



# It is illegal to post this copyrighted PDF on any website. Management of New Onset Psychosis in the Postpartum Period

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In this article, we provide a synopsis of the clinical presentation and diagnosis of postpartum psychosis and review treatment and prevention strategies. Psychosis may occur during the postpartum period as a first or isolated episode or as part of a chronic or episodic illness. Postpartum psychosis is managed as a psychiatric emergency as it is associated with an increased risk of suicide<sup>1</sup> and potential risk to the infant.<sup>2</sup> While the prevalence is only 1 to 2 cases per 1,000 births in the general population, having a prior episode of postpartum psychosis increases the risk of recurrent postpartum episodes, and bipolar disorder is the most common diagnosis among women diagnosed with postpartum psychosis.<sup>3,4</sup> Other risk factors include a prior episode, primiparity,<sup>5</sup> and discontinuing psychiatric medication during pregnancy in women with bipolar disorder<sup>4</sup>; however, more than half of women who develop postpartum psychosis have no prior psychiatric history.<sup>6</sup> The underlying pathophysiology is unknown, although there is evidence of immune system dysregulation.<sup>7</sup>

Postpartum psychosis is considered a bipolar spectrum illness rather than a primary psychotic disorder due to its presentation, longitudinal course, and association with personal and family history of bipolar disorder. Most episodes have onset within 2 weeks of delivery,<sup>8</sup> but onset can be within 3 days in women with preexisting bipolar disorder.<sup>9</sup> Early symptoms may include irritability, mood lability, and insomnia. Patients may later develop mania, depression, or mixed episodes with delusions. The clinical presentation may also include disorientation and confusion. Other common symptoms include obsessive thoughts regarding the infant and delusions of altruistic suicide and homicide.<sup>10</sup> Women with postpartum obsessive-compulsive disorder may have ego-dystonic intrusive images of harm to their infant; however, reality testing is intact. In postpartum psychosis, delusional thoughts are often ego-syntonic and involve limited insight.

All women presenting with postpartum psychosis should have a physical and neurologic examination and basic medical workup including a complete blood count, metabolic profile, and urine toxicology screen. Additional medical workup may be indicated in patients presenting with a first episode and no prior psychiatric illness. Differential diagnosis may include acute infection, anemia

due to peripartum blood loss, endocrine and autoimmune disorders such as Graves disease or myxedema, and eclampsia.<sup>10,11</sup> Metabolic or nutritional deficiencies may result in symptoms of psychosis. Less common medical causes may include primary hypoparathyroidism, uremic encephalopathy, hepatic failure, vitamin deficiency, stroke, and drug- or medication-induced psychosis.<sup>12</sup> Patients presenting with co-occurring neurologic symptoms such as seizures, decreased level of consciousness, or dyskinesia may require neuroimaging, cerebrospinal fluid analysis, and screening for anti-NMDA antibodies.<sup>10</sup> Depending on the patient's history, we may request complete thyroid function tests; serum calcium, vitamin B<sub>12</sub>, thiamine, and folate levels; and erythrocyte sedimentation rate.

Inpatient psychiatric hospitalization is the recommended treatment setting due to risk of harm to mother and infant. Small treatment studies and case reports provide evidence for the use of lithium, antipsychotics, and electroconvulsive therapy (ECT).<sup>13</sup> One study examined a 4-step treatment algorithm that included benzodiazepines, antipsychotics, lithium, and ECT, added in sequential order.<sup>12</sup> In this study, 98.4% of patients achieved remission within the first 3 steps of the algorithm. In almost all cases, our practice is to start antipsychotic medication immediately, switching to or augmenting with lithium as indicated by response and depending on breastfeeding preferences. ECT is strongly considered in patients with catatonia and depression with psychotic features.

The patient's breastfeeding status can impact treatment choice. While the patient is acutely psychotic, her contact with her infant may need to be limited due to risk for harm. Once stable, however, many women desire to breastfeed. Patients should be advised that sleep deprivation due to breastfeeding may impact recovery,<sup>14</sup> and alternate arrangements for nighttime feedings may be helpful. While no longer officially contraindicated by the American Academy of Pediatrics, breastfeeding during lithium treatment remains controversial. Risks due to lithium exposure through breast milk appear to be minimal in small case studies; however, monitoring thyroid and renal function of the infant via repeated venipuncture is recommended.<sup>15</sup> We recommend checking the infant's lithium level, blood urea nitrogen, creatinine, thyroid-stimulating hormone, and electrolytes immediately postpartum, at approximately 4–5 weeks postpartum, and every 8 weeks ongoing during breastfeeding. Laboratories are warranted if there are any signs of toxicity or the infant presents with dehydration. For these reasons, we rarely recommend breastfeeding during lithium treatment. While systematic data regarding breastfeeding and antipsychotics are limited, doses of olanzapine, risperidone, quetiapine, ziprasidone, and aripiprazole reaching breastfeeding infants are thought to be less than 5% of the maternal dose.<sup>16</sup> To aid with sleep onset, we use short half-life, rather than mid- or long half-life, benzodiazepines during the acute period because they are less likely to cause sedation in the infant.

Episodes are usually 1–2.5 months in duration, with postpartum depression with psychotic features generally having a longer duration of illness compared with postpartum mania.<sup>8,12</sup> Prognosis is more favorable in patients with shorter episodes.<sup>8</sup> While there are

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no formal recommendations for treatment duration, consideration should be given to the risk of recurrent illness. Patients with preexisting bipolar disorder are at highest risk of recurrent episodes and should be maintained on pharmacologic therapy indefinitely. Patients maintained on lithium monotherapy have a lower rate of relapse than patients maintained on antipsychotic monotherapy.<sup>12</sup> Patients with no history of episodes outside of the postpartum period should be treated for at least 6–9 months, and medications may be slowly tapered with close monitoring if they are doing well clinically.<sup>10</sup> Importantly, after a first episode of postpartum psychosis, there is a 50%–80% chance of developing a later psychiatric episode.<sup>17</sup>

Recommendations for the prevention of postpartum psychosis are based on a patient's clinical history. Women with a history of isolated postpartum psychosis are not at increased risk for episodes during pregnancy and can receive prophylactic medication immediately after delivery to reduce risk of developing postpartum psychosis. Lithium or antipsychotics should be initiated immediately postpartum.<sup>18</sup> In these women, the risks and benefits of treatment with medication and the desire to breastfeed should be discussed prior to delivery. For women with bipolar disorder, postpartum relapse rates are significantly reduced in those who were maintained on medication during pregnancy.<sup>4</sup> Discussions about the use of medications in pregnancy should include the risks of treatment and of not receiving treatment. While available safety data should be taken into consideration,<sup>19–21</sup> knowledge about which medications have been effective for the patient in the past is extremely helpful in clinical decision-making. In women with bipolar disorder, prophylaxis with lithium during pregnancy is recommended due to established efficacy, though with known maternal and infant risks.<sup>22</sup> Data suggest that neither first- or second-generation antipsychotics are considered major teratogens,<sup>19,21</sup> although second-generation agents may have greater efficacy and fewer short-term side effects in the treatment of bipolar disorder.<sup>23</sup> Women who require antipsychotic medications are at higher risk for adverse maternal and perinatal outcomes compared to the general population and should be monitored.<sup>24</sup> While safety data are critical to informed decision making among antipsychotic choices, consideration of them should not be to the exclusion of data on efficacy. As there appear to be few data to suggest significant superiority of one antipsychotic over another in terms of safety, our clinical practice is to select antipsychotic agents based on expectation for efficacy, including information from the patient's personal and family history, with a preference for agents that have more data.

Postpartum psychosis is a psychiatric emergency. Immediate treatment with a combination of lithium, antipsychotics, and benzodiazepines has been demonstrated to be effective, and ECT may be required. Recommendations for long-term treatment and prevention of future episodes vary based on the patient's psychiatric history, and a treatment plan should be made together with the patient based on her preferences, history of response, and the potential risks of treatment, as well as the patient's desire to breastfeed. In many patients, postpartum psychosis is not an isolated psychiatric episode and occurs as an either initial or recurrent presentation of an episodic illness requiring long-term monitoring.

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## REFERENCES

- Oates M. Perinatal psychiatric disorders: a leading cause of maternal morbidity and mortality. *Br Med Bull.* 2003;67(1):219–229.
- Spinelli MG. Maternal infanticide associated with mental illness: prevention and the promise of saved lives. *Am J Psychiatry.* 2004;161(9):1548–1557.
- Di Florio A, Forty L, Gordon-Smith K, et al. Perinatal episodes across the mood disorder spectrum. *JAMA Psychiatry.* 2013;70(2):168–175.
- Wesseloo R, Kamperman AM, Munk-Olsen T, et al. Risk of postpartum relapse in bipolar disorder and postpartum psychosis: a systematic review and meta-analysis. *Am J Psychiatry.* 2016;173(2):117–127.
- Di Florio A, Jones L, Forty L, et al. Mood disorders and parity: a clue to the aetiology of the postpartum trigger. *J Affect Disord.* 2014;152-154:334–339.
- Jones I, Chandra PS, Dazzan P, et al. Bipolar disorder, affective psychosis, and schizophrenia in pregnancy and the post-partum period. *Lancet (London, England).* 2014;384(9956):1789–1799.
- Bergink V, Burgerhout KM, Weigelt K, et al. Immune system dysregulation in first-onset postpartum psychosis. *Biol Psychiatry.* 2013;73(10):1000–1007.
- Blackmore ER, Rubinow DR, O'Connor TG, et al. Reproductive outcomes and risk of subsequent illness in women diagnosed with postpartum psychosis. *Bipolar Disord.* 2013;15(4):394–404.
- Heron J, McGuinness M, Blackmore ER, et al. Early postpartum symptoms in puerperal psychosis. *BJOG.* 2008;115(3):348–353.
- Bergink V, Rasgon N, Wisner KL. Postpartum psychosis: madness, mania, and melancholia in motherhood. *Am J Psychiatry.* 2016;173(12):1179–1188.
- Sit D, Rothschild AJ, Wisner KL. A review of postpartum psychosis. *J Womens Health (Larchmt).* 2006;15(4):352–368.
- Bergink V, Burgerhout KM, Koorengel KM, et al. Treatment of psychosis and mania in the postpartum period. *Am J Psychiatry.* 2015;172(2):115–123.
- Doucet S, Jones I, Letourneau N, et al. Interventions for the prevention and treatment of postpartum psychosis: a systematic review. *Arch Womens Ment Health.* 2011;14(2):89–98.
- Lewis KS, Gordon-Smith K, Forty L, et al. Sleep loss as a trigger of mood episodes in bipolar disorder: individual differences based on diagnostic subtype and gender [published online ahead of print July 6, 2017]. *Br J Psychiatry.*
- Viguera AC, Newport DJ, Ritchie J, et al. Lithium in breast milk and nursing infants: clinical implications. *Am J Psychiatry.* 2007;164(2):342–345.
- Uguz F. Second-generation antipsychotics during the lactation period: a comparative systematic review on infant safety. *J Clin Psychopharmacol.* 2016;36(3):244–252.
- Nager A, Szulkin R, Johansson SE, et al. High lifelong relapse rate of psychiatric disorders among women with postpartum psychosis. *Nord J Psychiatry.* 2013;67(1):53–58.
- Viguera AC, Tondo L, Koukopoulos AE, et al. Episodes of mood disorders in 2,252 pregnancies and postpartum periods. *Am J Psychiatry.* 2011;168(11):1179–1185.
- Cohen LS, Viguera AC, McInerney KA, et al. Reproductive safety of second-generation antipsychotics: current data from the Massachusetts general hospital national pregnancy registry for atypical antipsychotics. *Am J Psychiatry.* 2016;173(3):263–270.
- Terrana N, Koren G, Pivovarov J, et al. Pregnancy outcomes following in utero exposure to second-generation antipsychotics: a systematic review and meta-analysis. *J Clin Psychopharmacol.* 2015;35(5):559–565.
- Habermann F, Fritzsche J, Fuhlbruck F, et al. Atypical antipsychotic drugs and pregnancy outcome: a prospective, cohort study. *J Clin Psychopharmacol.* 2013;33(4):453–462.
- Hogan CS, Freeman MP. Adverse effects in the pharmacologic management of bipolar disorder during pregnancy. *Psychiatr Clin North Am.* 2016;39(3):465–475.
- Goodwin GM. Consensus Group of the British Association for P. Evidence-based guidelines for treating bipolar disorder: revised second edition—recommendations from the British Association for Psychopharmacology. *J Psychopharmacol.* 2009;23(4):346–388.
- Vigod SN, Gomes T, Wilton AS, et al. Antipsychotic drug use in pregnancy: high dimensional, propensity matched, population based cohort study. *BMJ.* 2015;350:h2298.

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