

Recurrent hypoglycemia and seizures: Unmasking pituitary stalk interruption syndrome in a child

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Abstract

Background: Recurrent hypoglycemia can be an early manifestation of Pituitary hormone deficiency. Recognition may be delayed when hypoglycemia is attributed solely to seizures or a primary neurological disorder. Pituitary Stalk Interruption Syndrome (PSIS) is a rare congenital pituitary abnormality characterized by an absent or hypoplastic pituitary stalk, hypoplastic anterior pituitary, and ectopic posterior pituitary.

Case summary: A 4.6-year-old boy presented with recurrent episodes of hypoglycemia since the age of 2 days. He experienced a further episode at 15 months of age, followed by several episodes thereafter. Most episodes were severe and required ICU admission. The episodes were predominantly nocturnal and associated with vomiting, vacant staring, and brief convulsions. He was born by cesarean section to a mother with gestational diabetes, with a birth weight of 4.1 kg. Developmental milestones were normal except for delayed independent walking at 18 months. On Examination, he had micropenis, small testes, and short stature (height SDS -1.3) and the remainder of the physical examination was unremarkable. Hormonal evaluation demonstrated low cortisol, free T4, basal and stimulated growth hormone, IGF-1, and gonadotropins consistent with panhypopituitarism. The patient also had dimorphic anaemia while serum electrolytes were normal. MRI of the brain revealed a hypoplastic anterior pituitary, interrupted pituitary stalk, and ectopic posterior pituitary, confirming PSIS and bilateral scarring in occipital region with cortical ribboning in right temporal region was also noted. EEG showed intermittent right temporal delta activity. Hydrocortisone and levothyroxine replacement, calcium supplementation, complex carbohydrate feeding, and antiepileptic therapy were initiated. Following treatment, hypoglycemic and seizure episodes improved.

Conclusions: Recurrent hypoglycemia with seizures, particularly in the presence of micropenis or growth impairment, should prompt evaluation for pituitary hormone deficiency. Early recognition of PSIS-related panhypopituitarism can prevent recurrent hypoglycemia, neurological complications, and life-threatening adrenal crisis. [*J Assoc Clin Endocrinol Diabetol Bangladesh*, 2026;5(Suppl 1): S67]

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