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CASE REPORT – LEPTOSPIROSIS WITH UNUSUAL PRESENTATION IN A TERTIARY CARE CENTRE

General Medicine

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ABSTRACT

Leptospirosis is a spirochetal bacterial infection and causes clinical illness in animals and humans. This disease is predominantly seen in farmers, trappers, veterinarians, and rice-field workers. Leptospirosis mainly affects liver and kidney. Rarely, other organs such as lung, heart, gallbladder, brain, and ophthalmic tissues are involved, mainly due to vasculitis . It can rarely present as acute pancreatitis. Hyperamylasemia can be present in leptospirosis infection due to renal impairment. So, the diagnosis of acute pancreatitis is controversial in this disease. Therefore we have presented a rare case of pancreatitis in a patient of leptospirosis in our hospital, AMCH,Dibrugarh.

KEYWORDS

THE CASE

A 50 year old previously healthy man who is a government employee from Demow , Sivsagar Assam presented with fever of 6 days duration yellowish discolouration of sclera of 5 days duration, decreased urine output of 5 days duration, upper abdominal pain of 3 days duration, loose watery stool 6-8 episodes and multiple episodes of vomiting of 1 day duration. He got admitted in AMCH Dibrugarh, on 20th October 2018.He gives a history of consumption of indigenous medicine 4 days before hospitalisation. He was a chronic alcoholic but with six months of abstinence . There was no history of similar illness in the past. At the time of admission the patient was conscious and oriented . Icterus was present .There was no pallor, cyanosis, clubbing or lymphadenopathy. Pulse rate was 90/min and Blood Pressure was 140/90 mmHg. Axillary temperature was 37^{0}C.Respiratory rate was 24/minute-. JVP was not raised. Apart from respiratory rate there was no abnormality detected in respiratory system examination. In gastrointestinal system examination there was epigastric tenderness. There was no organomegaly. Cardiovascular and nervous system examination appeared normal. Two days after hospital stay the patient developed subconjunctival haemorrhage.

The investigation reports of the patient at the time of admission were Hb-13.2g/dl, Total WBC Count- 10,200cells/mm^3 Differential count-N87 L10E3M0, Platelet 30000 ,ESR-36 .

Total Bilirubin-8.69,Total protein-7.4mg/dl ,Albumin 3.3mg/dl ,Direct Bilirubin-6.07,Indirect Bilirubin-2.62,AST-157,ALT-148,ALP-172,PT-14.8,INR-1.24 RBS-90mg/dl.

Urea-138,Creatinine-4.99,Na-122.6mg/dl,K-2.96mg/dl.
IgM leptosira –positive

Mp Optimal, Anti HAV-, Anti HCV, Anti HEV, HBsAg, Scrub Typhus –negative
Lipase-5438U/L,Amylase-1404U/L.
Routine Urine-Pus Cell-3-4 cell,Bacteria- few.

Ultrasound Abdomen- Pancreas was bulky in size and heterogenous in echotexture. Liver and kidney were within normal limits. Minimal free fluid in peritoneal cavity was present.

In the subsequent days when the relevant investigations were repeated the total WBC count, blood urea and serum creatinine were rising . Based on the clinical features and investigation reports the final diagnosis was Leptospirosis with pancreatitis with Acute Kidney injury. The patient was treated with injection ceftriaxone 2g IV BD, tablet Doxycyclin 100 mg BD, IV fluids 2L normal saline and other symptomatic measures. Due to coagulopathic manifestation developed during hospital stay patient was given 4 units of FFP. Since the patient was having features of uremia and rapidly rising S.creatinine, he had undergone 4 settings of hemodialysis. Gradually with adequate treatment and necessary interventions the patient's clinical status improved. The patient was discharged on 8th November 2018.

At the time of discharge the laboratory parameters were as follows:
Blood urea-176mg/dL,Serum Creatinine-3.12mg/dL,Serum sodium -134mmol/L, Serum potassium-3.4mmol/L

Serum total Bilirubin-4.6 mg/dL, Direct bilirubin-3.8mg/dL, S. Alkaline phosphatase -327 IU/L,S.AST-120IU/L, S.ALT-95IU/L,S. Total protein-6.1mg/dL,S.Albumin-1.8mg/dL

S.Amylase-206U/L,S.Lipase-2746U/L

Figure 1: Patient before treatment

Figure 2 : Patient after treatment

DISCUSSION

Leptospirosis is a spirochetal zoonosis that causes clinical illness in humans as well as in animals. The source of infection in humans is usually either direct or indirect contact with the urine of infected animals. These bacteria infect humans by entering through abraded skin, mucous membrane, conjunctivae. Direct transmission between

humans is rare. Leptospirosis is a common disease in rice-field workers due to prevalence of wild rats. . Rice field with stagnant water and humid condition is an ideal environment for leptospira.

Leptospirosis is characterized by the development of vasculitis, endothelial damage, and inflammatory infiltration. This disease mostly affects tissues of the liver and kidney. Other tissues such as the pancreas can be affected due to vasculitis.

This disease occurs as two clinically recognizable syndromes: the anicteric leptospirosis (80-90% of all cases) and the remainder icteric leptospirosis. Icteric leptospirosis is known as Weil's disease, which is characterized by hemorrhage, renal failure, and jaundice. Icteric leptospirosis is a much more severe disease than anicteric form. The clinical course is often rapidly progressing. Our case seems to be Weils disease.

Thrombocytopenia is a common finding in leptospirosis, occurring in 40-85% of this disease. But the exact reason for thrombocytopenia is unknown. Vasculitis, increased peripheral destruction and decreased thrombocyte production have been considered as potential causes of thrombocytopenia. Thrombocytopenia was also present in the case reported here.

Oliguric and non-oliguric acute renal failure may be observed in icteric leptospirosis . It was reported that oliguria was a significant predictor of death in leptospirosis. Urine output was decreased in our case.

Jaundice occurring in leptospirosis is not commonly associated with hepatocellular necrosis and impaired liver function. There are moderate rises in transaminase levels, and minor elevation of alkaline phosphatase level usually occurs[1,2]. Hepatic dysfunction occurs but it usually resolves and it rarely causes death. The serum bilirubin level is usually <20 mg/dL but can be as high as 60-80 mg/dL. The elevation of transaminases that is more than threefold of the normal value is not usual. Some sporadic cases with very high transaminase level were reported in the medical literature[3]. Furthermore, hepatocyte degeneration and liver cell necrosis have been reported in biliary pancreatitis[4,5] .Pancreatic and bile tree involvement can be additional factors for liver cell necrosis. Therefore, we believe that hepatobiliary and pancreatic involvement could be possible in this case.

For the diagnosis of acute pancreatitis, a simultaneous determination of both amylase and lipase is recommended for the evaluation of patient with abdominal pain. The serum amylase test is available in nearly all laboratories and at all hours. Elevation of lipase level with serum amylase is important for the diagnosis of acute pancreatitis[6]. Elevation of pancreatic isoamylase level also supports the diagnosis. Hyperamylasemia also can be seen in leptospirosis due to renal function alterations or other unknown reasons[7,8]. The serum amylase and lipase levels were elevated more than threefold of normal level in above mentioned case.

The treatment of acute pancreatitis in leptospirosis includes antibiotic treatment against leptospira and supportive treatments for acute pancreatitis (including intravenous fluid resuscitation and nutrition). We preferred enteral nutritional support in this patient .

CONCLUSION

Pancreatitis may be seen in leptospirosis infection. Leptospirosis should also be considered in the differential diagnosis of pancreatitis jaundice and acute kidney injury in endemic areas. Early diagnosis and appropriate treatment is essential for saving the life of the patient.

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