Brief Communication

Varied presentations of Sheehan's syndrome at diagnosis: A review of 18 patients

Delmalya Sanyal, Moutusi Raychaudhuri[1]

Department of Endocrinology, KPC Medical College and Consultant Endocrinologist, [1]Institute of Child Health and Consultant Endocrinologist, Rabindranath Tagore International Institute, Kolkata, India

ABSTRACT

Introduction: Sheehan's syndrome (SS) occurs due to ischemic pituitary necrosis as a result of severe postpartum hemorrhage (PPH). **Aims and Objectives:** The aim of the present study was to review the presenting features of SS at diagnosis. **Materials and Methods:** We retrospectively reviewed 18 cases of SS at diagnosis. Presenting clinical features, laboratory data, pituitary hormone deficiencies, and magnetic resonance imaging (MRI) of the sella were analyzed. **Results:** Age ranged from 28-71 years with a mean age of 47 ± 14.44 years. Time to diagnosis of SS was 6-33 years with a mean of 15.35 ± 6.74 years. Four (22.2%) patients were referred from emergency for hyponatremia, one each (5.6%) for hypotension, hypoglycemia, and vomiting. Three (16.7%) patients presented with asthenia and weight loss, two (11.1%) with slightly raised thyroid stimulating hormone (TSH). Only six (33.3%) presented with classic features of amenorrhea. None presented with isolated lactational failure or apoplexy after PPH. Seventeen (94.4%) patients had lactational failure; thirteen (72.2%) did not menstruate following last delivery. Lactotroph and gonadotroph failure were present in all at diagnosis but corticotrophs preservation was documented in three (16.7%) and thyrotroph in two (11.1%) patients. Twelve (66.7%) patients had empty sella while six (33.3%) had partial empty sella on MRI. **Conclusion:** SS has variable features at diagnosis and may present to different specialties. The clinical features of hypopituitarism are often subtle, leading to delay in diagnosis. History of PPH, lactational failure and cessation of menses are important clues. Thyrotroph, corticotroph axis may be preserved in some SS patients.

Key words: Partial hypopituitarism, postpartum hemorrhage, Sheehan's syndrome

Introduction

Sheehan's syndrome (SS) is ischemic pituitary insufficiency usually preceded by postpartum hemorrhage (PPH). Clinical manifestation of SS may be subtle and variable. The aim of the present study was to review the different presenting features of SS at diagnosis.

Materials and Methods

This retrospective study was conducted at a tertiary care hospital in eastern India between 2007 and 2011. We reviewed the records of 18 cases of SS at diagnosis.

Access this article online	
Quick Response Code:	Website: www.ijem.in
	DOI: 10.4103/2230-8210.104067

Diagnostic criteria of SS were (a) history of PPH or lactational failure and/or amenorrhea following last child birth; (b) more than one anterior pituitary hormone deficiency; and (c) empty sella on magnetic resonance imaging (MRI).[1] Presenting features, including age at diagnosis, time to diagnose, clinical and laboratory data, number of pituitary hormone deficiencies and MRI of the sella were analyzed. Basal (fasting) hormone estimations were done between 08.00 and 09.00 am of serum cortisol, TSH, free T4, total T3, FSH, LH, cortisol, PRL and growth hormone (GH) using chemiluminescent immunoassay. Short Synacthen test was done in all. Insulin tolerance test (ITT) could be performed in only eight patients after they became eucortisolemic and euthyroid. Contrast enhanced MRI of pituitary was performed in all.

Results

Age of the patients ranged between 28-71 years with a mean age of 47 ± 14.44 years (mean ± SD).

Time between delivery and first diagnosis of SS was 6-33

Corresponding Author: Dr. Debmalya Sanyal, Department of Endocrinology, KPC Medical College and Consultant Endocrinologist, RTIICS, 36 Block H New Alipore, Kolkata - 700 053, India. E-mail: drdebmalyasanyal@gmail.com

years with a mean of 15.35 ± 6.74. Six (33.3%) were diagnosed in 5-10 years, five (27.8%) in 10-15 years while seven (38.9%) took more than 15 years.

Seven (38.9%) patients were referred from emergency, four (22.22%) for hyponatremia, one (5.6%) each for hypotension, hypoglycemia, and vomiting. All four presenting with hyponatremia were more than 60 years old.

Three (16.7%) patients presented with asthenia and weight loss, two (11.1%) were referred for raised TSH of 7 and14 mIU/L, while only six (33.3%) presented with classic features of amenorrhea.

None presented with complaints of isolated lactational failure or apoplexy after PPH. History of PPH was seen in all except one (94.4%); seven (41.2 %) required blood transfusion following PPH. Seventeen (94.4%) patients lacked postpartum milk production. Five (27.8%) resumed regular menstrual cycles for 2-5 years after the inciting delivery though at diagnosis all had amenorrhea for a minimum of 3 years. Lactotroph, gonadotroph failures were present in all at diagnosis but corticotrophs preservation was documented in four (16.7%) and thyrotroph in two (11.1%). Basal GH was low in all, and it was low in all eight patients in whom ITT could be done. Twelve (66.7%) patients had empty sella while seven (33.3%) had partial empty sella on MRI.

Discussion

SS diagnosis may be made several years after the inciting delivery as the clinical features of hypopituitarism are often subtle. In a retrospective study of 20 patients of SS, time to make a definitive diagnosis of SS ranged between 5 and 25 years with a mean of 16.35 years.[2] Among our patients, time between inciting delivery and diagnosis of SS was 6-33 years with a mean of 15.35 years. Delay in diagnosis may be due to the natural course of the disease with most patients being asymptomatic in initial stages.

In areas where the disorder is common, patients may present with non-classic features like hyponatremia, hypoglycemia, shock, lethargy. Twelve (66.7%) of our patients were referred for non-classic features; a previous study reported a similar frequency of 68.75%.[2] Two (11.1%) patients in this study were referred for mildly raised TSH. SS patients with central hypothyroidism may have paradoxically normal or mildly elevated serum TSH with low free T4. High TSH may be due to increased sialylation, which reduces its metabolic clearance, but biological activity is reduced.

SS may present at emergency with coma secondary to hypothyroidism, hypoglycemia and hyponatremia or shock due to adrenal insufficiency.[2] Seven (38.9%) of our patients were referred from emergency, four (22.22%) for hyponatremia, one each with hypotension, hypoglycemia and vomiting. Ozkan *et al.*[2] found hyponatremia as the most common electrolyte disorder in SS, occuring in 33% of SS. It develops due to volume depletion, cortisol insufficiency, hypothyroidism.

Haddock *et al.*[3] reported that patients with SS exhibit variable degrees of hypopituitarism with partial pituitary hormone insufficiency in 14%. One of our patients had history of lactation while five (27.8%) resumed regular menstrual cycles for 2-5 years, though at diagnosis all had amenorrhea for minimum 3 years. At diagnosis, lactotroph, gonadotroph failures were present in all but 3 (16.7%) and 2 (11.1%) patients had preserved corticotroph, and thyrotroph function respectively. Basal GH was low in all and post-ITT all eight patients had low GH. In a north Indian study of 10 patients of SS by Laway *et al.*,[4] all had somatotroph and lactotroph failure with preservation of cortisol axis in five. Anatomical location of GH and prolactin cells in the lower lateral region of the adenohypophysis make them most susceptible to ischemic damage.[4] But Sert *et al.*,[5] recently reported complete panhypopituitarism in all 28 patients of SS.

Our limitation was that we could not perform dynamic GnRH and TRH testing and only eight patients underwent ITT. However, the study is relevant in that there is very limited data of SS from eastern India.

In conclusion, SS may present as acute emergency or as chronic ailment either to obstetrician, internist or endocrinologist because of varied presenting features. Moreover, the clinical features of SS are often subtle, leading to delay in diagnosis. History of PPH, lactational failure and amenorrhea are important clues. Some SS patients have partial hypopituitarism with preserved thyrotroph, corticotroph functions and may be spared the side effects of long-term glucocorticoid use.

References

1. Kelestimur F. Sheehan's syndrome. Pituitary 2003;6:81-8.
2. Ozkan Y, Colak R. Sheehan syndrome: Clinical and laboratory evaluation of 20 cases. Neuro Endocrinol Lett 2005;26:257-60.
3. Haddock L, Vega LA, Aguiló F, Rodríguez O. Adrenocortical, thyroidal and human growth hormone reserve in Sheehan's syndrome. Johns Hopkins Med J 1972;131:80-99.
4. Laway BA, Mir SA, Gojwari T, Shah TR, Zargar AH. Selective preservation of anterior pituitary functions in patients with Sheehan's syndrome. Indian J Endocrinol Metab 2011;15:S238-41.
5. Sert M, Tetiker T, Kirim S, Kocak M. Clinical report of 28 patients with Sheehan's syndrome. Endocr J 2003;50:297-301.

Cite this article as: Sanyal D, Raychaudhuri M. Varied presentations of Sheehan's syndrome at diagnosis: A review of 18 patients. Indian J Endocr Metab 2012;16:S300-1.

Source of Support: Nil, **Conflict of Interest:** None declared