

Kala Azar – A Diagnostic Dilemma - A Case Report

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Introduction

Kala azar, Visceral Leishmaniasis (VL) is typically a vector borne zoonosis. More than 90% of world's cases of visceral leishmaniasis occur in Bangladesh, Northern India, Nepal, Sudan and northeastern Brazil.¹ It is known to be endemic in southern terai of Nepal as postulated by an Indian scientist Raghavan in 1953. In 2003 total no of 2229 cases of Kala azar were reported. Out of which 32 deaths occurred with case fatality rate of 1.44%.² Here a case of Kala azar presented with fever of unknown origin is discussed with dilemma in diagnosis when the traditional methods of diagnosis fail.

Case Report

A 19 years old male a resident of Barahachhetra, Sunsari and a serving soldier referred to medical department from Dharan with complains of fever and headache since last 2 months. On further inquiry it was found that he had intermittent high-grade fever with chills and rigors but despite of fever he could do his daily activities. He also gave a history of significant weight loss. With those complaints he was examined in No. 2 Field Ambulance and also investigated in B.P. Koirala

Institute for Health Sciences (BPKIHS), where the investigations were done. Investigations there were showing pancytopenia. Bone marrow aspiration done there showed no LD bodies. He was empirically treated with chloroquine and ciprofloxacin.

During his initial evaluation he was tachypneic with Respiratory rate of 24/min. His other parameters were; Pulse 100/min regular, B.P. 100/60 mm of Hg, T= 100 deg F, Pallor was present, but no icterus.

There was generalized lymphadenopathy – with palpable discrete multiple lymph node on left axillary, right axillary and bilateral inguinal. The larger lymph node was 2X1 cm on size. They were non-tender and mobile.

Per abdomen there was hepatosplenomegaly. Liver was mildly enlarged, about 2-finger form costal margin, non-tender and soft on consistency. Spleen was enlarged 3 cm from the costal margin that was soft to firm on consistency and non-tender. Otherwise systemic examination revealed no abnormalities.



Fig. Showing splenic enlargement

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His initial investigations showed Hb – 9.9 gm%, TC- 2500/cmm, N-59%,L-37%, Platelets- 81000/cmm, Peripheral smear – Normocytic normochromic/ mild anisopoikilocytosis with leucopenia and thrombocytopenia, Urea-15 mg/dl, Creatinine - 0.6 mg/dl, Na- 138 meq/L, K – 4.1 meq/L

Blood culture was negative. Mantoux and Optimal (malaria antigen test) negative. AFB 3 samples were negative. HIV was negative and VDRL was non reactive. FNAC from lymph node did not reveal any abnormality and bone marrow aspiration showed normal cellular marrow. Brucella titer for melentis and aburtus was non-agglutinating. His USG abdomen showed moderate to severe splenomegaly, mild hepatomegaly. But the recombinant K 39 test for Kalazar was positive. On the basis of this findings he was empirically treated with tab ciprofloxacin 750 mg BD and fever came down on third day. He returned to Medical OPD after 7 days with high grade fever for 3 days.

In next visit Laboratory report showed pancytopenia and this time further investigations was done Bone marrow biopsy – showed reactive marrow, Splenic aspiration – revealed No LD bodies or any abnormal cells and LN biopsy showed – follicular hyperplasia of lymph node. Recombinant K 39 test for kalaazar was again repeated and it came out to be positive and he was treated with Inj. Amphotercin B 1 mg per kg body weight alternate days regime for 20 days (total 10 cycle) and his fever came down after 5th cycle and count returned to the normal and spleen regressed to almost impalpable during this period.

Discussion

Visceral infections with *Leishmania donovani* often remains sub clinical but can become symptomatic with an acute, sub acute or chronic course. The incubation period usually ranges from weeks to months but can be as long as years. Febrile patients with splenomegaly (with spleen most often soft and non tender) typically is more impressive than hepatomegaly. Peripheral lymphadenopathy is common in some settings.¹

The abnormal laboratory findings associated with advanced disease include pancytopenia- anaemia, leukopenia (neutropenia, marked eosinopenia and relative lymphocytosis) and thrombocytopenia.- as well as hypergammaglobulinemia and hypoalbuminemia.¹

Visceral leishmaniasis is considered as one of the most neglected tropical disease.³ Communities affected by kala- azar often live in remote areas and have poor access to health services. The need for innovation in VL chemotherapy and diagnosis was recently highlighted.⁴ Treating patients on clinical presumption is inadequate because of the potentially serious side effects of current chemotherapy. Direct microscopic examination and or culture of spleen tissue aspirate are the reference test for the diagnostic confirmation. Alternatively, bone marrow and lymph node aspirates are used but these methods are substantially less sensitive⁵. A comparative study done to test the validity of pancytopenia, formol gel test (FGT), the indirect fluorescence antibody test (IFAT), the direct agglutination test (DAT) and the r K 39 dipstick test as diagnostic criteria for visceral leishmaniasis in Nepal Compared with parasitology, the sensitivities of the other tests were as follows: pancytopenia -16.3% (95% confidence interval [CI] -11.3-22.5%), FGT - 39.9% (95% CI - 32.7-47.4%), IFAT - 28.4% (95% CI - 22.0-35.5%), DAT -95.1% (95% CI - 90.8-97.7%), and the rK39 dipstick test- 87.4% (95% CI-81.7-91.9%). Sensitivity estimates obtained by latent class analysis (LCA) were similar, but specificity estimates were substantially higher (DAT - 93.7% versus 77.8%; rK39 dipstick test - 93.1% versus 77.0%). or the rK39 dipstick test can replace parasitology as the basis of a decision to treat VL in Nepalese peripheral health services.⁶ In our case contrary to classical teaching and literature review the parasitology was negative but the rk39 was positive repeatedly so decision to treat with Amphotercin was done on the basis of the patient residing in an endemic geographical and clinical picture. Patient responded well and there was no adverse effect of the drug noted during his treatment.

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