Visceral Leishmaniasis Masquerading as Chronic Liver Disease


Abstract
We report a patient with fever, progressive jaundice and abdominal distension, having marked pallor, icterus, ascites and hepatosplenomegaly. Investigations revealed pancytopenia and deranged liver functions. Doppler study revealed portal hypertension and endoscopy showed grade II oesophageal varices. Liver biopsy suggested leishmanial hepatitis and bone marrow demonstrated multiple LD bodies. Diagnosis of “visceral leishmaniasis with leishmanial hepatitis with portal hypertension” was made. The case is being reported because of its rarity apart from it being an unusual presentation of kala-azar.

INTRODUCTION
Visceral leishmaniasis has been reported worldwide although the disease is presently confined to the tropics. It has re-emerged from near eradication. The annual estimate for the incidence and prevalence of kala-azar cases worldwide is 0.5 million and 2.5 million respectively. Of these, 90% of the confirmed cases occur in Indian subcontinent. Certain unusual clinical features as lymphadenopathy and nasopharyngeal growth have been seen in some cases.1 We report here another unusual association with visceral leishmaniasis.

CASE REPORT
A 30 year old male presented with moderate to high grade fever and dragging pain in upper abdomen for 1 year, accompanied by progressive jaundice, abdominal distension and swelling of feet for the last 6 months. There was no history of haematemesis, melaena, joint pains, rashes, blood transfusion or jaundice in the past. There was no history of any chronic illness, alcohol addiction or high risk behaviour.

On physical examination, patient was febrile (103°F), BP - 110/70 mm Hg, pulse 114/min regular, appeared emaciated severely pale, had icterus, bilateral pitting pedal oedema and a protuberant abdomen. There was no cyanosis, lymphadenopathy, spider naevi, palmar erythema, loss of axillary hair, gynaecomastia or testicular atrophy. Abdominal examination revealed firm, non-tender hepatomegaly (liver span 16 cm) and firm, non-tender splenomegaly (7 cm below costal margin) with ascites. Heart, chest and neurological examination was unremarkable.

Haematological investigations revealed haemoglobin of 6 g/dl, total leucocyte count of 3,600/mm³, P52. L42, E6), platelet count of 88,000/mm³ and ESR of 120 mm at the end of 1st hour. Peripheral smear showed normocytic to microcytic hypochromic erythrocytes with sparse platelets and no haemoparasites or atypical cells. Serum bilirubin was 2.8 mg/dl (direct bilirubin 1.42 mg/dl), aspartate transaminase - 75 IU/L, alanine transaminase - 80 IU/L, alkaline phosphatase - 42 KA units/100 ml; serum total proteins - 7.2 g/dl, albumin - 1.5 g/dl, globulins - 5.7 g/dl; prothrombin time was 25 seconds (control 13 seconds). Urine routine and microscopy, blood and urine cultures were sterile. Ascitic fluid was transudative. IgM antibodies for malaria, HBsAg and ELISA testing for HIV-1 and 2; PCR for HBV DNA and HCV RNA were negative. Electrocardiography and chest roentgenogram were normal. Mantoux reading read at 48 hours was 0 mm.

Abdominal ultrasonography revealed enlarged liver (17 cm) with normal echostructure, normal gall bladder and biliary system. Gross splenomegaly was present with multiple collaterals at the splenic hilum and gastro-oesophageal junction. Portal vein measured 13 mm at porta and 22 mm at confluence, while splenic vein measured 10 mm at the hilum. Free fluid was present in the abdominal cavity. Doppler study also revealed short gastric, retroperitoneal, portosplenic and gastro-oesophageal junction collateral vessels. Three columns of grade II oesophageal varices were visualized on endoscopy.
In view of febrile illness, ascites and evidence of portal hypertension and pancytopenia; liver biopsy was performed along with a bone marrow aspirate examination.

Liver biopsy revealed mild architectural disarray with congestion; plasma cell infiltrates into lobules, with mild fatty changes in cells. Many macrophages containing LD bodies (Figs. 1, 2) were visible. Minimal periportal fibrosis was also present. Biopsy was suggestive of "Leishmanial hepatitis". Bone marrow aspirate showed many extracellular LD bodies.

A diagnosis of "visceral leishmaniasis with leishmanial hepatitis with portal hypertension" was made. The patient was treated with sodium antimony stibogluconate 20 mg/kg/day intramuscular injections. Unfortunately, we lost the patient four days after initiation of therapy.

**DISCUSSION**

Visceral leishmaniasis (kala-azar) is slowly evolving into epidemic proportions specially in India. Most published literature is from tropical countries where the disease is endemic. It involves the reticulo-endothelial system and hence almost all organ systems are involved but the common presentation is that of long-drawn fever, cachexia, hepatosplenomegaly and pancytopenia. Although liver involvement is not unusual in kala-azar, presentation as chronic liver disease, cirrhosis or portal hypertension is rare. Aetiology of portal hypertension occurring with leishmaniasis is unknown. It is suggested that portal hypertension and cirrhosis probably do not occur as a consequence of kala-azar. Though obliterate portal venopathy as a cause of portal hypertension has been described for tropical splenomegaly syndrome associated with chronic malaria, the same has not been demonstrated in kala-azar involving liver. One series of 60 kala-azar cases did not report any chronic liver disease and biochemical evidence of hepatitis was described in only 25% cases. Liver histopathology in 18 patients did not reveal any evidence of chronic liver disease or cirrhosis. The present case had both biochemical (hypoaebulinemia and deranged prothrombin time) and radiological evidence of chronic liver disease and portal hypertension.

In a study of three kala-azar patients presenting with fever and hepatosplenomegaly, hepatic fibrin ring granulomas and leishmania parasites were found in biopsy specimens. No such granulomas were evident in this case. Classical histopathological feature of hepatic involvement in visceral leishmaniasis is mononuclear cell infiltration of portal tracts and lobules with ballooning degeneration of the hepatocytes, fibrosis of the terminal hepatic venuls and pericellular fibrosis, many of which were evident in our case as well. All these features were found to be reversible after successful treatment of the disease. The exact pathology and aetiology of hepatic damage is unclear; but may have an immunologic basis; more so since leishmaniasis has been reported to be the cause of vasculitides and mixed cryoglobulinemia in endemic areas.

Despite advances in its treatment, kala-azar is threatening to make a resurgence; and it is likely that we will have more and more unusual presentations in the future.

**REFERENCES**