Sheehan Syndrome

M. Aher *, M. Pandharipande**, S. Turkar *, . PP Joshi ****, . A. Dubey**, M.Gunwani*

Abstract

Sheehan's syndrome, though rare, is still one of the commonest causes of hypopituitarism in developing countries. The clinical presentation is variable with abrupt or insidiously developing pituitary insufficiency after severe intrapartum or postpartum haemorrhage. We present lady with this syndrome who had slowly progressive panhypopituitarism 10 years after a severe haemorrhage associated with her last delivery.

INTRODUCTION

SHEEHAN SYNDROME is not usually seen in developed countries but in developing countries it is still frequent and probably one of the most common causes of hypo pituitarism. In one study this was the sixth most frequent cause of growth hormone deficiency[1]. Sheehan's syndrome was first described in 1937 by HL Sheehan[2]. Sheehan's syndrome is Characterized by hypo pituitarism that occurs as a result of ischemic pituitary necrosis due to hypo tension or shock due to severe postpartum haemorrhage. However, Sheehan's syndrome can be occasionally seen in patients with no history of haemorrhage. Usually it present months to years later, with a history of failure of postpartum lactation, failure to resume menses and other signs of pan hypo pituitarism. In mild forms of the disease, patients remain undetected and may not receive the treatment for many years. Patients with hypo pituitarism have increased mortality compared to the general population. Some studies have shown increased mortality due to cardiovascular disease[3]. Early diagnosis and treatment are important.

Because of its rarity, Sheehan's syndrome receives little attention, even in textbooks of endocrinology.

Address for correspondence

* Postgraduate student, ** Lecturer, Professor and Head

Department of Medicine, Indira Gandhi Government Medical College Nagpur, Maharashtra, India

Email: maheshaher16@gmail.com

Mobile no: 09224298791

CASE:

A 35-year-old woman, resident of Betul, Madhya Pradesh, was hospitalised at our centre with history of fever without chills every 3rd day since one & half month. Though patient was admitted for fever, she had thin built, with puffiness of face, fine wrinkles around the eyes and lips, signs of premature aging, dry skin, hypo pigmentation, breast atrophy and thinning of axillary and pubic hair, which were suggestive of hypo pituitarism. On enquiry she had amenorrhea since 10yrs. Patient had post partum hamorrhage after her last delivery and received 2-3 blood transfusion 10yrs back, it was associated with lactational failure. On examination she was mildly febrile (100°F), had tachycardia (pulse rate of 110 beats per minute), Respiratory Rate was 18/min with a blood pressure of 90/60 mm Hg. On auscultation crepts were present on left infra axillary area. Her blood sugar level was 60mg/dl.

Chest radiographs revealed infiltrate in left lower lung field. It was not responding to antibiotics then CT thorax was done which was suggestive of pulmonary tuberculosis. Ultrasonography abdomen revealed atrophic uterus. The laboratory test results showed Thyroid profile serum T3- 60ng/ml (Normal Range 87-187), serum T4- 2.64microg/dl (Normal Range 5.1-12.5), serum TSH-3.56 (Normal Range 0.25-5.1). Serum FSH-7.38mIU/ml (Normal Range 2.9-12), Serum LH-1.85mIU/ml (Normal Range 1.5-

8). Cosyntropin Test was done with 250microgm of cosyntropin. Serum Cortisol before cosyntropin-113.28 nmol/ml and after 60min-122.39 nmol/ml. (serum cortisol of ≥550nmol/ml, random or stimulated, rules out adrenal insufficiency; CMDT 2011). CT head plain & contrast revealed small appearing pituitary gland. Leukocyte count of ȝ000/µL, with 60% neutrophils, 35% lymphocytes and 2%eosinophils, 3% monocytes; haemoglobin-9.2g/dL; thrombocytopenia was present (platelet count-82,000/µL); Biochemical Renal and liver parameters were normal. HIV was negative.

DISCUSSION:

The pathogenesis of Sheehan's syndrome is still not fully elucidated. Basically infarction occurs in pituitary gland, mainly the anterior lobe due to low blood flow, which may be secondary to spasm, thrombosis or vascular compression [2]. It is known that during pregnancy there is progressive increase in pituitary gland 30% to 100% of their weight, resulting from hyperplasia Lactotrophs stimulated by estrogen. As supporting evidence, Gonzalez et al.[1], reported a MRI-verified increase of 136% in pituitary volume compared with controls. The increase in pituitary can compress the artery supplying to pituitary , causing some degree of ischemia. Moreover, the supply of blood to the pituitary gland during pregnancy has not been extensively studied but it remains unchanged over the pre-pregnancy state. This makes it more susceptible to necrosis because of hypotension or shock postpartum. However, Sheehan's syndrome can be occasionally seen in patients with no history of hemorrhage. The role of autoimmunity in Sheehan's syndrome has been hypothesized, but is not well established. One study[4] has demonstrated increased presence of antipituitary antibodies (PitAb) in the serum of 19 patients with Sheehan's syndrome compared with seven patients with hypopituitarism from other causes.

In the original description, Sheehan described syndrome as postpartum inability to breastfeed, rapid involution of breast and non-return to regular menstrual cycles[2]. The clinical presentation of Sheehan's syndrome ranges from long-standing non-specific features such as weakness, fatigue, and anaemia to profound abrupt hypo pituitarism resulting in coma and death. The mean duration between postpartum bleeding and the subsequent development of symptoms varies from 1 to 33 years[5].

Patients commonly have fine wrinkles around the eyes and lips, signs of premature aging, dry skin, hypo pigmentation, breast atrophy and thinning of axillary and pubic hair.

Hyponatremia is the most common electrolyte disorder, occurring in 33% to 69% of all cases with Sheehan's syndrome and may be present for more than 30 years after the onset of the disease[6], the mechanisms involved are volume depletion, cortisol deficiency, hypothyroidism and syndrome of inappropriate ADH.

The extent of pituitary dysfunction varies in the different series. The main involvement is of GH and Prolactin (90-100%), while deficiency of gononadotrophin,TSH & cortisol ranges from 50-100%[3,4]. At least 75% of pituitary must be destroyed before clinical manifestation become evident. Symptoms due to GH deficiency usually appear earliest followed by gonadotrophs, then thyrotrophs and corticotrophs[7]. Although failure of postpartum menstruation due to deficiency of FSH and LH is quite common, spontaneous pregnancies have been reported[8]. Patients with Sheehan's syndrome may have serum TSH normal or slightly elevated. Our patient had clinical features consistent with ACTH and TSH deficiency.

Anemia is well recognized feature of hypo pituitarism. Gokalp et al. have reported hematological abnormalities in 65 patients with Sheehan's syndrome, 80% of whom presented with anemia, compared with 25% of controls[9]. Many hormonal deficiencies, such as hypothyroidism, adrenal insufficiency and gonadal hormonal deficiency, can explain normochromic anemia in hypopituitarism. Multiple anterior pituitary hormone

deficiencies in Sheehan's syndrome can be responsible for pancytopenia. A simple replacement therapy with thyroid and cortisol hormones results in complete recovery.[10]

The radiographic findings characteristic of Sheehan's syndrome is the image of empty sella (around 70% of patients) or partially empty (30%), as a lingering presence of pituitary is inversely related to the duration of the disease and the degree of hypopituitarism[11].

Sheehan's syndrome should be differentiated from lymphocytic hypophysitis, another pituitary disorder associated with pregnancy that can result in hypopituitarism. The lymphocytic hypophysitis is a rare inflammatory disorder that results lymphocytic infiltration and destruction of normal pituitary tissue. The obstetrical history is critical in Sheehan's syndrome, while the presence of other auto immune diseases suggests the diagnosis of hypo physitis.

Conclusion

Sheehan syndrome is a known complication of post partum hemorrhage though it is now rarely seen. It is relatively rare in medicine wards and high index of suspicion is necessary. It can be acute life threatening or insidious onset causing increased morbidity and mortality. It is necessary to consider this diagnosis in all patients amenorrhea with signs and symptoms of hypo pituitarism which can be treated with hormone therapy.

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