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Abstract

Sheehan's syndrome (SS) is postpartum hypopituitarism caused by necrosis of the pituitary gland. It is usually the result of severe hypotension or shock caused by massive haemorrhage during or after delivery. Patients with SS have varying degrees of anterior pituitary hormone deficiency. Its frequency is decreasing worldwide. However, it is still frequent in underdeveloped and developing countries. SS often evolves slowly and hence is diagnosed late. History of postpartum haemorrhage, failure to lactate and cessation of menses are important clues to the diagnosis. Early diagnosis and appropriate treatment are important to reduce morbidity and mortality of the patients.

Keywords: Sheehan's syndrome; Hypopituitarism; Hypotension.

Introduction

While Giving birth, blood loss is normal (less than 500 ml) but excessive loss during or after childbirth can result in ischemia to the anterior pituitary regions leading to necrosis this condition called as Sheehan's syndrome also known as Simmonds' syndrome or Postpartum Hypopituitarism or Postpartum pituitary necrosis. [1,2] The complete concept of the syndrome was well reviewed by the British pathologist Harold Leeming Sheehan in 1937. A recent epidemiological study in Indian subcontinent estimated the prevalence of Sheehan's syndrome (SS) was 10-20 per 100,000 women. In a study of 1034 hypopituitarism adults, SS was the sixth most frequent cause of growth hormone deficiency GHD, being responsible for 3.1% of cases. In a retrospective nationwide analysis, the prevalence of SS in 2009 was estimated to be 5.1 per 100,000 women. The aim of the present case study is to discuss the recent advances in SS.

Case Report

A 46 years old woman (G₃P₃L₃) is admitted in the

Female Medical Ward, Presented with chief complain of recurrent diarrhoea on intake of non-fibrous diet for the past 22 years. She had 3 full term vaginal delivery of 1 female and 2 male child. After her third child birth she developed Post-Partum Haemorrhage for which she was treated with medications; subsequently she had failure of lactation, amenorrhea, and symptoms of hypothyroidism. On admission, Patient had history of fatigue, head ache, weight loss, Asthenia, Hypoglycaemia, diarrhoea on food intake, amenorrhea for last 22 years. On examination, patient was of thin build with Body Mass Index (BMI) of 17 Kg/cm²; pulse was regular with rate of 86/min, supine blood pressure 90/52 mm Hg with sparse pubic and axillary hairs and normal adult type external genitalia. Per speculum and per vaginal examination detected no abnormality. Investigations revealed anaemia (Hb 9.0 mg/dl), Blood sugar (random) 110 mg/dl. Hormonal profile revealed low levels of, T4, TSH, Cortisol and ACTH. On the basis of history, examination and investigations, final diagnosis of Sheehan's syndrome was made and Patient was put on Tab. Prednisolone 10 mg/day along with Tab. Eltroxin 100µg/day, Tab. Flagyl 500 mg tds/day, Inj. Betnesol 4mg IV tds. Following this treatment patient resumed control of diarrhoea and feels healthy.

Definition

"Sheehan's syndrome is a pituitary gland disorder, characterised by the permanent underproduction of essential pituitary hormones (hypopituitarism) which leads to severe blood loss causes deprivation of

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oxygen thereby damaging the vital tissues and organs during or after childbirth in women".[3-6]

Causes

- Postpartum pituitary necrosis
- Hypovolemic shock
- Postpartum hypopituitarism
- Hypotension
- Disseminated intravascular coagulation

Signs and Symptoms

The symptoms depend on the degree of necrosis of the cells.

- *No Symptoms:* in very mild case, there may be any symptoms at all. The woman may complain of vague feelings of ill health or fatigue which are often passed off as the after effects of childbirth, or being due to anaemia, or poor nutrition.
- *First Symptoms after Childbirth:* absence of lactation (Agalactorrhea) and/or difficulties with lactation
- *Later Symptoms after Childbirth:* failed to start menstruating after delivery
- *Symptoms of a Full-blown Sheehan's syndrome:* Slowed mental function, weight gain and difficulty staying warm, as a result of an underactive thyroid (hypothyroidism)
- Features include secondary hypothyroidism with

tiredness, intolerance to cold, constipation, weight gain, hair loss and slowed thinking, as well as a slowed heart rate and pressure, Loss of pubic or underarm hair, Low blood pressure, Fatigue , Weight loss.

- Asthenia, Hypoglycaemic
- Atrophy of vaginal mucosa and High cholesterol level.

Complications

- Adrenal crisis, (adrenal glands produce too little of the hormone cortisol),
- Low blood pressure,
- High cholesterol,
- Unintended weight loss,
- Menstrual irregularities.
- Female infertility
- Diabetes insipidus, non-nephrogenic
- Sodium levels raised (urine)

The Outcome of Sheehan's Syndrome

The prognosis depends on the duration of the disease, chances of complications, probable outcomes, and prospects for recovery, recovery period survival rates, death rates, and other outcome possibilities in the overall prognosis of Sheehan Syndrome. Naturally, such forecast issues are by their nature unpredictable.

Investigations

| TESTS AND DIAGNOSIS RECOMMENDED | INVESTIGATION DONE FOR THE PATIENT | PATIENTS VALUE | NORMAL VALUE |
|--|------------------------------------|----------------|--------------|
| <ul style="list-style-type: none"> • Medical history, on childbirth complications • Check for Two key signs of Sheehan's syndrome- absence of lactation and/or difficulties with lactation or failed to start menstruating after delivery. • Mainly diagnosed by low levels of TSH, ACTH, FSH, and LH with low levels of T4, cortisol, and estradiol in the blood. • Magnetic resonance imaging or computerized tomography, to check the size of the pituitary | T3 (µg/dl) | 77 | 77-135 |
| | T4 (µg/dl) | 5.0* | 5.4-11.7 |
| | TSH (µIU/ml) | 0.2* | 0.34-4.25 |
| | Cortisol2 (µg/24h) | 15* | 20-70 |
| | ACTH (pg/ml) | 03* | 6-76 |
| | Sr. sodium | 135 | 135-145mg/dl |
| | Sr.potassium | 3.6 | 3.5-5.5mEq/L |
| | HDL | 35 | <35 |
| | LDL | 102 | 100-129 |
| | Sr.T.Cholestrol | 150* | <200 |
| | Hb | 9mg* | 10-15mg/dl |
| | Urea | 30 | 20-40mg/dl |
| | Random sugar | 110* | 120-180mg/dl |

Discussion

Sheehan's syndrome is the most common cause of hypopituitarism in underdeveloped or developing countries; its exact pathogenesis is not known. However, increased pituitary size during pregnancy can make the pituitary susceptible against ischemia because of compression of the superior hypophysial arteries.[7,8] Patients may have variable presentations but Failure of postpartum lactation and failure to recommence menstruation after delivery are common symptoms in most patients. The mean duration between postpartum haemorrhage and the subsequent clinical manifestations vary from 1 to 33 years. Treatment involves lifelong hormone replacement therapy and it's essential to replace the hormones that the pituitary gland fails to produce. Hormones like corticosteroids, thyroid hormones (levothyroxine) and oestrogens and medicines to control GI disturbances become necessary to maintain normal functioning of the body.

We report a case with Sheehan's syndrome and deficiency with ACTH, due to the deficiency of this hormone the body would ordinarily produce extra cortisol — a stress hormone which leads to diarrhoea. The purpose of our report is to describe such a rare case of Sheehan's syndrome, which was accompanied by severe anaemia with recurrent diarrhoea and hypothyroidism that significantly improved after adequate therapy with thyroxin and corticosteroid [5,7,8]. Since the signs and symptoms of hypopituitarism are nonspecific the diagnosis of Sheehan's syndrome should be considered to the patients with a history of haemorrhage during delivery, Agalactorrhea, amenorrhea. Anaemia with diarrhoea that develops in Sheehan's syndrome is due to cortisol deficiency.[5,9] Our patient showed severe anemia, which improved after adequate supplement with cortisone and iron treatment. The Patient was put on replacement therapy and subsequently discharged on. Tab.Eltroxin 100µg/day and tab.prednisolone 5 mgs/day.[10]

Summary

Sheehan's syndrome is a condition that affects women who experience life-threatening blood loss during or after childbirth. Severe blood loss deprives

your body of oxygen and can seriously damage vital tissues and organs and it is a rare complication of pregnancy, usually occurring after excessive blood loss during or after childbirth. The presence of disseminated intravascular coagulation (i.e., in amniotic fluid embolism or HELLP syndrome) also appears to be a factor in its development.[11,12]

Two key signs of SS involves absence of lactation and/or difficulties with lactation or you failed to start menstruating after delivery.[9] SS is still a common problem in our country, especially in rural areas. Considering the duration of disease, important delays occur in diagnosis and treatment of the disease.

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