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SHEEHAN'S SYNDROME PRESENTING WITH PANHYPOPITUITARISM: RADIOLOGY CASE REPORT

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ABSTRACT

This article reviews a rare case of Sheehan's syndrome in a 40-year-old female patient, confirmed by magnetic resonance imaging (MRI) after the onset of adenohypophyseal insufficiency, prolonged amenorrhea, and hypoglycemic crises. Sheehan's syndrome, a rare postpartum complication, is caused by pituitary necrosis following severe postpartum hemorrhage. The patient presented with hormonal deficiencies affecting the thyroid, adrenal, and gonadal axes. MRI findings showed a partially empty sella turcica and pituitary atrophy, which confirmed the diagnosis. The article discusses the clinical presentation, diagnostic imaging, and the role of MRI in early identification and management of Sheehan's syndrome, emphasizing the importance of timely interventions to prevent complications associated with hypopituitarism.

KEYWORDS

Sheehan's syndrome, Adenohypophyseal insufficiency, MRI, Hypopituitarism, Prolonged amenorrhea, Hypoglycemia

MAIN ARTICLE

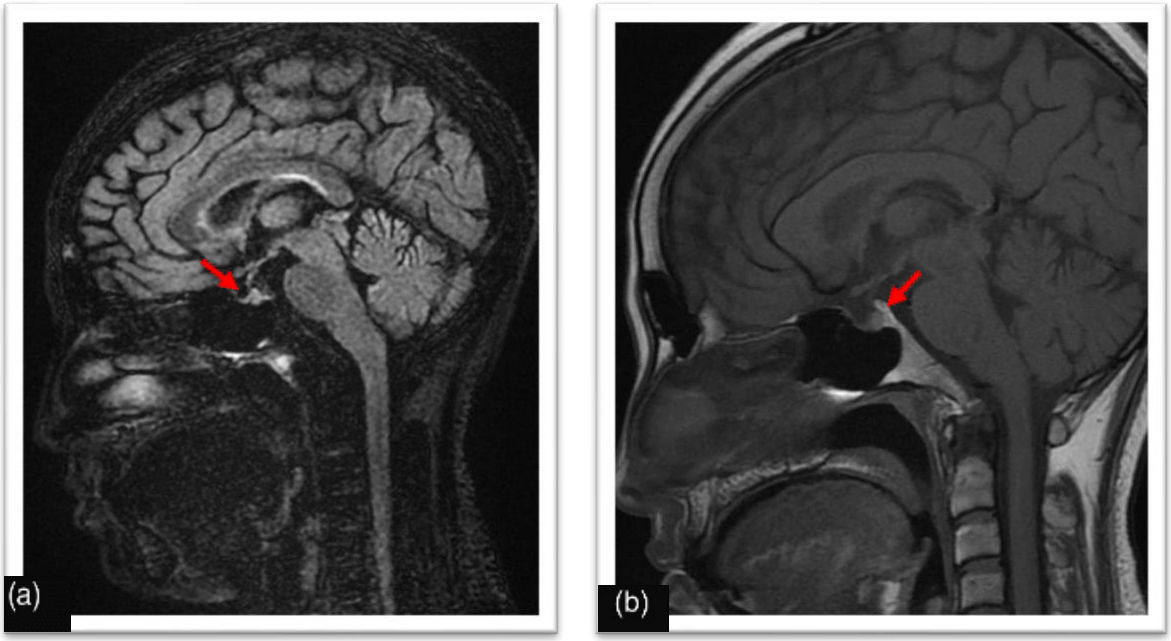
Introduction

Sheehan's syndrome, first described by Sheehan in 1937, is a rare but serious complication resulting from severe postpartum hemorrhage. It causes ischemic necrosis of the anterior pituitary gland, leading to hypopituitarism. The symptoms can be subtle and gradual, often leading to delayed diagnosis. Typical clinical signs include lactational failure, prolonged amenorrhea, and hypoglycemic crises. While computed tomography (CT) and skull roentgenography have historically been used for diagnosis, magnetic resonance imaging (MRI) provides better resolution, enabling detailed visualization of pituitary atrophy. This case underscores the importance of MRI in diagnosing Sheehan's syndrome, facilitating early intervention and better outcomes [1].

Case Report

A 40-year-old female, 10 months postpartum, presented with prolonged amenorrhea, recurrent hypoglycemic crises, and general fatigue. The patient experienced significant postpartum
hemorrhage during childbirth, requiring multiple transfusions. She reported lactational failure shortly after delivery. Clinical evaluation indicated pituitary hormone deficiencies, including low thyroid-stimulating hormone (TSH), low cortisol, and low gonadotropin levels. Magnetic resonance imaging (MRI) was performed to investigate the suspected Sheehan's syndrome. The MRI revealed a partially empty sella turcica with significant thinning of the anterior pituitary lobe (adenohypophysis), showing a thin strip of parenchyma, less than 1 mm thick, pressed against the dorsum sellae. The posterior pituitary lobe (neurohypophysis) maintained a normal thickness, and residual pituitary parenchyma was enhanced after the injection of contrast medium, confirming ischemic damage to the anterior pituitary.

Imaging Findings



Thinning of the anterior pituitary lobe (adenohypophysis) with individualization of a thin strip pressed against the dorsum, less than 1 mm thick. (Figure 1a)

Normal thickness of the posterior pituitary lobe (neurohypophysis). (Figure 1b)

Residual pituitary parenchyma enhanced after the injection of contrast medium, consistent with ischemic necrosis of the anterior pituitary.

Discussion

Sheehan's syndrome is a rare disorder characterized by pituitary apoplexy and hypopituitarism. It exclusively affects postpartum women who suffer from significant blood loss and hypovolemic shock during or after childbirth, leading to necrosis of the anterior pituitary cells [2]. The syndrome is frequently underdiagnosed due to the gradual onset of symptoms, which can manifest months or even years after delivery.

In this case, the patient presented with prolonged amenorrhea, severe hypoglycemic crises, and diminished levels of thyroid hormones, cortico-adrenal hormones, and gonadotropins [3]. These symptoms raised the suspicion of Sheehan's syndrome, which was confirmed through hypophyseal MRI. The MRI findings revealed thinning of the anterior pituitary parenchyma, with a thin strip of residual tissue pressed against the dorsum, a classic sign of late-stage adenohypophysis necrosis. Notably, the posterior pituitary gland was preserved, consistent with the pathology of Sheehan's syndrome, where anterior pituitary necrosis occurs while sparing the posterior lobe.

Sheehan's syndrome diagnosis is often delayed due to its subtle and nonspecific presentation, but MRI offers an effective tool for early identification. Compared to traditional imaging modalities, MRI provides high-resolution images that detect the thinning of the anterior pituitary and other subtle structural changes [4]. Early recognition of the condition is crucial for timely hormonal replacement therapy, which can prevent long-term complications.

Table 1: Comparison of Imaging Modalities in Sheehan's Syndrome Diagnosis

Imaging Modality	Sensitivity	Specificity	Cost	Radiation Exposure
MRI	High	High	High	None
CT	Moderate	Moderate	Moderate	Low
X-ray	Low	Low	Low	Low

Conclusion

Sheehan's syndrome, though rare, should be considered in postpartum women presenting with endocrine disturbances, particularly after significant blood loss during delivery. This case demonstrates the critical role of MRI in diagnosing Sheehan's syndrome, providing detailed visualization of the pituitary gland and enabling early confirmation of adenohypophyseal insufficiency. Advanced imaging techniques like MRI allow for prompt diagnosis and management, reducing the risk of complications associated with delayed treatment.

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