

## Management of leptospirosis in postpartum period in ICU

Sir,

A significant mortality and morbidity is associated with acute liver failure of pregnancy. Liver disease specific to pregnancy include intrahepatic cholestasis of pregnancy, HELLP syndrome, and acute fatty liver of pregnancy. Besides these, viral and bacterial infections during pregnancy are also responsible for undesirable outcomes during pregnancy.

Leptospirosis is a rare infection in pregnancy and is often misdiagnosed and underreported. It may present as multiorgan failure and mimic other liver pathologies. Early diagnosis and prompt treatment are necessary for the survival of both mother and fetus.

A 21-year-old, 36 weeks primigravida was admitted with jaundice and intrauterine death of fetus. The positive investigation reports were as follows: total leukocyte count (TLC):24600/cumm, platelet count: 56000/cumm, total bilirubin: 23.91 mg/dl with direct bilirubin of 16 mg/dl, SGOT: 152 U/L, SGPT: 116 U/L, ALP: 227 U/L, albumin: 2.1 g/dl, PT-INR: 36/3.51, urea: 124 mg/dl, creatinine: 2.86 mg/dl, ammonia: 141 umol/L, and lactate: 7.8 mmol/L. Vitals were stable with no signs of portal hypertension.

Fresh frozen plasma was transfused and PT-INR improved (13/1.28). Injection. Broad-spectrum antibiotic cover with Meropenem 1 g TDS and Clindamycin 600 mg TDS was given.

Abdominal ultrasonography revealed borderline hepatosplenomegaly, ascites, mild left pleural effusion, and bulky uterus with no residual products of conception. Diagnostic ascitic aspiration revealed 8–10 RBC/hpf and 10–20 leukocytes/hpf.

On the third day of ICU admission, the patient was in grade-1 hepatic encephalopathy evident by increased ammonia levels (138 umol/L), for which Lactulose 30 ml TDS was started along with Rifaximin 550 mg BD. The patient developed a fever of 104°F and blood culture was positive for Klebsiella, sensitive to Tigecycline, which was given as loading dose of 100 mg followed by 50 mg intravenously BD. It was suspected to be a nosocomial pathogen considering the long duration of the patient's stay in the hospital. Repeat ascitic tap was acellular. On the fourth day of ICU stay, TLC was 14600/cumm, PLT increased to 1.5 lakh/cumm, Total bilirubin was 8 mg/dl, SGOT was 100U/L, SGPT was 82 U/L, ALP was 220U/L, urea was 67 mg/dl, creatinine was 1.6 mg/dl, ammonia was 86 umol/L, and lactate was 5.5 mmol/L.

After ruling out other infections, Microagglutination test (IgM antibodies) was positive for leptospirosis. Tablet Doxycycline 100 mg BD was given for 7 days through Ryle's tube.

The patient was in ICU for 15 days and was discharged with normal complete blood count and liver enzymes, bilirubin

of 5 mg/dl with ammonia levels of 40 umol/L and lactate of 3 mmol/L. The patient received multidisciplinary care and was shifted to ward with stable hemodynamic as well as improved biochemical and clinical parameters.

Leptospirosis may present in two stages: Anicteric stage is self-limited and characterized by fever, chills, gastrointestinal symptoms, maculopapular rash, hepatosplenomegaly, and lymphadenopathy. *Leptospira* can be isolated through blood and CSF.<sup>[1]</sup>

Icteric leptospirosis (Weil's syndrome) characteristically involves the liver and kidney along with vascular dysfunction.<sup>[1]</sup> It is associated with high bilirubin levels of up to 80 mg/dl as reported in some cases.<sup>[1]</sup> Transaminases are usually moderately elevated and SGOT: SGPT ratio of >3 predicts poor prognosis.<sup>[2]</sup> Urea and creatinine are in the range of 100–300 mg/dl and 2–8 mg/dl, respectively.<sup>[1]</sup> Microagglutination test is the confirmatory test;<sup>[3]</sup> fourfold increase in titers indicates leptospirosis infection.<sup>[1]</sup> Doxycycline and ampicillin are recommended for mild leptospirosis; cefotaxime and ceftriaxone for severe leptospirosis.

Thus, public awareness regarding hygiene, sanitation, and good delivery practices is important to avoid perinatal and maternal infections.<sup>[4]</sup>

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