Chronic Lymphocytic Leukaemia/Small Lymphocytic Lymphoma with Hyperleukocytosis: A Case Report

Ankit Kumar Mandal[1], Priya Sah[1], Sanam Dhakal[1], Sulav Sapkota[2], Surya Bahadur Parajuli[3]

[1]Department of Internal Medicine, Birat Medical College Teaching Hospital, Budhiganga-2, Morang, Nepal

[2]Department of Medical Oncology, Birat Medical College Teaching Hospital, Budhiganga-2, Morang, Nepal

[3]Department of Community Medicine, Birat Medical College Teaching Hospital, Budhiganga-2, Morang, Nepal

CORRESPONDENCE

Dr. Ankit Kumar Mandal
Department of Medicine, Birat Medical College Teaching Hospital, Budhiganga-2, Morang, Nepal.
E-mail:mandalankit2053@gmail.com
ORCID ID:https://orcid.org/0000-0001-8884-9778

ARTICLE INFO
Article History
Submitted: 29 May, 2023
Accepted: 20 June, 2023
Published: 8 August, 2023

Source of support: None
Conflict of Interest: None

ABSTRACT

Chronic lymphocytic leukaemia/small lymphocytic lymphoma (CLL/SLL) is a B-cell lymphocytic neoplasm with indolent clinical course. Author describes a 55-year-old male presenting with fever and generalized lymphadenopathy, found to have white cell count of 576000/mm3 and subsequently was diagnosed with CLL/SLL. The patient received systemic chemotherapy in our department, got clinically improved and on follow-up clinic visit documented normalisation of his white cell counts. The case report brings up a rare presentation of CLL/SLL with such high white cell count and being reported from Nepal. We don't have such cases reported in our literature.

Keywords: Chronic lymphocytic; Hyperleukocytosis; Leukaemia; Lymphoma; Small lymphocytic.

INTRODUCTION

Chronic lymphocytic leukaemia (CLL) and Small lymphocytic lymphoma(SLL) are mature B-Cell lymphocytic neoplasm. CLL and SLL differs only in the degree of peripheral blood lymphocytosis. CLL/SLL shows indolent clinical course. Most patient does not show any symptom and CLL is discovered incidentally during a routine blood workup or/ painless lymphadenopathy during examination. Hyperleukocytosis is defined as peripheral blood leukocyte count exceeding 1,00,000/mm^3.[1] Hyperleukocytosis is not uncommon in CLL/SLL. We have a case of CLL/SLL who presented with hyperleukocytosis along with lymphadenopathy. Written informed consent was obtained from patient / family for obtaining data as well as pictures for research work. Identity of the patient in literature as well as picture has been hidden.

CASE REPORT

A 55 years old male presented with the chief complaint of generalised lymphadenopathy and fever for 20 days. There was no history of night sweat, chronic diarrhoea, headache. He was previously diagnosed with pulmonary tuberculosis and has completed the treatment. He was non-diabetic, normotensive and euthyroid. No history of blood transfusion was present. On general examination, he was conscious, cooperative and well oriented with GCS 15/15. On local examination, generalised lymphadenopathy was present involving cervical and axillary and Inguinal lymph nodes. Lymph nodes were fused, fixed, matted, non-tender as shown in figure 1. There was no pallor, icterus, cyanosis and oedema. His vitals were normal. Initial blood workup was done and parameters were obtained as shown in Table 1.

Serum uric acid 1.5 mg/dl(2.5-7mg/dl). Liver function test showed increased Alkaline Phosphatase - 182 (25-140) with normal PT/INR value. Normal renal function tests.

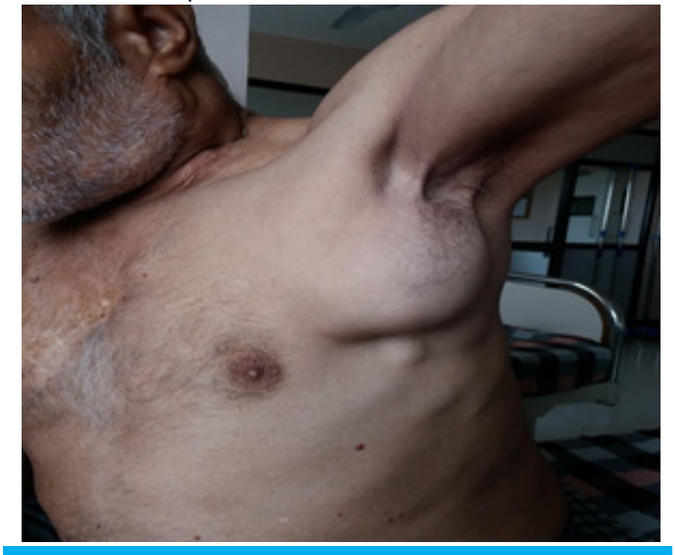

Figure 1- Enlarged and matted left axillary lymph node measuring 6cm×5cm

USG abdomen showed enlarged spleen measuring about 17.8 cm, multiple lymph nodes noted in paraaortic and peripancreatic reason one of which measure about 5.2 ×3.8 cm.

Fine needle aspiration cytology of lymph node was done. The nature of aspirate-Grey white aspirate mixed with blood. On microscopy smear showed predominantly monotonous population of cells comprising of atypical lymphocytes. These cells are round with irregular cell membranes, coarse chromatin, inconspicuous nucleoli. Cytoplasm is scant in amount. Few mitotic figures are also seen with haemorrhagic background. Finally, diagnosis of CLL/SLL was made. According to Rai and Binet staging it falls under Rai stage 3 and Binet stage C. There were no any clinical features suggestive of hyperleukocytosis in this case.

Table 1. Initial blood workup of the patient

CBC	Result	Reference range
Haemoglobin	8.7g/dl	14-17 g/dL (Adult Men)
RBC Count	1.9×1012/L	4.2-5.9.×1012/L
Packed Cell Volume	23%	41-51%
Platelet count	239x10^9/L	150-350x10^9/L
Total WBC Count	576 x10^9/L	4-10x10^9/L
Neutrophil count	20%	40-70%
Lymphocytes	43%	20-45%
Atypical Lymphocytes	55%	

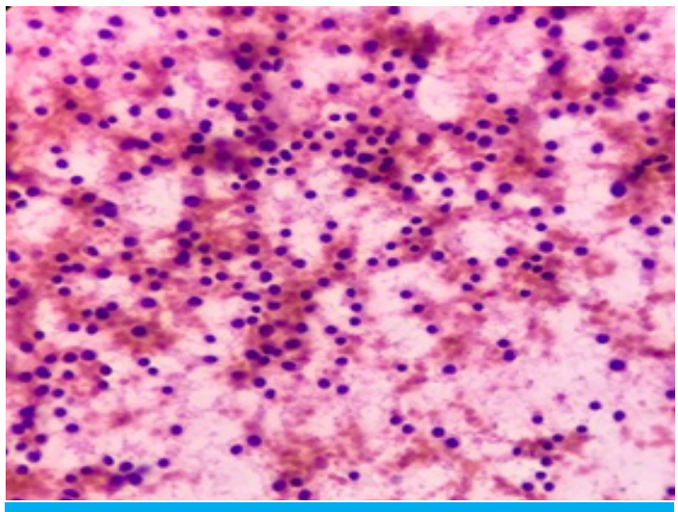

Figure 2 -Monotonous population of small atypical lymphoid cells (Pap stain 40x)

He was admitted in Haematology and Oncology department and chemotherapy was planned with Cyclophosphamide, Vincristine and Doxorubicin based regimen along with supportive treatment. For anaemia, blood was transfused. Patient was treated with three cycles of chemotherapy and was strictly monitored clinically as well as with lab parameters. After each cycle of chemotherapy his blood parameters were checked and found to be improving as shown in Table 2 and Figure 3.

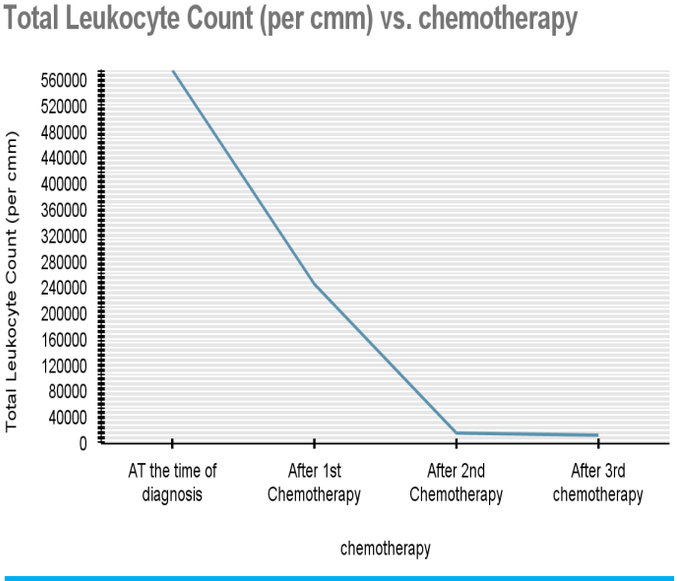

Figure 3- Line chart showing good response to chemotherapy

His condition gradually improved clinically and there were no any fresh complaints on further follow up. He was afebrile, blood parameters were normalized after third cycles of chemotherapy. There was 60% decrement in the lymphadenopathy.

DISCUSSION

Chronic lymphocytic leukaemia/small lymphocytic lymphoma (CLL/SLL) is a malignancy of CD 5-positive B cells that is characterized by the accumulation of small, mature-appearing lymphocytes in the blood, bone marrow, and lymphoid tissues.[2] CLL/SLL is indolent leukaemia that can remain asymptomatic for years.[3] CLL/SLL rarely presents with hyperleukocytosis. Hyperleukocytosis is a laboratory diagnosis. Patients with hyperleukocytosis carry a diagnosis of acute or chronic leukaemia with a measured WBC greater than 50,000-100,000 cells/mm3.[4] A small proportion of patients with acute or chronic leukaemia has an extraordinarily high blood leukocyte count. the excessive numbers of leukocytes present two major problems: first, they can seriously affect flow in the circulation of the lung, brain, and other organs by obstructing micro channels or by forming aggregates and white thrombi in small veins. Second, rapid destruction of malignant cells in response to cytotoxic drugs causes tumour lysis syndrome, especially uric acid accumulation, which can lead to obstructive uropathy.[5]

There is no case of CLL with hyperleukocytosis have been reported yet in Nepal. We present the case of CLL/SLL with high leukocytes count 576000/mm^3 which improved with normal leukocyte count after third cycles of chemotherapy and is doing well clinically. Patient with Chronic lymphocytic leukaemia can present uncommonly with hyperleukocytosis with or without complication of leukostasis. Routine blood work up helps us to make a probable diagnosis which can be confirmed by histopathology. They have very good response to chemotherapy. Follow up and continued monitoring of blood profile seemed beneficial for the case.

CONCLUSION

Chronic lymphocytic leukemia/ Small lymphocytic lymphoma (CLL/SLL), a B-cell lymphocytic neoplasm shows indolent clinical course and may present with features of hyperleukocytosis. Chemotherapy, supportive measure and routine follow up has shown good outcome.

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