

Unveiling the psychiatric dimensions of hypopituitarism: investigating associations, challenges, and treatment strategies

Ayesha Imran Butt¹, Muhammad Juniad Azhar²

Dear Editor,

Hypopituitarism is a disorder characterized by insufficient hormone production from the pituitary gland,^{1,2} manifesting as either pan or partial dysfunction.² Hypopituitarism is considered a rare disorder by National Institute of Health and there is limited information on its occurrence. A study in Spain demonstrated prevalence of 45.5 cases per 100,000 people.² Hypopituitarism can be caused by pituitary tumours, head injury, infections, radiation therapy, autoimmune conditions, and genetic abnormalities.² Hypopituitarism occurs when about 75% of the pituitary gland is affected, causing a spectrum of clinical features from mild to severe.² Sheehan syndrome, resulting from anterior pituitary ischaemia typically after postpartum haemorrhage, occurs in approximately 5/10,000 births in developing countries.³

Hypopituitarism diagnosis may take a decade or longer due to its diverse clinical presentations.³ As of now, the link between psychotic disorders and hypopituitarism is not completely understood.¹ While a few case reports have documented a link between pituitary insufficiency and mental health issues, larger-scale studies are limited in number.

Hypopituitarism raises depression and anxiety risk, especially in females and those over 18, with females having tenfold higher risk of depression than males.¹ Growth hormone deficiency (GHD) is linked to cognitive impairments, and atypical depression.⁴ In their 1949 report, Sheehan and Summer noted that one-third of total 143 hypopituitarism patients displayed loss of drive and initiative, and disinterest in social connections.⁵

Acute psychosis as an initial presentation of hypopituitarism has been reported in cases involving Sheehan's syndrome, traumatic brain injury, and glucocorticoid therapy.⁵ A 37-year-old pregnant woman

diagnosed with Sheehan syndrome exhibited neuropsychiatric symptoms, prompting early diagnosis.³ The 2010 study found that growth hormone therapy improved cognitive function and reduced depression severity in traumatic brain injury patients with GHD. However, discontinuation of therapy led to worsened cognitive function and increased psychiatric symptoms, highlighting the potential benefits of growth hormone therapy and the need for more experimental studies to confirm its effects on neurophysiological and psychiatric wellbeing.⁴

Adults with Childhood Onset Multiple Pituitary Hormone Deficiency have a notably lower quality of life, underscoring the importance of addressing psychosocial and psychosexual challenges in this population.⁶ A 60-year-old man with macroprolactinoma and hypopituitarism developed acute psychosis due to non-adherence to cabergoline, treatment with hydrocortisone, and thyroxine lead to full recovery within 48 hours.⁵

A 41-year-old man with osmophobia improved with sertraline transiently. Later, he was diagnosed with partial hypopituitarism with adrenocorticotrophic hormone deficiency. Prednisolone supplementation significantly improved his condition.⁷ This case emphasizes the necessity of assessing the hypothalamic-pituitary-adrenal axis in psychiatric patients experiencing olfactory changes before starting selective serotonin reuptake inhibitors.⁷ Untreated congenital hypopituitarism in an old woman lead to hallucinations and psychomotor agitation, with tests revealing PROP1 gene mutation; hormonal and antipsychotic treatments effectively resolved her psychotic episodes.⁸ A 75-year-old woman with prolonged delirium was later diagnosed with idiopathic hypopituitarism.⁹

A case report from 1979 showed that Electroconvulsive therapy could serve as an effective treatment for persistent hypothalamic-pituitary suppression, even in the absence of accompanying psychiatric disorder.¹⁰ Nevertheless, conducting placebo-controlled clinical trials is necessary to validate its effectiveness.

Given the scarcity of data on the global and regional

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¹Allama Iqbal Medical College, Jinnah Hospital, Lahore, ²Rawalpindi Medical University, Rawalpindi, Pakistan.

Correspondence: Ayesha Imran Butt. **Email:** aishaimran311@gmail.com

ORCID ID: 0009-0005-4362-3268

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prevalence of hypopituitarism and its link with mental illness, more research should be undertaken, focussing on the functional and metabolic neuroimaging studies and neuroendocrine pathways involved,¹ the prevalence and severity of mood disorders, and the impact of hormone replacement therapy on psychological outcomes. This highlights the need of adequately assessing the hypothalamic-pituitary axis in psychiatric patients before starting antidepressants⁷ or antipsychotics. Understanding these elements can guide clinicians in optimizing treatment strategies and providing appropriate psychosocial support to improve patients' overall well-being.

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