND

Weight: 3.66 kg

TIG objective

Water provision

Complex dilutions and flow rates computed in seconds - bedside accuracy, eliminating the need for mental calculations under pressure.

The screenshot displays the NEOFAST mobile application interface for "Venous hydration". It features several input fields and recommendations:

- Weight (kg)**: Input field.
- GIR (mg/kg/min)**: Input field. Below it, text reads: "Glucose infusion rate. Recommendation: 5-7 mg/kg/min and in cases of hypoglycemia 5-8 mg/kg/min (max. 12mg/kg/min)." and "Recommendation: 5-7 mg/kg/min and in cases of hypoglycemia 5-8 mg/kg/min (max. 12mg/kg/min)." (Note: The text in the image is slightly repetitive).
- Total fluid rate (mL/kg)**: Input field. Below it, text reads: "Recommendation: 1st day 60-80 mL/kg/day for FTNB and increase by 10-20 mL/kg daily up to 120-160 mL/kg. For PTNB see additional information ⓘ."
- NaCl 20% (mEq/kg)**: Input field. Below it, text reads: "Fill in value greater than or equal to zero. Recommendation: from the 2nd day of life 2-3 mEq/kg/day."
- GluCa10% (mEq/kg)**: Input field. Below it, text reads: "Fill in value greater than or equal to zero. Recommendation: 2mEq/kg/day." and a row of buttons: "KCl 10%", "KCl 15%", "KCl 19.1%", "KCl 20%".
- KCl 10% (mEq/kg)**: Input field. Below it, text reads: "Fill in value greater than or equal to zero. Recommendation: from the 2nd day of life, 1-2 mEq/kg/day if diuresis is well established." and a row of buttons: "No amino acid", "Amino Acid 4%", "Amino Acid 5.3%", "Amino Acid 8%", "Amino Acid 10%", "Amino Acid 15%".



Time is a neural entity.

In cases of neonatal hypoglycemia, precision and promptness in calculations are crucial to avert permanent and irreversible brain damage.

neofast

Neonatal Tool



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