DOI: 10.7860/JCDR/2026/79709.23190

Case Report

Psychiatry/Mental Health Section

A Case of Postpartum Psychosis Associated with Typhoid and Urinary Tract Infection: A Complex Clinical Presentation

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BY-NC-ND

ABSTRACT

Postpartum Psychosis (PPP) is a rare but severe psychiatric disorder occurring shortly after childbirth. The present report describes a 37-year-old female who, three weeks after an uncomplicated vaginal delivery, developed acute psychosis coinciding with systemic infections - typhoid fever and Urinary Tract Infection (UTI). She initially presented with low mood, social withdrawal, disturbed sleep and auditory hallucinations. She was prescribed Sertraline 50 mg/day and Olanzapine 5 mg/day for 14 days, but she discontinued the medication due to poor insight. The day after her psychiatric consultation, she presented to the Emergency Department with high-grade fever, vomiting and decreased responsiveness. Blood culture grew *Salmonella typhi* and urine culture grew *Escherichia coli*. Initial antibiotic therapy with ceftriaxone and nitrofurantoin was started but later escalated to meropenem due to clinical deterioration. With combined psychiatric and antimicrobial management, the patient gradually improved. At discharge on day 21, she was psychiatrically stable, afebrile and laboratory parameters had normalised. At three-month follow-up, she remained in remission with continued adherence to medication. The present case underscores the diagnostic challenge of distinguishing PPP from infection-associated delirium and highlights the importance of multidisciplinary care and medication adherence.

Keywords: Antipsychotic treatment, Delirium, Infection-induced psychosis, Multidisciplinary care, Postnatal psychiatric disorders, Salmonella infections

CASE REPORT

A 37-year-old female, gravida 2 para 2, presented to the Psychiatry Outpatient Department with symptoms that began approximately three weeks after an uncomplicated full-term vaginal delivery. She reported persistent low mood, reduced social interaction, disturbed sleep and auditory hallucinations. There was no history of suicidal ideation, aggressive behaviour, or prior psychiatric illness.

Based on clinical assessment, she was diagnosed with postpartum psychosis and prescribed Sertraline 50 mg once daily and Olanzapine 5 mg once daily. She was advised to follow-up in 14 days. However, due to poor insight, the patient did not initiate the prescribed medications.

The day after the psychiatric visit, she developed high-grade fever, vomiting and decreased responsiveness, prompting admission to the Emergency Department. There was no history of seizures, abnormal limb movements, neck stiffness, tongue biting, or loss of bladder or bowel control.

Past Medical, Psychiatric, Family and Obstetric History

The patient had no known chronic medical illnesses. She had no prior psychiatric diagnosis. There was no family history of psychiatric disorders. Her obstetric history was unremarkable: she had experienced a full-term pregnancy and delivered normally three weeks before presentation.

Physical and Neurological Examination

On admission, her Glasgow Coma Scale (GCS) score was 9/15. Her vital signs included a temperature of 101.8 °F, pulse 98 beats per minute and blood pressure 120/80 mmHg. She exhibited no neck rigidity or focal neurological deficits. She was unresponsive but had no abnormal limb movements or incontinence.

Investigations

Complete blood count revealed haemoglobin 14.4 g/dL, total leukocyte count 5,740/µL and platelets 140,000/µL. Liver and renal function tests were within normal limits. Blood culture grew *Salmonella typhi*. Urinalysis showed pus cells and urine culture yielded *Escherichia coli* >10^5 CFU/mL. Computed Tomography (CT) brain and Electroencephalogram (EEG) were normal.

Provisional Diagnosis

1. Postpartum psychosis – International Classification of Diseases (ICD)-10 code F53.1 [1], consistent with Diagnostic and Statistical Manual of Mental Disorders (DSM)-5 criteria for brief psychotic disorder with postpartum onset [2].
2. Typhoid fever.
3. Urinary tract infection.

Diagnosis

Initially, the patient was provisionally diagnosed with postpartum psychosis (ICD-10 F53.1) in the absence of systemic signs. After the onset of fever and altered sensorium, differential diagnoses included infection-associated delirium or encephalopathy. Microbiological confirmation led to the working diagnosis of postpartum psychosis associated with typhoid fever and urinary tract infection.

TREATMENT

Antibiotic Management

Intravenous ceftriaxone 2 g once daily was started for seven days for *Salmonella typhi*. Oral nitrofurantoin 100 mg twice daily for five days targeted the *E. coli*-induced UTI.

Antibiotic sensitivity testing was not performed due to institutional limitations. Therapy was empirical, based on known local resistance patterns. On day 7, the patient had a relapse of fever and a decline in sensorium. Investigations including Cerebrospinal Fluid (CSF) analysis, brain MRI and Japanese encephalitis serology were negative. Due to clinical worsening, antibiotics were escalated to meropenem 1 g i.v. every 8 hours for 10 days.

Study	Presentation	Infections present	Treatment	Outcome
Ukwaja (2010) [7]	Depression	Typhoid	Ciprofloxacin; supportive care	Full recovery
Sadhu et al., (2014) [9]	Psychosis	Paratyphoid	Antibiotics; antipsychotics	Recovery
Present case (2025)	Hallucinations, mood disturbance, unresponsiveness	Typhoid + UTI	Ceftriaxone, Nitrofurantoin → Meropenem; Olanzapine, Sertraline	Recovery and stable at 3-month follow-up

[Table/Fig-1]: Comparison of similar reported cases [7,9].

Psychiatric Management

Olanzapine 5 mg once daily was continued during hospitalisation. Sertraline 50 mg once daily, previously uninitiated, was reintroduced after medical stabilisation. Both were well tolerated and the patient improved gradually.

Follow-up

The patient was discharged after 21 days of hospitalisation in clinically stable condition. At the time of discharge, repeat investigations were performed. Complete blood count, liver function tests and kidney function tests were within normal limits. Inflammatory markers had normalised and the patient was afebrile and alert, with no signs of active infection.

No further bacterial growth was noted in repeat urine analysis and cultures performed prior to discharge, indicating resolution of the urinary tract infection. Blood cultures were not repeated as the patient had completed the full course of antibiotics with full clinical recovery and no signs of ongoing bacteraemia. Based on clinical and laboratory improvement, no antibiotics were continued after discharge.

Psychiatric evaluation confirmed resolution of acute psychotic symptoms. Olanzapine 5 mg once daily and Sertraline 50 mg once daily were prescribed for continuation at home, with instructions for regular outpatient follow-up.

At the three-month follow-up in the Psychiatry Outpatient Department, the patient remained psychiatrically stable, adherent to medication and reported no recurrence of symptoms. Family members were educated on signs of relapse and the importance of medication compliance.

DISCUSSION

The present case highlights the complex clinical presentation of Postpartum Psychosis (PPP) with coexisting systemic infections. PPP affects approximately 1 to 2 per 1,000 women postpartum and constitutes a psychiatric emergency due to risks to self or infant [3]. Classical symptoms include mood lability, hallucinations, delusions and disturbed sleep [4].

In this patient, typical psychotic symptoms preceded fever and systemic signs, supporting a primary psychiatric diagnosis. However, subsequent identification of *Salmonella typhi* and *E. coli* introduced diagnostic complexity. Infection-related delirium can present with altered consciousness, confusion and hallucinations, mimicking psychosis [5,6].

Infections such as typhoid and paratyphoid fever have previously been associated with psychiatric manifestations, including psychosis and catatonia [7-9]. These cases underline the importance of excluding medical causes in postpartum psychiatric presentations.

Moreover, Toor R et al., (2024) identified PPP as a preventable emergency with appropriate care [6]. Mylonas I and Friese K (2012) emphasised the need for inpatient care and early antipsychotic initiation in PPP [10]. While most literature reports single infections, present case involved dual infections and antibiotic escalation, complicating recovery. The published cases with psychiatric presentations associated with other infection is shown in [Table/Fig-1] [7,9].

Clinical Implications and Future Directions

The present case reinforces the need for a multidisciplinary approach in postpartum psychiatric presentations. Routine screening for infections, especially when mental status fluctuates, is essential. Future studies should investigate the immunological mechanisms linking systemic infection to psychiatric symptoms in the peripartum period. Clinicians must ensure continuity of psychiatric care, even after infection resolution, as underlying psychiatric conditions often require prolonged management.

CONCLUSION(S)

In postpartum patients presenting with psychiatric symptoms and systemic signs, clinicians must rule out or treat infectious causes like typhoid and UTI. This case emphasises the role of early diagnosis, interdisciplinary coordination and strict medication adherence to ensure optimal recovery.

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PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Apr 16, 2025
- Manual Googling: Oct 24, 2025
- iThenticate Software: Oct 28, 2025 (1%)

ETYMOLOGY: Author Origin

EMENDATIONS: 8

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? No
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Apr 04, 2025**
Date of Peer Review: **Jul 29, 2025**
Date of Acceptance: **Nov 01, 2025**
Date of Publishing: **May 01, 2026**