

## Case Report



# Postpartum Collapse as the First Manifestation of Leptospirosis: Rapid Progression to Multiorgan Dysfunction with Complete Recovery - A Case Report

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## Abstract

Post partum collapse is a life-threatening emergency with wide differential diagnosis including hemorrhage, embolism, sepsis, cardiomyopathy and metabolic disorders. Leptospirosis is an uncommon cause of acute multiorgan dysfunction in puerperium particularly endemic region. The presentation may mimic PIH/HELLP/AFLP. Because of its unusual clinical presentation, it is often under reported and misdiagnosed. The clinical presentation varies widely, ranging from a mild, self-limiting febrile illness to severe multisystem involvement marked by jaundice, renal impairment, and pulmonary haemorrhage [1]. This case highlights postpartum collapse due to severe leptospirosis with multiorgan involvement, successfully managed with intensive care and targeted therapy. A high index of suspicion in endemic areas and early intervention are key to improving both maternal and neonatal outcomes.

**Keywords:** Maternal Sepsis; Multiorgan Dysfunction; Postpartum Collapse; Weil's Disease.

## Introduction/Case Report

A 32 year, G3P1L1A1, 39+2 weeks period of gestation, previous vaginal delivery with no comorbidities and uneventful antenatal period, booked at our tertiary care Centre was induced in view of oligohydramnios, Labor was uneventful, Forceps assisted delivery was done for fetal distress, Baby was delivered and shifted to NICU for observation (APGAR score 2,6).

Two hours postpartum patient collapsed with features of GTCS, involuntary movement, tachyarrhythmia (HR 190-200/min), BP not recordable, high-grade fever (106.7). With the help of intensivist, Patient was sedated, intubated, cardioversion was done, inotropes and antiepileptics started and was shifted to ICU.

Initial examination GCS E1V1M1, B/L crepitation present, Abdominal distension present, investigations revealed severe thrombocytopenia, deranged Kidney and liver function test, raised

transaminases and coagulopathy, USG revealed mild ascites, Echo – LVEF 40%, CT brain showed no bleed. Supportive treatment was given, which included blood and blood component transfusion like fresh frozen plasma and platelets.

In view of persistent fever with progressive multiorgan dysfunction and absence of neurological and obstetrical causes, infectious etiologies were revisited, Leptospira IgM ELISA returned positive, establishing diagnoses of severe leptospirosis (Weil's disease) presenting as postpartum collapse.

The patient was initiated on appropriate anti-leptospirosis Doxycycline and Azithromycin, alongside organ-supportive measures. Over the next several days, she showed steady improvement in sensorium, normalization of renal and liver parameters, resolution of pulmonary oedema, and stabilization of cardiovascular status. She was successfully weaned from respiratory and vasopressor support and ultimately made a complete recovery.

**Table 1: Trends in lab investigation during clinical course of illness**

Date	18/8/25	20/8/25	21/8/25	22/8/25	23/8/25	25/8/25	27/8/25	28/8/25
Hemoglobin	12.2	12.7	10.8	8.9	8.2	7.9	6.5	7.6
TLC	10,180	29570	33930	22800	19000	19000	12700	18590
Platelet	1.02	40,000	45000	37000	69000	92000	73000	68000
Total bilirubin	-	2.8	4.6	6.0	9.9	11.1	8.3	7.3
ALT	-	479	1539	1886	1645	864	321	271
AST	-	931	2009	2213	1544	371	159	159
Urea	-	48	88	113	123	161	135	108
Creatinine	-	2.2	3.0	3.6	4.1	3.8	2.1	1.8

## Discussion

Leptospirosis in pregnancy is rare but carries significant maternal and fetal risk. The disease can mimic AFLP/HELLP making diagnosis difficult. Leptospirosis in pregnancy presents with varied clinical manifestations and can closely mimic pregnancy-related conditions such as HELLP syndrome and acute fatty liver of pregnancy, often leading to delayed diagnosis. Guleria et al. reported a favourable maternal and foetal outcome with timely diagnosis and appropriate antibiotic therapy, despite significant hepatic involvement [2].

Our Patient had fulminant hepatitis, renal failure, thrombocytopenia and seizure consistent with severe leptospirosis. The occurrence of sustained VT notable as cardiac arrhythmia are rare but recognized complication. Neurological manifestation including seizures and encephalopathy may result from direct leptospiral invasion or secondary metabolic derangement. Early diagnosis and aggressive management are essential. Penicillin and ceftriaxone are safe in pregnancy, supportive ICU care with ventilator, inotropes and transfusion therapy is often lifesaving.

In a study by Dwivedi et al., evaluating maternal and fetal outcomes of leptospirosis in pregnancy in Western India, significant hepatic, renal, and haematological involvement was observed among 37 patients. Hyperbilirubinemia, deranged transaminases, elevated serum creatinine, and thrombocytopenia were reported, with a subset requiring intensive care; two cases progressed to Weil's disease and one resulted in maternal mortality. Our patient demonstrated a comparable severe disease profile, necessitating ICU admission with marked transaminitis, hyperbilirubinemia, and thrombocytopenia [3].

Leptospirosis in pregnancy is rare and often underdiagnosed due to its nonspecific presentation and close clinical resemblance to HELLP syndrome and acute fatty liver of pregnancy. Tong and Mathura reported a third-trimester case presenting with jaundice, thrombocytopenia, transaminitis, and renal dysfunction, initially misdiagnosed as atypical HELLP syndrome without hypertension, with diagnosis confirmed only by positive *Leptospira* IgM, as was the case with our patient [4].

In a case reported by Gaspari R et al., initial features of jaundice, transaminitis, coagulopathy, and renal dysfunction led to emergency delivery, with leptospirosis diagnosed only after postoperative clinical deterioration like our patient, delayed recognition resulted from overlapping clinical and biochemical features, underscoring the need to consider leptospirosis in the differential diagnosis of unexplained hepatic dysfunction in pregnancy, even in the absence of fever [5].

Severe leptospirosis in pregnancy may rapidly progress to Weil's disease, often requiring ICU admission for multiorgan dysfunction. While ICU admission is generally associated with poor prognosis, as highlighted by Ginjupalli et al., our patient showed clinical recovery with early diagnosis and timely intensive care, emphasizing the crucial role of prompt recognition and appropriate multidisciplinary management in improving outcomes [6].

## Conclusion

Leptospirosis should be considered in the differential diagnosis of postpartum women presenting with jaundice, renal dysfunction,

seizures, and thrombocytopenia in endemic regions. Unusual presentations such as ventricular tachycardia may occur. Timely diagnosis, ICU support, and appropriate antibiotic therapy can lead to successful maternal and neonatal outcomes.

## Declarations

## Acknowledgements

None

## Conflict of interest

None

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