A Case of Postoperative Hypotension in a Patient of Sheehan’s Syndrome

Shivali Tripathi, Siddharth Shah, Sushil Kumar

ABSTRACT
Sheehan’s syndrome is acute infarction and ischemic necrosis of the pituitary gland resulting from postpartum hemorrhage and hypovolemic hypotension. A 45-year-old female para 2 patient was admitted for total abdominal hysterectomy in view of pyometra. Patient was a known case of Sheehan’s syndrome with hypothyroidism. On day 2 of her surgery, she suddenly went into hypotension and tachycardia with electrocardiogram (ECG) finding of T-wave inversion. Biological marker for myocardial infarction namely creatine phosphokinase-MB was normal. The patient was started on hydrocortisone 100 mg intravenous injection thrice a day. Immediately after the first dose of injection, she became normotensive and the pulse rate settled down. The ECG, taken 24 hours later, was normal.

Keywords: Postoperative hypotension, Postpartum hemorrhage, Sheehan’s syndrome.


Conflict of interest: None

INTRODUCTION
Sheehan’s syndrome is postpartum pituitary necrosis resulting from postpartum hemorrhage and or hypovolemic shock. During pregnancy complications, such as postpartum hemorrhage, hypovolemic shock may occur leading to decrease in blood supply to the pituitary gland mainly anterior lobe causing necrosis of anterior lobe. Enlarged pituitary gland is vulnerable to ischemia and does not have the ability to regenerate. Scar tissue substitutes the necrotic cells. The presence of 50% of pituitary gland is sufficient for the maintenance of normal functions. Partial or total hypopituitarism develops with necrosis of 70 to 90% of the gland. Growth hormone (GH) and prolactin (PRL) involvement are seen in 90 to 100% of the patients; whereas, involvement of gonadotrophs, thyrotrophs and corticotrophs may be seen in 50 to 100% of the patients. Since adrenal insufficiency is the most life-threatening complication, adrenal function should be immediately assessed in any woman suspected of having Sheehan’s syndrome.

The prevalence of Sheehan’s Syndrome in India is estimated to be 2.7 to 3.9% among parous women older than 20 years. Hence, in developing countries like India, where home deliveries are widely practised and obstetric care is poor, it is one of the leading causes of hypopituitarism.

CASE REPORT
A 45-year-old female para 2 patient came to Outpatient Department with complaints of foul smelling discharge per vaginam, abdominal pain since 2 months, fever since 2 weeks, and with the history of premature menopause at age of 30 years after second delivery. She had two vaginal deliveries. Second delivery was complicated with uterine inversion and postpartum hemorrhage 15 years back. Two years back, patient was admitted to our hospital with complaints of generalized weakness and pain in abdomen. She also gave history of failure to lactate and absence of pubic hair after second delivery. Hormonal study was suggestive of hypothyroidism, low follicle-stimulating hormone (FSH) and luteinizing hormone (LH) and low cortisol levels. Magnetic resonance imaging (MRI) of brain was also done and was suggestive of empty sella. Based on the hormonal profile and MRI scan, the diagnosis of Sheehan’s syndrome was made and the patient was started on thyroxine 50 gm and prednisolone 5 mg tablets once a day (OD). However, she discontinued prednisolone after 6 months. During present illness, the patient was admitted with complaints of fever, abdominal pain, and foul smelling vaginal discharge. The pelvic examination and sonographic findings were suggestive of atrophied uterus and cervix with pyometra.

Laboratory investigations showed deranged pituitary hormones—thyroid stimulating hormone (TSH) —50.10 mIU/L (normal 0.5/4.7 mIU/L), FSH—3.34 IU/L (Normal postmenopause 30.6-106.3 IU/L), LH—0.740 IU/L (Normal postmenopause15.9-54 IU/L) and Papanicolaou smear suggestive of atypical squamous hyperplasia. The patient was posted for total abdominal hysterectomy. Day 1 after surgery was uneventful. On day 2, she suddenly went into hypotension and tachycardia.
ECG showed T-wave inversion. Creatine phosphokinase-MB (CPK-MB) and 2D Echo were within normal limits. Serum cortisol was 0.56 µg/dL (morning normal 7-28 µg/dL). Next day, in view of past history of Sheehan’s syndrome and hypotension refractory to intravenous (IV) fluids, it was decided to put the patient on hydrocortisone to compensate for possible low cortisol levels in the patient. Patient was started on hydrocortisone 100 mg IV injection every 8 hours. After first dose of hydrocortisone, patient became normotensive and pulse rate settled down. The ECG taken 24 hours later was normal without any T-wave inversion. The patient recovered completely and was shifted to ward on day 4 of surgery. Injection hydrocortisone was continued till day 5, after which, it was changed to prednisolone 5 mg tablet OD. Patient was discharged on day 7 with instruction to continue prednisolone tablet.

DISCUSSION

The patient described above had past history of significant blood loss after delivery requiring admission to the Intensive Care Unit. Only a small number of patients with Sheehan’s syndrome develop acute postpartum hypopituitarism after postpartum hemorrhage. The most frequent scenario is a woman with amenorrhea occurring years later, with the diagnosis of Sheehan’s syndrome being made retrospectively. However, it is important to emphasize that Sheehan’s syndrome is a neurological and endocrinological emergency and is potentially lethal. In Sheehan’s syndrome, inability to lactate after delivery due to PRL deficiency and the development of amenorrhea from gonadotropin deficiency are classical features. In addition, these patients become infertile; there is failure to regrow shaved pubic hair and signs of hypothyroidism and hypoadrenalism occur.

The aim of Sheehan’s syndrome treatment is to replace the missing hormones and restore endocrine homeostasis. The hormones adrenocorticotropin hormone and TSH may be replaced in addition to glucocorticoids and thyroxine respectively. On the contrary, replacing mineralocorticoids is not necessary in most cases. It is important to replace a patient’s sexual hormones as part of the treatment before menopause and replacing GH for giving better quality of life to the patient. The patient was advised thyroxine and prednisolone on diagnosis, which she had discontinued after 6 months on her own.

In terms of prognosis of Sheehan’s Syndromes, it depends on how soon the diagnosis is made and how promptly proper treatment is initiated. If the syndrome is diagnosed early and adequate replacement therapy is initiated, the prognosis is excellent. On the contrary, if there is delay in identifying and managing these patients, they may present with severe and multiple problems, such as adrenal crisis, symptomatic hypoglycemia, symptomatic hyponatremia, and other endocrinical deficiency disorders.

CONCLUSION

Sheehan’s syndrome is not an uncommon disorder in India. However, the diagnosis is often missed. In this case, though the diagnosis was made, the patient discontinued the treatment on her own. The patient had unexplained hypotension 24 hours after surgery. The cortisol deficiency was suspected and confirmed by cortisol levels. The cortisol replacement therapy in the form of hydrocortisone helped in recovery.

REFERENCES