Case Report

An Uncommon yet Treatable Cause of Hypoglycemia

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Abstract

Hypoglycemia is a life-threatening condition, especially if recurrent. Most common causes include patients with diabetes due to medications, nephropathy with oral hypoglycemic drugs, faulty dietary habits and other endocrine causes. In a patient presenting with recurrent hypoglycemia with central hypothyroidism, Sheehan syndrome must be suspected as diagnosis can prevent disastrous complications

Keywords: Hypoglycemia, Sheehan syndrome, Recurrent.

Introduction

Sheehan syndrome (SS) is a collection of manifestations seen in postpartum hypopituitarism caused due to severe hypotension or shock that develops after massive hemorrhage during or after delivery. Its frequency is decreasing in developed countries but still commonly seen in developing countries. Patients with SS have varying presentations of anterior pituitary hormone deficiency, which often evolves slowly and hence is diagnosed late. Early diagnosis and appropriate treatment are important to reduce morbidity and mortality of the patients. We report a case of Sheehan syndrome diagnosed 15 years after onset, presenting as recurrent hypoglycemia.

Case Report

A 48-year-old female, resident of Delhi, and a housewife by occupation, presented to us with complaints of history of multiple episodes of loss of consciousness since past 15 years, generalized swelling of body associated with facial puffiness since past 5 years and generalized weakness of body with inability to do household work since past 5 years.

The patient gave history of multiple episodes of loss of consciousness since past 15 years. These were sudden in onset preceded by palpitation, sweating and associated with headache and blurring of vision. There was no aggravating factor and according to attendant were relieved immediately by some intra-venous treatment by local practitioner. The episodes were not associated with seizure, neurological deficit, and bowel or bladder incontinence.

Patient had history of generalized swelling of body since past 5 years associated with facial puffiness. There was no history of decreased urine output, orthopnea, paroxysmal nocturnal dyspnea, chronic cough with or without expectoration.

Patient also complained of generalized weakness since past 5 years which remained throughout the day with no aggravating and relieving factors. Patient also had history of constipation, cold intolerance, dryness of skin, difficulty in getting up from sitting position and combing, hair loss.

There was no history of seizures, head injury, photophobia, rashes, abnormal skin

pigmentation, vaginal bleeding, bone pain, any treatment for hypertension, diabetes mellitus, tuberculosis, or taking any alternative medications.

The patient has history of multiple admissions in past 15 years for episodes of unconsciousness. According to attendant during these episodes patient's blood glucose was below 60 mg%. On last admission in 2011 and 2012 patient when admitted for loss of unconsciousness her blood sugar level was 40 mg%.

The patient complained of amenorrhea since past 17 years with 2 live birth and 3 abortions. The first 2 abortions were at 2 month and 5 month gestations respectively. This was followed by 2 live births. Then abortion at 7 month gestation during which patient gives history of blood loss, for which she was admitted to hospital and was transfused two units of blood. On examination, the patient was conscious, cooperative, oriented to time place and person. Vitals-pulse rate=86/min regularly regular low volume. All peripheral pulses were palpable, blood pressure=90/ 60 mm Hg in both upper limbs and respiratory rate=24/min thoraco-abdominal. Pallor and pedal edema were present. Skin was dry and coarse with loss of lateral part of eyebrows. Respiratory, cardiovascular and gastrointestinal system examination was normal.

Neurological examination revealed power of 4/5 in shoulder and hip joint muscles with normal power distally. Reflexes were slow and delayed. Sensory and cerebellar systems were normal.

A differential diagnosis of hypothyroidism, hypopituitarism, adrenal insufficiency (primary/ secondary) and insulinoma was kept. Baseline and follow up hematological investigations were grossly normal and are summarized in Tables 1 and 2.

Table 1.

HB (Gram %)	13.2	13
Total WBC count	7000	6000
DLC (polymorph/lymphocyte)	85/10	87/11
Platelet count	3.5 lac	3.0 lac
Peripheral smear	Normocytic normochromic	
Blood urea (mg%)	36	34
Blood sugar	76	80
Electrolyte(Na/K)	130/4.8	136/4.0

Table 2.

S. Creatinine	1.2	1.0
S. Uric Acid	3.8	4.8
S. Cal/Phosphorus	9.9/3.0	9.2/4.0
SGOT/SGPT	37/47	38/43
S. ALP	111	120
S. Protein/Albumin: Globulin	8.0/1.2	7.0/1.1
S. Bilirubin	0.8	0.8

Chest X-ray (Fig. 1), ECG (Fig 2), fundus examination and ultrasound abdomen were also grossly normal.

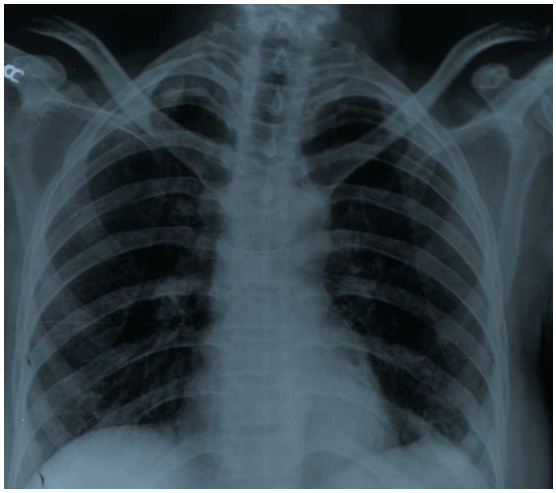

Figure 1.Chest X Ray - Normal

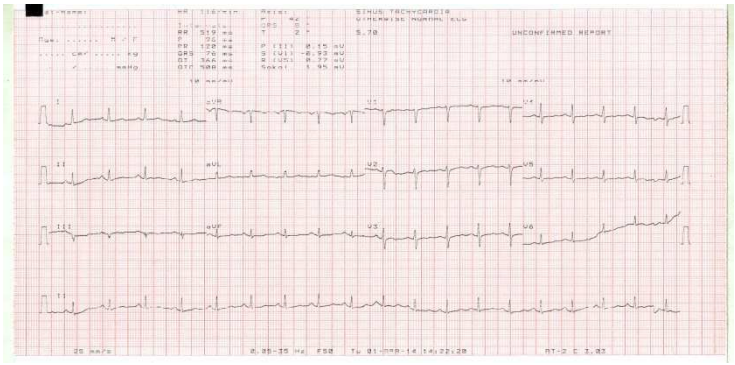

Figure 2.ECG - Normal

Hormonal assays revealed secondary hypothyroidism, low FSH, LH, serum cortisol and low growth hormone. The reports of hormonal assays are summarized in Table 3. The patient was evaluated further.

Table 3.Hormonal Profile

Hormone	Value
Morning 8 am fasting serum cortisol level	1.23 µg/mL (6.2–19.4).
HbA1c	5.1
Free T3	1.02 pg/mL (1.71–3.71).
Free T4	0.08 pg/mL (0.70–1.48).
S.TSH	0.79 mIU/mL (0.35–4.94).
Serum LH	0.25 mIU/mL (10.39–64.57)
Serum FSH	0.95 IU/mL (26.72–133.41)
Serum Estradiol	<10 pg/mL (<10–28)

To test growth hormone (GH) insufficiency, levels after insulin induced hypoglycemia (Blood Glucose <40 mg/dL) were measured GH levels at 0 min <0.04 µg/mL were measured – GH levels at 30 min was <0.03 µg/mL, at 60 min was <0.03 µg/mL at 60 min. Under normal physiological condition GH levels should have been stimulated to >3 µg/mL, thereby showing that the patient had GH insufficiency.

To test for ACTH insufficiency, insulin tolerance test was done to reduce blood glucose to <40 mg/dL – serum cortisol at 0 min were 2.43 µg/mL and at 30 min were 2.88 µg/mL. Under normal physiological conditions, cortisol level should have increased to >20 µg/mL. The results showed patient had ACTH insufficiency

Plasma insulin levels when blood level was 80 mg/dL was 2.57 µU/mL (2.6–24.9), which ruled out the possibility of an insulinoma.

An MRI brain (Fig. 3) showed no hyper or hypointense lesion. Post fossa structure was normal. B/L ventricle and CSF spaces were normal. MRI of pituitary gland (Fig. 4) revealed hypoplastic pituitary gland.

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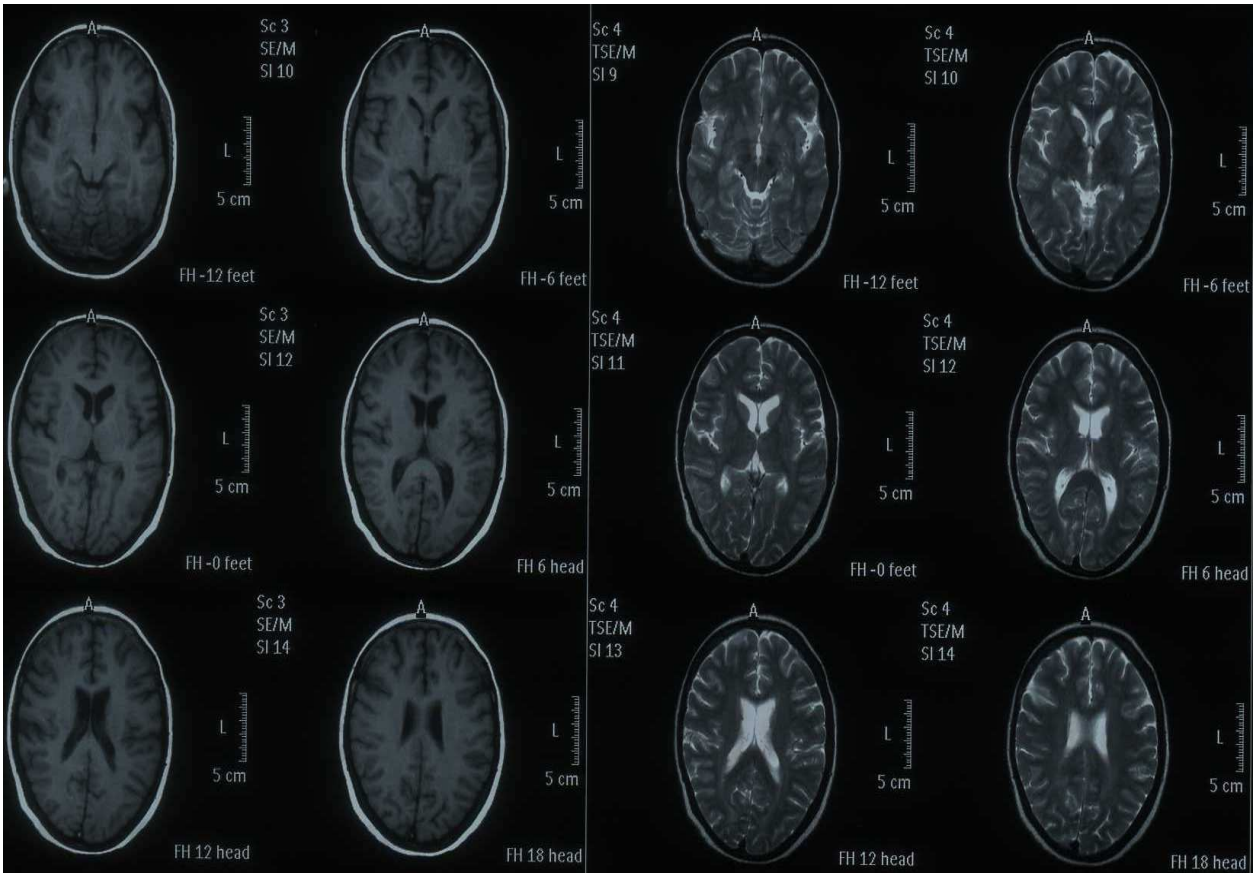

Figure 3.MRI Brain – Normal Study

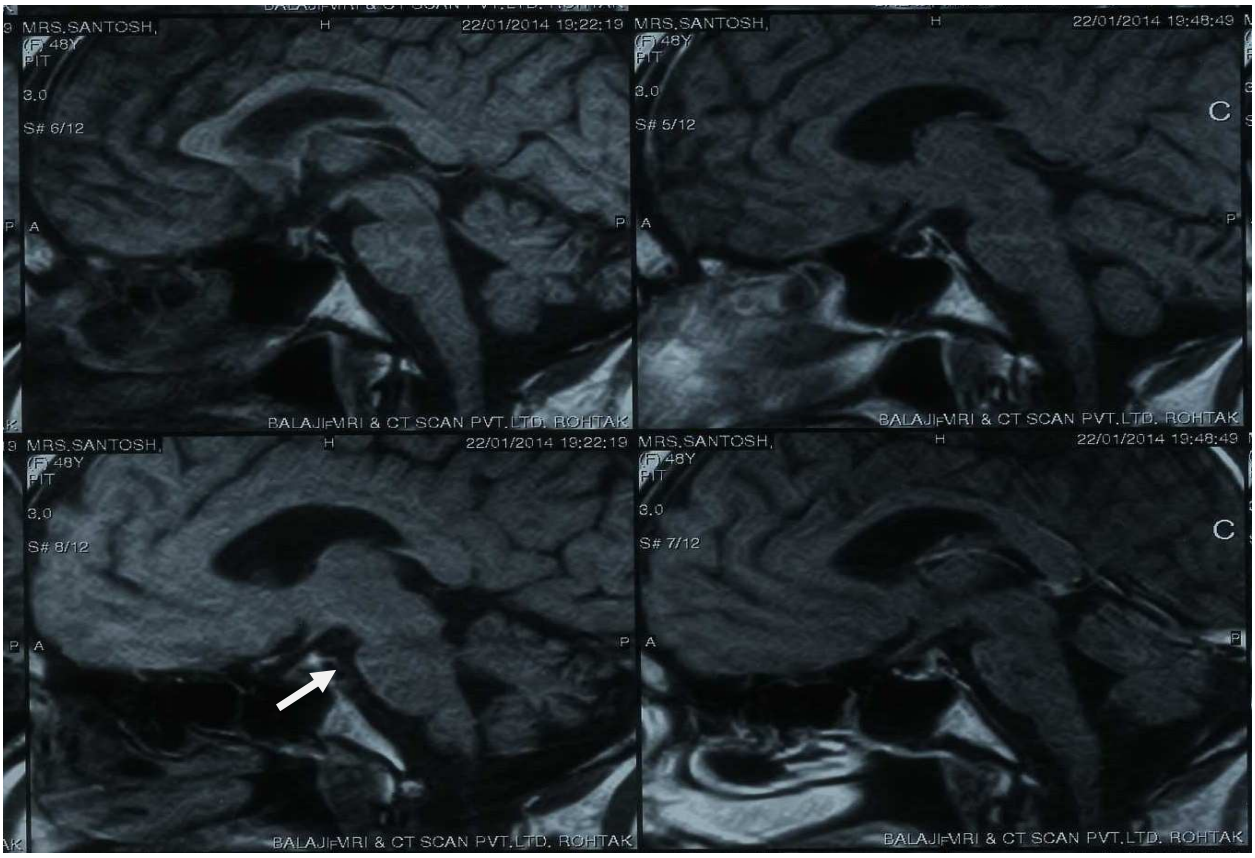

Figure 4.MRI Pituitary Showing Hypoplastic Pituitary

Thus the final diagnosis of a 48-year-old female with pan hypopituitarism due to pituitary apoplexy due to postpartum hemorrhage (Sheehan syndrome) presenting with repeated attack of Hypoglycemia was made. Patient was treated with Hydrocortisone 15 mg in morning and 5 mg in evening and later added on thyroxin 75 µg per day. The general wellbeing of the patient has improved and no new episode of loss of consciousness reported since then.

Discussion

Sheehan syndrome has a myriad of presentations and hence diagnosis is often overlooked. History of postpartum hemorrhage, lactation failure and cessation of menstruation are important clues to the diagnosis.[1] Pan hypopituitarism presenting with repeated episode of Hypoglycemia is an uncommon presentation. The causes for the same include cortisol and GH deficiency which decreases gluconeogenesis and which further increases insulin sensitivity leading to Hypoglycemia. Cortisol deficiency results in glycogen depletion; besides, the low-level of gluconeogenesis precursors (due to cortisol deficiency) and the glycogen depletion results in severe Hypoglycemia.[2] Moreover, the growth hormone deficiency also contributes to the Hypoglycemia.

This patient had low levels of cortisol and growth hormone, which improved after treatment with hydrocortisone followed by levothyroxine, in that order to prevent adrenal crisis.

Literature documents Sheehan syndrome presenting as late as 13 years after the pregnancy.[3] Thus due to the variable timing of presentation and the variety of clinical manifestations, a high degree of suspicion should be kept, so as to make an early diagnosis and prevent morbidity and mortality.

Conflict of Interest: None

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