

A Case of Non-Insulinoma Pancreatogenous Hypoglycemia Syndrome in a Cerebral Palsy Patient where Diagnosis and Treatment was Delayed due to Continuous PEG-Tube Feeding

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Introduction

- **Noninsulinoma pancreatogenous hypoglycemia syndrome (NIPHS)** is a rare disorder presenting with post prandial hypoglycemia and neuroglycopenic symptoms such as seizures
- It is differentiated from insulinoma due to postprandial rather than fasting hypoglycemia, male predominance, and negative localization studies

Case Description

- 22-year-old female with PMH of hypertension cerebral palsy - bedbound, nonverbal, and quadriplegic at baseline, nutrition via PEG tube feeds
- **CC:** five days of lethargy and acute decreased responsiveness
- **Vitals:** afebrile, hemodynamically stable, O2 Sat > 95% on ambient air
- **Physical Exam:** baseline muscle spasticity, and hyperreflexia, below baseline responsiveness
- **Labs:**
 - CBC within normal limits
 - **BMP showing glucose of 72 mg/dL**
 - Infectious workup was negative

Hospital Course

- After mentation improved, home tube feeding was restarted throughout the night
- Subsequent morning, patient's blood glucose dropped to 66 mg/dL
- Tube feed rate was increased and blood glucose further declined to 42 mg/dL
- Continuous dextrose infusions, high carbohydrate formulas, and continuous glucose infusions were administered with no improvement in blood glucose
- Insulin levels were normal at 24.7 mIU/L
- Proinsulin and C-peptide were at 16.8 pmol/L and 7.4 ng/mL respectively
- Insulin antibody test was also negative
- Ultrasound and CT abdominal imaging were negative for lesions or tumors in the pancreas
- Acarbose was initiated with dramatic improvement in hypoglycemia

Discussion

- Potential causes of postprandial hypoglycemia in nondiabetics includes insulinoma, post bariatric surgery hypoglycemia, dumping syndrome, insulin autoimmunity, postprandial syndrome, and NIPHS
- Worsening of hypoglycemia after tube feed initiation and resolution with acarbose was characteristic for NIPHS

References

- Won JG, Tseng HS, Yang AH, Tang KT, Jap TS, Lee CH, Lin HD, Burcus N, Pittenger G, Vinik A. Clinical features and morphological characterization of 10 patients with noninsulinoma pancreatogenous hypoglycaemia syndrome (NIPHS). Clin Endocrinol (Oxf). 2006 Nov;65(5):566-78. doi: 10.1111/j.1365-2265.2006.02629.x. PMID: 17054456.

