

Delusional Disorder and Premenstrual Dysphoric Disorder With Antipsychotic-Induced Hyperprolactinemia: A Complex Psychiatric Presentation

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Premenstrual dysphoric disorder (PMDD) affects 1.8%–5.8% of menstruating women.¹ The symptoms of PMDD occur a week prior to the onset of menstruation and ameliorate upon the commencement of menses. Symptoms commonly include mood swings, irritability, decreased interest in activities, fatigue, and disturbances in sleep and appetite.¹

The pathophysiology of PMDD is thought to be mediated by hormonal fluctuations across the menstrual cycle, particularly alterations in estrogen and progesterone levels. During the premenstrual and menstrual phases, estrogen and progesterone levels are low, rendering individuals more vulnerable to psychiatric illnesses.^{2,3} The phenomenon of worsening of existing mental disorders during the premenstrual phase is referred to as premenstrual exacerbation.⁴ Exacerbation of psychotic disorders during the premenstrual phase has been well documented in studies.⁵

Additionally, women affected by PMDD have been found to exhibit higher levels of serum prolactin and increased sensitivity to its effects, suggesting a potential role for prolactin dysregulation in the pathogenesis of PMDD.⁶ In this case report, we present a patient diagnosed with PMDD who developed delusional disorder, with marked variability in symptom severity correlating with the menstrual cycle.

Case Report

A 37-year-old woman with a family history of mood disorders and suicide presented with a history of cyclical premenstrual symptoms since the age of 17 years. These symptoms included irritability, fatigue, low mood, tearfulness, and hypersomnia occurring consistently 2 days prior to menstruation. Symptoms would typically subside with the onset of menstruation.

At the age of 24 years, she got married and gradually began expressing suspicions regarding her partner's fidelity, which intensified during each premenstrual phase, and she would turn physically assaultive toward her partner. The patient maintained her convictions regarding her partner's infidelity with no substantial evidence. Despite significant interpersonal conflicts, the marital relationship endured for more than a decade. The symptoms worsened in the last 2 months with impairment in self-care activities. Medical history revealed hypothyroidism, for which she received thyroxine supplementation regularly since her diagnosis.

On mental status examination, the patient exhibited delusions of infidelity with intact cognitive functions. Thyroid function tests revealed a mildly elevated thyroid-stimulating hormone level of 5.9 uIU/mL, with normal T3, T4, and free T4 values. She had previously undergone treatment with antipsychotic medications, resulting in the development of manifestations indicative of

hyperprolactinemia (with elevated prolactin levels of 150 ng/mL), accompanied by symptoms of amenorrhea and galactorrhea.

She was started on sertraline and aripiprazole, leading to a reduction in prolactin levels to 44.8 ng/mL upon reassessment and a further reduction to 18.18 ng/mL after 1 week. The irritability decreased, and she was no longer expressing suspicious behavior. Magnetic resonance brain imaging revealed a normal pituitary gland with a hypoenhancing area measuring 4 × 3 mm in the left half, suggestive of a possible pituitary adenoma.

Discussion

Hendrick et al³ noted a worsening of anxiety, psychotic symptoms, and mood disorders during the premenstrual period, underscoring the significance of hormonal fluctuations in precipitating psychiatric symptoms. Additionally, hyperprolactinemia can be seen in patients with PMDD⁶; also, antipsychotics, more commonly first-generation antipsychotics, are known to cause hyperprolactinemia.⁷ Notably, cessation of the offending antipsychotic and initiation of aripiprazole, which is known to have lower propensity for inducing hyperprolactinemia, led to normalization of prolactin levels and improvement in symptoms of hyperprolactinemia.⁷

This case provides insight into the vigilance that is needed when starting antipsychotics in patients

with PMDD. Further research into the complex interplay of hormones and psychiatric illness and the vulnerability of patients with PMDD to hormonal imbalance is needed, which will give more information on underlying pathophysiologic processes.

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