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PREGNANCY COMPLICATED BY LEPTOSPIROSIS-A NEGLECTED TROPICAL DISEASE-MANIFEST AS HEPATORENAL SYNDROME.

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ABSTRACT Leptospirosis is one of the most prevalent zoonotic diseases worldwide. But the incidence of Leptospirosis among pregnant population is underdiagnosed and under-reported, as there is significant overlap of symptoms of this infection with pregnancy associated conditions like Preeclampsia with HELLP syndrome, Acute fatty liver of pregnancy. We aim to present two cases of Leptospirosis complicating pregnancy, which were managed successfully. We would like emphasize the fact that leptospirosis should be considered in differentials in a pregnant woman with jaundice who continues to deteriorate after delivery, particularly in an endemic area and in monsoon season. This is a notifiable disease and timely diagnosis with appropriate intervention prevents the significant morbidity and mortality associated with the disease.

KEYWORDS : Pregnancy, Leptospirosis, Morbidity and mortality

INTRODUCTION: -

Leptospirosis is an acute bacterial infection caused by spirochetes belonging to genus Leptospira that can lead to multiple organ involvement and fatal complication. While leptospirosis occurs worldwide, it is more common in tropical or sub-tropical climates. This is both a 'neglected tropical disease' (NTD) and one of the most prevalent zoonotic diseases worldwide, with more than one million cases in the general population in a year.

Aims And Objectives: -

1. To bring into light the subtle presentations of Leptospirosis and how clinical presentation can mimic pregnancy associated conditions such as HELLP Syndrome, Pre-Eclampsia and Acute Fatty Liver of Pregnancy (AFLP) contributing to the issue of underdiagnosis and under-reporting. 2.To consider leptospirosis in differentials in a pregnant woman with jaundice who continues to deteriorate after delivery, particularly in an endemic area.

MATERIAL &METHODS: -

There were two cases of jaundice complicating pregnancy at 37+ weeks gestation and prior cesarean section in October 2024 at once following heavy rainfall and floods in our state of Andhra Pradesh. Total serum bilirubin was in the range 9mg/dl to 13mg/dl with mixed hyperbilirubinemia. There was elevation in the serum transaminases to the extent of 400 to 600 U/L. One of patients had thrombocytopenia. Both the patients were afebrile, normotensive, moderately anemic and INR was also elevated to "4". Non oliguric AKI was evident with raised serum creatinine of 1.4 & 1.8mg/dl. During correction of hematological parameters, they went into spontaneous labor within 24 hours of admission and were taken up for emergency LSCS under antibiotic coverage of inj. Ceftriaxone. They tested positive for Leptospira IgM on the first postop day. Cap Doxycycline was added to the medication.

RESULT : -

Both patients withstood the surgery well. They were provided intensive care by gastroenterology team and transaminases came down to normal range 10 days postpartum; serum bilirubin came down to 4 mg/dl by 2 weeks. Serum creatinine returned to normal by fourth postoperative day. One of the babies survived and the other succumbed to severe meconium aspiration syndrome. Our patients were counselled about the prevention and control of leptospirosis and were discharged in good condition after 2 weeks. The disease was notified to the District Medical & Health Officer.

DISCUSSION: -

Cases of Leptospirosis in general population and in pregnancy are thought to be underreported (1,2). This can be partly attributed to its subtle presentations but also how its clinical presentation can mimic pregnancy associated conditions such as HELLP Syndrome (Haemolysis, Elevated Liver enzymes and Low Platelets, PET (Pre-Eclampsia) and AFLP (Acute Fatty Liver of Pregnancy), therefore further contributing to the issue of underdiagnosis (2).Outbreaks of leptospirosis tend to occur after heavy rainfall or flooding in endemic areas, especially areas with poor housing and sanitation conditions.(3) All mammals can be hosts to leptospires. Infected rodents are known to shed the organism via urine throughout life, causing environmental contamination.(4) People can be infected through direct contact with the urine or reproductive fluids from infected animals (rodents, dogs, livestock, pigs, horses, wildlife),contact with urine-contaminated water (floodwater, rivers, streams, sewage) and wet soil, ingestion of food or water contaminated by urine or urine-contaminated water. Transmission occurs through mucous membranes, conjunctiva, and skin cut or abrasions. The bacteria can survive for weeks to months in urine-contaminated water and soil. Human-to-human transmission is rare but has been documented through sexual intercourse and breastfeeding. Transmission has also rarely occurred through animal bites.

The mean incubation period is 10 (range 2–26) days. Leptospirosis is a biphasic disease that starts with flu-like symptoms, most (90%) of which are mild and self-limiting.(2)Symptoms can include fever, headache, myalgia (typically of the calves and lower back), conjunctival suffusion, nausea, vomiting, diarrhea, abdominal pain, cough, and sometimes a skin rash. However, if left untreated, leptospirosis can progress to a more severe form (i.e., Weil's syndrome), which is characterized by jaundice, hepatorenal syndrome and hemorrhage. (5) Mortality rates (up to 52%) are high in the severe form of disease. (4) Thrombocytopenia may be present. Urinalysis would show proteinuria, pyuria, granular casts, and microscopic hematuria.(4) Hypokalemia and hyponatremia, with non-oliguric renal failure, may be present. Antibodies for leptospirosis develop between 3-10 days after symptom onset. So, any serologic test must be interpreted accordingly – negative serologic test results from samples collected in the first week of illness do not rule out disease. In such a case tests should be repeated on a convalescent sample collected 7-14 days after the first. Supportive Diagnostic Tests are IgM-based commercial assays such as ELISA IgM, Immuno DOT, Lateral flow tests. IgM assays are screening tests and results should be confirmed using one of the confirmatory methods like Microscopic agglutination test (MAT) or Polymerase chain reaction.

Prompt treatment may decrease the severity and duration of disease. In patients with a high clinical suspicion of leptospirosis, initiating antibiotic treatment as soon as possible without waiting for laboratory results is recommended. If leptospirosis is within the differential, a broad-spectrum penicillin in keeping with local sensitivities could provide adequate coverage for leptospirosis and other infectious diseases on the differential list. Leptospirosis in pregnancy is uncommon, with only a few published case reports.(7-12) Pregnancy outcomes have been equally varied, including fetal loss and miscarriage,(9,10) stillbirth,(7) congenital infection(8) and oligohydramnios,(11,12) as well as good outcomes with healthy neonates.(8,11,12) There is significant mortality due to both delays in diagnosis as well as inadequate clinical suspicion.(13) Leptospirosis in pregnancy is not an indication for termination of pregnancy as it is

highly treatable when diagnosed early with vigilant fetal monitoring.

CONCLUSION: -

Leptospirosis must be kept in mind as a differential diagnosis in any pregnant patient presenting with complaints of icterus, fever, myalgia, deranged liver enzymes and low platelets which can result in early diagnosis and treatment. If such a patient continues to deteriorate even after delivery, it should trigger consideration of broader differentials, including leptospirosis in an endemic area. To consider leptospirosis in differentials in a pregnant woman with jaundice who continues to deteriorate after delivery, particularly in an endemic area. This prevents the significant morbidity and mortality associated with the disease.Leptospirosis in pregnancy is not an indication for termination of pregnancy as it is highly treatable when suspected and diagnosed early and treated with the right antibiotic.

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