

# Inadequate obstetric care and Sheehan's syndrome in young women

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Sheehan's syndrome(SS) refers to varying grades of anterior pituitary hormone deficiency resulting from the infarction and necrosis of the physiologically enlarged pituitary gland of pregnancy following postpartum hemorrhage (PPH). Till 1938 the disease was known as Simmond's disease who found that ladies dying after severe postpartum bleeding had extensive anterior pituitary necrosis on autopsy. He thought it was due to thrombosis or bacterial emboli in hypophyseal arteries. Sheehan then stated that Simmond's disease was due to necrosis of anterior pituitary following post partum hemorrhage(1,2). Disease is considered rare in the developed world that is why it has not found enough place in the international textbooks of endocrinology and has been a forgotten disorder in western population.

Pituitary enlarges during pregnancy, an overall volume of 130 percent increase has been shown on magnetic resonance imaging (MRI) in these patients(3). Pituitary enlargement results in compression of superior hypophyseal artery, any hypotension during delivery causes arterial spasm in smaller vessels and apoplexy and subsequent pituitary necrosis(4). Pathogenesis of SS is not clear. Role of autoimmunity in the development of hypopituitarism has been suggested. It is believed that tissue necrosis could release sequestered antigens, triggering pituitary autoimmunity and delayed hypopituitarism. Goswami et al. found that 63.1% patients with SS had Pituitary antibody against the 49-kDa auto antigen; neuron-specific enolase as against 14% of controls(5).

Variable patterns of pituitary hormone deficiency can be observed in patients with SS. Growth hormone and prolactin deficiency are the most common abnormalities. One of the first presentations of SS is failure of lactation which may be discarded by mothers as a sign of general weakness. However prolactin deficiency could be due to other reasons and Sheehan's syndrome can be associated with hyperprolactinemia also(6). Classically SS presents with all the anterior pituitary hormone deficiencies. Clinical features in these patients include severe hypothyroidism with less facial

edema suggestive of central hypothyroidism, fine wrinkling around mouth suggestive of GH deficiency, hypotension and hypopigmentation suggestive of ACTH deficiency and loss of secondary sex characters suggestive of gonadotroph deficiency. In one series from our center 100% of patients had growth hormone deficiency and 85% had corticotroph deficiency documented on insulin tolerance test. Gonadotroph, lactotroph, and thyrotroph failure was detected in 98%, 94% and 70% of patients respectively (7). Selective preservation of some of the trophic hormones has also been reported(8,9). Posterior pituitary dysfunction leading to diabetes insipidus is considered rare but partial defects have recently been reported(10). Spontaneous Pregnancy in these patients is uncommon; around 20 pregnancies have been reported in last 20 years(11). We reported three cases from India about a decade back(12). There is limited data available on the prevalence of SS in general community. In a previous study from this place; 3% of 8,730 parous females aged 20-40 years were suspected to have Sheehan's syndrome which was proved in one third of them(13).

Diagnosis of Sheehan's syndrome is simple in an area where it is common. Clinical hypopituitarism associated with low or inappropriately normal basal pituitary hormones in the context of pregnancy without any pituitary mass lesion on imaging makes a diagnosis of disorder. Imaging studies reveal a small pituitary with partial or complete empty sella(14). MRI is the preferred imaging tool, it also rules out a possibility of lymphocytic hypophysitis.

Treatment of Sheehan's syndrome consists of replacement of deficient hormones. Glucocorticoids are replaced without the need for fludrocortisones and are to be started before replacing thyroxine; hypogonadism increases the risk of osteoporosis and causes decrease in secondary sex characters, so replacement is needed especially in premenopausal women. Growth hormone replacement has recently has been shown to improve quality of life and improve quality of life(15).

We conclude that SS is a widely prevalent problem in our

part of the world. Because of its varied presentation we must have a low threshold for suspecting this condition. Massive improvements in medical care in general and in obstetric care in particular are required to contain this problem of enormous medical and social costs.

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### REFERENCES

1. Sheehan HL. Postpartum necrosis of anterior pituitary. *J Pathol Bacteriol* 1937;45: 189-214.
2. Sheehan HL. Simmond's disease due to postpartum necrosis of anterior pituitary. *Quart J Med* 1939;8: 277-309.
3. Gonzalez JG, Elizondo G, Saldivar D, Nanez H, Todd LE, Villarreal JZ. Pituitary gland growth during normal pregnancy: An in vivo study using magnetic resonance imaging. *Am J Med* 1998;85: 217-220.
4. Dejager S, Garber S, Foubert L, Turpin G. Sheehans syndrome: differential diagnosis in acute phase. *J Intern Med* 1988;85: 217-220.
5. Goswami R, Kochupillai N, Crock PA, Jaleel A, Gupta N. Pituitary autoimmunity in patients with Sheehan's syndrome. *J Clin Endocrinol Metab* 2002;87: 4137-4141.
6. Klestimur F. Hyperprolactinemia in a patient with Sheehans syndrome. *Southern Med J* 1992;85: 1008-1010.
7. Zargar AH, Masoodi SR, Laway BA, Shah NA, Salahuddin M, Siddiqi M, Kour S. Clinical Spectrum of Sheehan's syndrome. *Ann Saud Med* 1996;16: 338-34.
8. Morcira Ac, Maciel MZ, Poss MC, *et al.* Gonadotrophins Secretory capacity in a patient with sheehans syndrome with successful pregnancies. *Fertility and Sterility* 1984;42: 303-305.
9. Westbrook DA, Srivastava LS, Knowles Jr HC. Preservation of normal menstrual cycles in a patients with sheehans syndrome. *Southern Medical Journal* 1983;76: 1065-1067.
10. Atmaca H, Tanriverdi F, Gokce C, Unluhizarci K, Kelestimur F. Posterior pituitary function in Sheehan's syndrome. *European Journal of Endocrinology* 2007;156: 563-567.
11. Algun E, Ayakta H, Harman M, Topal C, Aksoy H. Spontaneous pregnancy in a patient with Sheehan's syndrome. *European Journal of Obstetrics Gynecology and Reproductive Biology* 2003;110: 242-244.
12. Zargar AH, Masoodi SR, Laway BA, Sofi FA, Wani AI. Pregnancy in Sheehans syndrome a report of three cases. *Journal of Association of Physicians of India* 1998;46: 476-478.
13. Zargar AH, Sing B, Laway BA, Masoodi SR, Wani AI, Bashir MI. Epidemiological aspects of postpartum pituitary hypofunction (Sheehans syndrome). *Fertility and Sterility* 2005;84: 523-528.
14. Dash RJ, Gupta V, Suri S. Sheehans syndrome: Clinical profile, pituitary hormone responses and computed sellar tomography. *Aust NZ J Med* 1993;23: 26-31.
15. Klestimur F. Sheehan's syndrome. *Pituitary* 2003;6: 181-188.