Case Report

Chylous Effusions (Pleural Effusion and Ascites) due to Non-Hodgkin's Lymphoma A Case Report

Alam MR[1], *Hasan MN[2] , Rahim MA[3], Ahmed QMU[4], Islam MS[5], Rahman MA[6], Rahman MR[7]

Abstract

Lymphoma can present with different type of serous effusion like pleural, pericardial and ascites and it signifies poor outcome .Pleural effusions are the most common type among these. Ascites and pericardial effusion are rare. Effusion can be can be caused by direct infiltration and impairment of the lymphatic drainage .Several investigations are available like study of the fluid for cytological, biochemical, immunohistochemistry and cytogenetics study to assess the qualities of effusion and make a quick diagnosis. This present case report will describe a case of 40 year old female patient with non-Hodgkin's lymphoma (NHL) presented with generalized lymphadenopathy and chylous ascites and pleural effusion.

Keywords: *Chylous effusions, ascites, lymphoma.*

INTRODUCTION

Effusion is a complication that can be present in lymphoma patient.[1-2] 20-30% patient will develop pleural effusion incase of lymphoma both NHL and Hodgkin's disease but pericardial effusion and ascites are uncommon. Among the subtypes of lymphoma , lymphoblastic variety of T-cell lymphoma usually cause serous effusions.[3,4] The main reason for effusion in lymphoma are obstruction of the thoracic duct, impaired lymphatic drainage and direct pleural infiltration.[5,6] In NHL the major mechanism is direct infiltration.[6] Cytololological and biochemical investigation can occasionally be used but positive result considerably varies between patient.[5] For more precise diagnosis immunocytochemstry, morphometry, flow cytometry, and cytogenetics have used. [6] Here we describe a patient who has been diagnosed as case of advanced NHL having chylous ascites and pleural effusion. Detailed review of the literature and pathogenesis of serous effusion wiil be discussed along with treatment plans. Written inform consent was taken from the patient.

1. Dr. Md. Rafiqul Alam, Associate Professor, Department of Internal Medicne, Bangabandhu Sheikh Mujib Medical University (BSMMU), Shahbagh, Dhaka.
2. *Dr. Md. Nazmul Hasan, Assistant professor, Department of Internal Medicine, (BSMMU), Shahbagh, Dhaka. Email- nazmul_31st@yahoo.com
3. Dr. Md. Abdur Rahim, Professor ,Department of Internal Medicine, (BSMMU), Shahbagh, Dhaka.
4. Dr. Quazi Mamtaz Uddin Ahmed, Associate Professor, Department of Internal Medicine (BSMMU), Shahbagh, Dhaka.
5. Dr. Md. Syedul Islam, Medical officer,Department of Internal Medicine, (BSMMU), Shahbagh, Dhaka.
6. Dr. Md. Atikur Rahman, Resident phjase-B, Department of Internal Medicine, (BSMMU), Shahbagh, Dhaka.
7. Dr. Md. Rajibur Rahman, Resident phjase-B, Department of Internal Medicine, (BSMMU), Shahbagh, Dhaka.

*For correspondance

CASE REPORT

A 50 year old female patient was admitted in the department of internal medicine , Bangabandhu Sheikh mujib medical university, in January 2017 with fever , abdominal distension, weight loss and nodular swelling in different part of the body for three months.She also had anorexia and generalized weakness. She developed breathlessness on exertion for two weeks. Examination findings revealed, she was severely anaemic, vitals were normal, generalized lymphadenopathy were present which was firm , discrete,largest one was 2 cm in the neck and there was also right sided oleural effusion, mild splenomegaly and ascites. Other examination findings were normal. Investigations showed, CBC: Hb%-5.7 gm/dl, platelet count-150×10^9 /L, WBC(total count)-2.00×10^9/L, ESR- 55 mm in the 1st hour, PBF-macrocytic anaemia, reiculocyte count-1.57%, LDH-124U/ L,s mg/dl ,serum bilirubin-0.2 mg/dl, ALT-13/L, serum creatinine- 0.83 mg/dl, serum iron- 59 micro gm/dl, serum ferritin- 92.97 microgm/dl, TIBC- 214 micro gm/dl, CRP- 0.81 mg/dl, serum electrolytes: Na^+-136 mmol/l, K^+-4.1 mmol/l, CL-111 mmol/l, USG of whole abdomen- moderate ascites, mild splenomegaly,

right sided pleural effusion and para aortic lymphadenopathy, chest X-ray – right sided pleural effusion, echocardiogram- normal, study of ascetic fluid showed: physical examination- color – whitish with hazy appearance,(figure-1) microscopic examination revealed, total cell count-2,000 cell/cu,mm; lymphocyte-93%, neutrophils-07%, malignant cells- absent, protein- 48 gm/l, glucose- 7.7 mmol/l, asitic fluid TG- 560 mg/dl, asitic cholesterol-29 mg/dl, Gram stain and AFB stain was normal. Apperance of pleural fluid was also whitish but microscopy was not done and biopsy from supraclavicular lymphnode showed , nodal architechture was effaced by diffuse proliferation of atypical small lymphoid cells and few scattered large cells are also seen and features is consistent with Non-Hodgkin's lymphoma . So the final diagnosis was NHL with chylous acites and pleural effusion. Then she was treated with blood transfusion and referred to haematology for chemotheary and further management.

Figure:1 macroscopic appearance of ascetic and pleural fluid

DISCUSSION

Different type of malignancy can cause serous effusion including some infections among them one study showed done by Johnsin et al , studied 584 patient with serous effusion and found that lymphoma constitute 15% of the total study population.[1] Serous effusions developes in T-cell lymphoma more commonly than B-cell originated lymphoma.[3] There are several mechanisms that leads to serous effusionj in lymphoma like impaired lymphatic drainage caused by obstruction by lymphnode,venous obstruction, pulmonary infection, pleural ivolvement by lymphoma or after radiation therapy.[7] The main cause of chylous pleural effusion in Hodgkins disease is due to thoracic duct obstruction where as NHL it is caused by direct pleural infiltration.[8] Chylous ascites is rare form of ascites due to an accumulation of lymph in peritoneal cavity and the diagnosis is made when ascetic fluid triglyceride concentration is > 200 mg/dl.[9] Chylous ascites occurs by several mechanism like 1) Obstruction of the lymph flow by external pressure 2) exudation of lymph through dilated vessels in retroperitoneal vessels 3) direct leakage due to trauma producing lymphppleural fistula.[9] In NHL chylous ascites is caused by blockage of lymphatic channel by metastatic lymphoma cell.[10]

Aspiration of pleural and peritoneal fluids are diagnostics tools to evaluate and to relieve the pressure. Das *et a*l found that, 93.7% cases were identified by cytological examination of pleural fluid which matched in comparison to fine needle aspiration.[11] Following development of biomarkers , immunohistochemistry and cytogenetics the rate fast and precise diagnosis has increased.[12]

In the current study, pleural and ascetic fluid were aspirated but only ascetic fluid was studied which showed whitish hazy exudative fluid that had high lymphocyte count and high TG level(560 mg/dl) and negative for malignant cells and it was a cofirm case of chylous ascites. The lymphnode biopsy showed -Non Hodgkin's lymphoma. Though due to financial contrains immunohistochemistry was not done.

Serous effusions are in lymphoma carries poor outcome. [13] Symptomatic treatment and increase the quality of life is the mainstay of treatment and if treated with chemotherapy there is a high chance of development of tumor lysis syndrome. [14] So,decision is individualized for each patient.

CONCLUSIONS

In summery, in this case study we described a case of NHL in a eldely woman who presented with chylous pleural effusion and ascites. However it rare for lymphoma to have chylous effusions and it indicates it is formed because of lymphatic obstruction by lymphoma cells .Chylous ascites indicates poor outcome in high grade lymphoma.

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