ESSAY - 14

Dr. Rahul Rajeev

1)60 year old farmer presented with fever for last 5 days , associated with myalgia .
O/E: Pulse Rate – 100/min , BP : 90/50mmhg Temp – 100F .
She was further icteric + , calf tenderness resent .
Lab parameters showed neutrophilic leucocytosis , Increased inflammatory markers .
Serum Bilirubin -4mg/dl S. creatinine – 2.6mg Urea – 86 Platelet Count- 80000

What is the Diagnosis ? (2) **(2+3+2+4+4)**
What are the possible differential diagnosis ? (3)
Discuss laboratory diagnosis for the above ?(2)
Discuss treatment fot he above condition? (4)
what are the complications ? (4)

DOC TUTORIALS

LEPTOSPIROSIS

- Zoonotic disease
- Caused by spirochetes of genus Leptospira

  Pathogenic species : L. interrogans
- Primarily a disease of wild and domestic mammals
- Excreted in urine of infected animals

- Man gets infected either directly through contact with an infected animal or indirectly by water or soil contaminated with urine of infected animal *through skin abrasion or through intact mucous membrane*

- After entry, disseminate hematogenously to all organs - leptospiremic phase

  Leptospires can be isolated from the bloodstream

- Immune phase

  Appearance of antibodies

  Disappearance of leptospires from the blood

  Bacteria persist in various organs, including liver, lung, kidney, heart, and brain

CLINICAL FEATURES

- Incubation period : 7-12 days

Broad spectrum of clinical manifestations,

varying from asymptomatic infection to fulminant, fatal disease

- Biphasic

MILD LEPTOSPIROSIS

- Flulike illness
- Fever, chills, headache, myalgia
- Conjunctival suffusion (redness without exudate)
- Aseptic meningitis
- Muscle tenderness, Rash, Hepatomegaly & splenomegaly

SEVERE LEPTOSPIROSIS

- Weil's syndrome - hemorrhage, jaundice, and acute kidney injury

- Haemorrhagic manifestations

  - Pulmonary hemorrhage, Hematuria

- Mortality : Sepsis & MODS

What is the diagnosis ? (2 marks)

- Short Febrile Illness with Thrombocytopenia

  Septic shock

  Jaundice

  Acute Kidney Injury

  Multiple Organ Dysfunction Syndrome

  Icteric Leptospirosis (Weil's disease)

What are the possible differential diagnosis ? (3 marks)

- Malaria
- Severe Dengue
- Scrub typhus
- Viral hepatitis
- Enteric fever
- Chikungunya

Discuss the laboratory diagnosis of the above ?

(2 marks)

- Blood sample : Serology, PCR, Culture
- Urine sample : PCR, Culture
- CSF : PCR, Culture

- PCR - most sensitive in the bacteremia phase of infection (first week)

- Serology - Antibody demonstration (detectable after 1st week)

  - Microscopic Agglutination Test
    (live antigens representing different serogroups reacted with serum samples and agglutination tested by dark field microscopy)

  - ELISA
  (detects antibodies reacting with a broadly reactive genus specific antigen)

  - Rapid card test (based on immunochromatographic assay principle)

Discuss the treatment for the above condition ? (4 marks)

- Mild clinical features with no comorbidities - Outpatient treatment

  Follow up

- Severe disease and/or those with co-morbidities - Inpatient treatment

- General measures

- Early initiation of antibiotic therapy

General Measures

- Inotrope support
- Temperature chart
- Intake - Output chart
- Correct electrolyte imbalances (if any)
- Platelet transfusion (if drop in count/bleeding manifestations)
- Mechanical ventilation (if there is ARDS, Pulmonary hemorrhage)
- Dialysis

ANTIBIOTIC THERAPY

- Mild disease : Tab Doxycycline 100 mg orally twice daily for 7 days

OR

Tab Amoxicillin 500 mg orally four times daily for 7 days

OR

Tab Azithromycin 500 mg orally once daily for 3 days

- Severe disease : Injection Penicillin G 1.5 million units iv Q6H for 7 days

OR

Injection Doxycycline 100 mg iv twice daily for 7 days

OR

Injection Ceftriaxone 1 g iv once daily for 7 days

What are the complications ? (4 marks)

- Bleeding manifestations - Petechiae, ecchymosis, Pulmonary hemorrhage

  Upper GI bleed, Hematuria

- Liver - Fulminant hepatitis

- GIT - Cholecystitis , Necrotizing pancreatitis

- Renal - Acute Tubular Necrosis, Acute Interstitial Nephritis, Pre-renal AKI

- Pulmonary - Pulmonary hemorrhage, Pneumonia, ARDS

- Cardiovascular - Myocarditis, arrhythmias
- CNS - Meningitis, Encephalitis
- Eye - Uveitis
- Muscle - Rhabdomyolysis
- MODS