INTRODUCTION

Involvement of liver and spleen, commonly seen during the course of malignant lymphomas, is rarely encountered as an isolated clinical presentation at diagnosis. Hepatosplenic T-cell lymphoma is one such rare extranodal T-cell non-Hodgkin’s lymphoma which primarily involves liver and spleen with B symptoms, with a characteristic absence of lymphadenopathy. We report such an entity in a 65-year-old man who was diagnosed to have multiple myeloma and treated for the same for two years. A clinical diagnosis of secondary myelofibrosis was suspected and was investigated, when he developed pancytopenia and massive hepatosplenomegaly at one of his follow-up visits. The patient underwent therapeutic splenectomy with a simultaneous wedge biopsy of the liver and with their corresponding histopathological and immunohistochemical features, the diagnosis of HSTCL was clinched.

CASE REPORT

A 65-year-old man presented with pain of two weeks duration in the left hypochondrium. He gave history of decrease in appetite and had lost seven kilograms of weight over 15 days. There was a past history of multiple myeloma two years prior to this admission. He had received three pulses of chemotherapy for the same and was on maintenance therapy with thalidomide and high dose dexamethasone. On examination, he had pallor with hemoglobin level of 8.6 gm% (reference range, 14-16 gm%), mild pedal oedema and no generalized lymphadenopathy. The spleen was massively enlarged and was palpable 25 cms below the left costal margin. The peripheral smear revealed pancytopenia and a normocytic normochromic blood picture with no abnormal cells. The bone marrow aspirate showed erythroid hyperplasia with dyserythropoiesis and no evidence of plasma cell pathology. A moderate degree of fibrosis was noted in the trephine biopsy sections. Abdominal ultrasound showed ascites and confirmed gross splenomegaly. The upper GI endoscopy showed no evidence of varices. With a clinical diagnosis of myelofibrosis, the patient was subjected to therapeutic splenectomy along with a wedge biopsy of the liver.

The resected spleen weighed 2900 g and measured 30x 21x 9 cm. The cut surface was uniformly beefy red and showed no focal lesions. At microscopy, the white pulp was atrophic and completely obscured by a diffuse sinusoidal infiltrate of small to intermediate sized lymphoid cells having scanty to moderate cytoplasm, with irregular dark staining nuclei and exhibiting mild pleomorphism.

The wedge of liver, too showed a similar infiltrate occupying the sinusoids but sparing the portal tracts. There were no accompanying hematopoietic cell elements. These cells which were strongly immunoreactive for CD 45 RO (T-cell marker) and negative for CD 20 (B-cell marker) further confirmed the diagnosis of Hepatosplenic T-Cell lymphoma.

DISCUSSION

Hepatosplenic T-cell Lymphoma (HSTCL) is a rare form of extranodal post-thymic T-cell non-Hodgkin’s lymphoma that primarily involves liver and spleen with B-symptoms seen often in young adult males without concomitant lymphadenopathy. A leukemia-like clinical picture is rather uncharacteristic and is seen only in terminal stages. It is aggressive with a rapid clinical course and most patients die within two years of diagnosis, even if a remission is achieved initially. This type of lymphoma with distinct clinical features was first described by Farcet et al in 1990 and since
then only 46 cases have been reported in the world literature. Of these, only three were established cases with a leukemic course.1,4,6

The aggressive clinical outcome imposes a need for accurate diagnosis and rapid therapeutic intervention. Because of wide heterogeneity, in terms of its clinical presentation and the need for performing time-consuming tests which are not easily available in many developing countries, the diagnosis of this type of lymphoma is often deferred and hence, the frequency of this entity is most often underestimated. The diagnosis was possible in the present case because both spleen and liver tissue obtained at the time of therapeutic splenectomy was available for immunohistological study.

HSTCL is more frequently encountered among immunocompromised patients after solid organ transplantation.3 It is also known to occur in individuals with acquired immunodeficiency syndrome and in patients on chemotherapy.7 In the present case, the chemotherapy for multiple myeloma could have predisposed to HSTCL.

The pathophysiology of this disease and its unexplained tropism for the liver and spleen sparing the lymph node is yet to be answered. Bucy et al8 showed that normal T-cells migrate preferentially to sinusoidal tissue areas within the spleen and the intestinal mucosa. Similarly malignant T-cells may display a similar homing pattern, probably aggravated by prolonged immunosuppression.

Two distinct subtypes of hepatosplenic T-cell lymphoma have been recognized, namely αβ and γδ, based on the T-cell surface receptor expressed.9 The two share same histologic, cyogenetic and prognostic characteristics except for the female preponderance and bimodal age distribution in the αβ subtype. Karyotypic studies frequently show an isochromosome 7q, which may be accompanied by trisomy 8 and loss of sex chromosome.9,10 The present case however, αβ or γδ subtypes.

Histologically, HSTCL is characterized by a predominant sinusoidal infiltrate of small and medium sized atypical lymphocytes in both the liver and the spleen. This morphology needs to be differentiated from secondary involvement of these organs by primary nodal non-Hodgkin’s lymphoma (stage IV). The neoplastic infiltrate in the latter is periportal in distribution in the liver and affects mainly the white pulp in the spleen. Hairy cell leukemia, another close differential shows a sinusoidal diffuse infiltrate in the red pulp similar to hepatosplenic T-cell lymphoma causing atrophy and obliteration of the white pulp. But the infiltrate in HCL is composed of widely spaced lymphoid cells with fluffy outline because of the abundance of pale eosinophilic to clear cytoplasm. A firm distinction between the two is possible only by immunohistochemistry where the cells of hairy cell leukemia show a B-cell lineage and positivity for tartrate resistant acid phosphatase reaction while the hepatosplenic T cell lymphoma cells are of T-cell lineage11 exhibiting positivity for T-cell markers such as CD2, CD3, CD7, CD45 RO, TCR γδ and natural killer (NK) cell associated markers CD 11 and CD 56. These cells are negative for CD4, CD8 and B–cell markers.1,3

In conclusion, a sinusoidal infiltrate of the liver and spleen by neoplastic lymphoid cells in an immunocompromised individual presenting with hepatosplenomegaly and a distinct absence of lymphadenopathy, should arouse suspicion for a primary hepatosplenic lymphoma. Histopathological and immunohistochemical studies of both liver and splenic tissue is mandatory to clinch the diagnosis.

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REFERENCES


Announcement

17th Annual Conference of Hypertension Society of India (HSICON 2008) is to be held on 21st to 23rd November, 2008 at Kalianna Arangan, Chennai 600 002.

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