CASE REPORT

Rosai Dorfman Disease - Case Report of a Patient with Fatal Outcome

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Abstract

Rosai Dorfman disease is an uncommon benign condition presenting with massive enlargement of cervical lymph nodes. We describe one such young female patient with similar presentation who had an aggressive course with fatal outcome.

Key Words

Rosai-Dorfman Disease , Portal Vein, Aneurysm, Colour Doppler

Introduction

Sinus histiocytosis with massive lymphadenopathy (SHML), also known as Rosai-Dorfman disease is a rare benign disorder of unknown etiology characterized by massive painless cervical lymphadenopathy and fever. Extra nodal involvement has also been reported in about 30% cases. The liver and spleen are not usually enlarged. The disease is often confused with lymphoma (1). The condition is essentially benign with spontaneous regression of symptoms with complete recovery, though some cases with aggressive behavior have also been reported

Case Report

This 25 yr old female was presented with H/O prolonged Fever of 3 months duration associated with wt. loss, anorexia and fatigue of three months duration. Cl. Examination revealed pallor, Lymphadenopathy, and Hepatosplenomegaly. CBC showed HB 8.7g/dl, WBCs 8.3, Platelets 142,PBS showed Normocytic Normochromic anemia. Bilirubin 0.8 mg/dl, AST 21 U/L, ALT 24 U/L, ALP 719 U/L, GGT 189 U/L, LDH 545 U/L, Renal function, Electrolytes and ABG were normal. Her Septic screen was negative. Tests for salmonellosis, Brucellosis, leishmaniasis, Tuberculosis, and malaria were negative. HIV serology was also negative. Immune markers including RF, ANA, Anti ds DNA were negative. Immunoglobulin profile was within normal range. Tumor markers like AFP, CEA and CA 125 were also normal. Bone marrow aspiration and biopsy was essentially normal . CT neck, chest and abdomen(*Fig.1*) revealed multiple lymph nodes seen in para aortic, mesenteric, porta-hepatis, paratracheal, subcarinal, and deep cervical regions .There is diffuse enlargement of liver and spleen with multiple focal hypo dense lesions in both lobes of liver. In view of the above clinical picture strong clinical diagnosis of NHL was considered and lymph node biopsy (*Fig.2*) revealed marked distension of sinuses by large histiocytes having abundant eosinophilic cytoplasm with engulfment of small lymphocytes, plasma cells, and RBCs. Lymphoid follicles are partially attenuated. The sinuses infiltrated histiocytes were strongly positive for CD -68 and S -100 protein. This pattern is confirmatory for the diagnosis of Rosai Dorfman disease. Her liver biopsy was unremarkable. Antral (gastric) biopsy showed evidence of gastritis. Patient was given prednisolone 40 mg daily in addition to symptomatic treatment. After 4 months patient again was admitted with worsening of symptoms and had lost considerable weight and was emaciated, febrile and anemic, had swelling of legs and sacrum, and continued to have generalized Lymphadenopathy. Patient received supportive care in the form of Blood transfusions, intravenous human albumin, steroids, calcium, vitamin D, antibiotics and other supportive measures. She was also given combination of steroids and Azathioprine , however she gradually deteriorated and developed sepsis due to Klebsiella and acinotobactor organisms which was treated by appropriate antibiotics and developed multi organ failure and expired.

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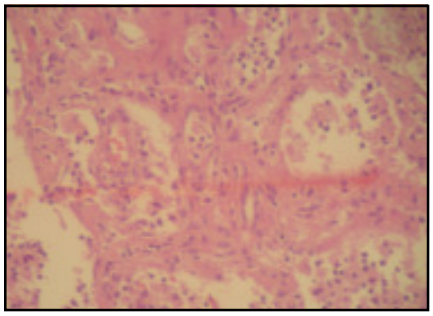

Fig 1 . Lymph Node Biopsy Showing Distension of Sinuses by Large Histiocytes and Emperipolesis

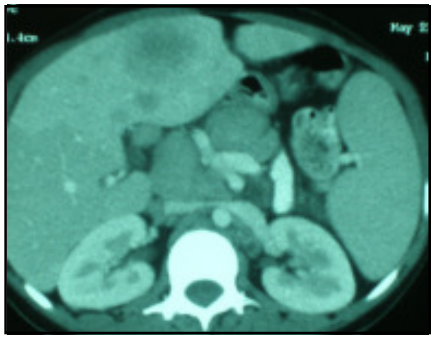

Fig 2. CT Abdomen Showing Hypodense Lesions in Liver and Paraortic Lymph Nodes.

Discussion

Although the condition has been described in literature as early as 1949 by Robin-Smith who termed it as Giant cell reticulosis, however Sinus Histiocytosis with massive Lymphadenopathy (SHML) was first described as a clinic-pathological entity by Rosai and Dorfman in 1969(1) and 1972 (2) .There is no clearly identifiable etiological agent linked for the causation of the disease , however two hypothesis have been proposed : a disturbance in cell mediated immunity (3) and a possible infection due to Epstein barr virus, Klebsiella organism and Human herpes virus 6 (HHV 6) have been linked to the be triggering factors . Cervical lymphadenopathy is the hallmark of the condition but other lymph node sites like axillary, inguinal, Mediastinal, mesenteric lymph nodes are commonly involved. Involvement of extra nodal sites like skin, para-nasal sinuses nasal cavity, eyelids, orbit, skeletal tissues, and salivary glands is seen in approximately 20-30% of cases (4-8). There are many less common causes of generalized lymphadenopathy like castle man's disease, Kawasaki's disease, Kikutchi's disease and inflammatory pseudo tumor of lymph nodes , however each of these disorders have distinct features on histology and Immunostaining which clearly differentiate them from each other. Lymph node Histology of SHML is typically characterized by distension of lymph node sinuses with infiltration by histiocytes showing emperipolesis which means there is phagocytosis of lymphocytes, plasma cells and RBCs by these histiocytes (9). Emperipolesis differs from hemophagocytosis of other conditions by the fact that the engulfed lymphocytes in SHML are mature and normal looking lymphocytes while as in other conditions the lymphocytes are attacked by enzymes and disintegrated. Immunostaining of these histiocytes demonstrate the positive reaction with S-100 protein, CD-68 and negative reaction with CD1a. Our patient had diffuse involvement of all groups of lymph nodes and also involvement of liver evidenced by presence of hepatic lesions on CT scan and histology and Immunostaining was confirmatory of SHML (Rosai Dorfman disease). The course of the patient was also aggressive due to sepsis and mutiorgan failure which ultimately was the cause of mortality. This type of aggressive nature of disease has been reported in some cases although this is not the rule(7). Treatment with small doses of steroid has been shown to induce remission in most cases but our patient did not respond to this treatment and also received azothioprine as second line management without any beneficial effect.

References

1. Rosai J, Dorfman RF. Sinus Histiocytosis with massive lymphadenopathy: A newly recognized benign clinicopathological entity. *Arch Pathol* 1969;87(1):63-70
2. Rosai J, Dorfman RF. Sinus Histiocytosis with massive lymphadenopathy: a pseudo-lymphocutaneous benign disorder. Analysis of 34 cases . *Cancer* 1972;30: 1174-88
3. Foucar E, Rosai J, Dorfman RF. Immunologic abnormalities and their significance in sinus histiocytosis with massive lymphadenopathy.*Am J Clin Pathol* 1984 ; 82(5):515-25
4. Sanchez R, Rosai J, Dorfman RF. Sinus Histiocytosis with massive lymphadenopathy. An analysis of 113 cases with special emphasis on extra nodal manifestations.*Lab Invest* . 1977; 36:21
5. Bhasker V , Swamy K, Reddy BK, *et al*. Sinus Histiocytosis with nodal and extranodal involvement . A case report . *J Indian Med Association* 2003;101:28
6. Sharma MS. Rosai-Dorfman disease mimicking a sphenoid wing meningioma. *Neurology India* 2005; 53:1.
7. Rajat M. Extranodal Rosai-Dorfman disease presenting as an isolated epibulbar mass. *Ind J Ophthal* 2008; 56(6): 502-04 .
8. Gupta L. A rare case of Rosai-Dorfman disease of paranasal sinuses. *Ind J Otolaryngology & Head & Neck Surg* 2008; 57 (4): 352-54.
9. Sanchez R, Sibley RK, Rosai J, Dorfman RF. The electron microscopic features of sinus histiocytosis with massive lymphadenopathy: a study of 11 cases. *Ultrastruct Pathol* 1981 ;2(2):101-19.
10. Foucar E, Rosai J, Dorfman RF. Sinus histiocytosis with massive lymphadenopathy. An analysis of 14 deaths occurring in a patient registry. *Cancer* 1984 ; 54(9):1834-40.