

# Postpartum Hypopituitarism: A Closer Look at Sheehan Syndrome

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## Abstract

Post-partum hypopituitarism, also referred to as Sheehan Syndrome, is a rare condition characteristic of pituitary apoplexy resulting in sudden hormonal insufficiency following severe bleeding as in PPH during childbirth. This condition occurs due to decreased blood flow to the pituitary gland following heavy blood loss, leading to damage and necrosis of the pituitary gland and hormonal insufficiency. This condition predominantly affects women, and its symptoms may manifest immediately after childbirth or even years later. Symptoms of Sheehan syndrome range from fatigue, weight gain, inability to breastfeed the baby, cold intolerance, and menstrual irregularity like secondary amenorrhea. Early diagnosis and prompt treatment are needed to improve the condition of the affected women.

**Kew Words:** hypopituitarism; haemorrhage; pituitary tumours

## Main Body:

Hypopituitarism is a rare condition characterized by the pituitary gland's inadequate production or release of hormones. [1] This results in pituitary apoplexy that occur due to various causes including pituitary tumours, traumatic brain injury, infections, autoimmune diseases, preexisting adenoma, Postpartum haemorrhage (PPH) also known as Sheehan Syndrome, or the condition associated with hypertension, diabetes. The symptoms of hypopituitarism can vary widely depending on the specific hormones that are deficient. Sheehan syndrome is a condition that leads to hypopituitarism following complications like Postpartum haemorrhage during the delivery of the child [2]. Risk factors for Postpartum haemorrhage include multiple pregnancies, prolonged labour, retained placenta, and pre-existing anaemia [3]. During pregnancy, there is a hyperplastic enlargement of the pituitary gland by almost 135%. [4] The pituitary gland consists of two main lobes: the anterior lobe (adenohypophysis) and the posterior lobe (neurohypophysis)[5]. During pregnancy, mostly the Anterior lobe is enlarged. When excessive bleeding occurs after the delivery, blood supply to all organs decreases including the pituitary gland, which lies at the base of the brain within a bony structure called the Sella turcica. The pituitary gland may not receive sufficient blood supply, leading to tissue damage. The extent of blood loss and the duration of inadequate blood supply determine the severity of the syndrome. The symptoms of Sheehan Syndrome vary depending on the hormones that are affected by the pituitary gland's damage [6]. The most common symptoms include fatigue, weight gain, hypotension absent menstrual periods (secondary amenorrhea) due to decrease FSH and LH hormone levels, and an inability to produce breast milk (agalactia) due to decrease prolactin hormone levels. Women with Sheehan Syndrome may also experience hair loss, cold intolerance, dry skin, and depression due to decrease TSH hormone levels. In some cases, may go unnoticed for years,

making the diagnosis challenging. Diagnosing Sheehan Syndrome involves a combination of proper medical history, physical examination of the patient, and hormone level testing [7]. Since the symptoms can be nonspecific, healthcare providers often rely on the patient's history of Postpartum haemorrhage and the presence of risk factors. Blood tests are used to measure the levels of various hormones produced by the pituitary gland, including thyroid-stimulating hormone (TSH), adrenocorticotropic hormone (ACTH), Prolactin, and growth hormone (GH). The hormonal study is best investigated along with radiological imaging. [8] A pituitary CT scan or MRI may reveal empty Sella turcica, which is a diagnosis of the Sheehan syndrome due to necrosis pituitary gland that may have undergone infarction or involution [9]. The management of Sheehan Syndrome involves hormone replacement therapy (HRT) to restore normal hormonal levels. The specific hormones required for replacement vary from each individual depending on the deficiency present in each individual. Commonly replaced hormones include Thyroid hormone, Corticosteroids, Oestrogen, progesterone, and Growth hormone. [10,11] Hormone replacement therapy is usually safe and free of complications that aim to reduce the symptoms associated with hormonal deficiencies. Treatment regimens that mimic the physiological hormone production of the body allow for the maintenance of satisfactory clinical homeostasis and improve the overall quality of life, and prevent complications. Regular monitoring of hormone levels is crucial to ensure adequate dosing of Hormonal Replacement therapy. Healthcare providers may also advise women with Sheehan Syndrome on lifestyle modifications, such as maintaining a balanced diet, regular exercise, stress management, and appropriate contraception methods. It is essential for women with Sheehan Syndrome to receive proper education about the disorder and its implications. They should be aware of the signs and symptoms of adrenal

crisis, a potentially life-threatening condition that can occur due to adrenal hormone deficiency.

### In conclusion

Necrosis of the Anterior Lobe of the pituitary gland mostly in a female who has recently delivered, with complications like Postpartum Haemorrhage or excess blood loss leading to hypopituitarism is called Sheehan syndrome. Early recognition with proper history, hormonal level examination and radiological imaging and appropriate treatment with Hormone replacement therapy (HRT) can effectively manage the symptoms associated with hormonal deficiencies. Women who have experienced severe bleeding during childbirth should be vigilant about any potential symptoms so that healthcare providers can have early diagnosis and offer timely interventions to improve the quality of life for those affected by Sheehan Syndrome.

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