*IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*
*e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 6 Ver. VIII (Jun. 2015), PP 20-22*
*www.iosrjournals.org*

# A Case Report of Classical Hodgkin's Lymphoma Presented with Anemia of Chronic Disease as Microcytic Hypochromic Type

Dr.B.S.V.V.Ratnagiri, M.D;D.M[1], Dr.M.Jagan Mohan, M.D;D.M [2]
Dr.Sudhakar Bandari, M.D [3], M.V.Sairam, U.G[4]

[1] *(Assistant Professor of Gastroenterology, Siddhartha Medical College, Vijayawada-520011, A.P, India)*
[2]*(Professor of Gastroenterology, Siddhartha Medical College, Vijayawada-520011, A.P, India)*
[3]*(Postgraduate in General Medicine, Siddhartha Medical College, Vijayawada-520011, A.P, India)*
[4]*(Under graduate, 4th year MBBS, Siddhartha Medical College-520008, Vijayawada, A.P, India)*

***Abstract:*** *A 34 year old male was admitted with history of palpitations, easy fatiguability, high grade fever with on and off episodes, abdominal pain, loss of weight and appetite and history of multiple blood transfusions. Physical examination showed gross anemia, moderate hepatomegaly, and massive spleenomegaly. Laboratory workup showed low hemoglobin, smear showed microcytic hypochromic anemia, biochemical values of iron showed low Serum iron, low TIBC, low percentage of saturation, normal Ferritin, low MCV and Coombs test was negative. Immunohistochemistry showed CD3, CD20, CD30 were positive; CD45, CD15, EMA were negative with presence of Classic Reed Sternberg cell. Studies revealed that anemia of Hodgkin's Lymphoma is usually mild and normocytic , normochromic in type but anemia can rarely present as microcytic hypochromic type as recorded in our patient.*

***Keywords:*** *Hodgkin's Lymphoma, Microcytic hypochromic anaemia, Massive spleenomegaly, Immunohisto chemistry.*

## I. Introduction

Studies revealed that anemia of Hodgkin's Lymphoma is usually mild and normocytic, normochromic in type but anemia can rarely present as microcytic, hypochromic type as recorded in our patient. So, severe anemia (4.9gms/dl in our case) is rare association with Hodgkin's Lymphoma which indicates poor prognosis in advanced disease.

## II. Case report

**Case presentation:**

A 34 year old male was admitted with history of palpitations, easy fatigability, high grade fever with on and off episodes, abdominal pain, loss of weight and appetite. Since 6 months. His bowels were normal. He was neither hypertensive nor diabetic but is occasional alcoholic. He had around 15 units of blood transfusions at primary health care centre for anemia and referred to us for evaluation of spleenomegaly.

**Clinical examination:**

Physical examination showed gross anemia without any palpable lymphaedenopathy. Tachycardia (102/min), BP: 110/80 mm Hg, Respiratory system - normal, Per abdomen - moderate hepatomegaly, massive spleenomegaly, Cardiovascular system – normal, Nervous system – normal.

**Investigations:**

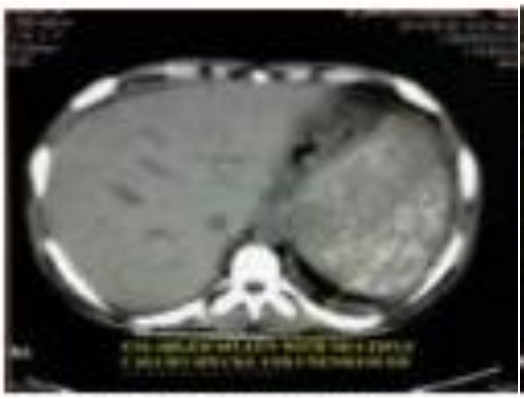
**Hemoglobin:** 4.9 gm/dL, ABC count: 1.21akhs/cu mm, Hematocrit: 15%, WBC: 7900/cu mm with lymphopenia, DC: L 12%. P 84%, M 3%, B 1%, Platelet count: 1.51akh/cu mm, ESR: 48mm/1st hour.

Biochemical values of iron showed low Serum iron (38ug/d1), low TIBC (240ug/d1), low percentage of saturation (20%), normal Ferritin (12 ug/L), low MCV. Smear for malaria was negative, Hbsag: non reactive, Anti HCV antibody: non reactive, HIV 1 and 2: non reactive.

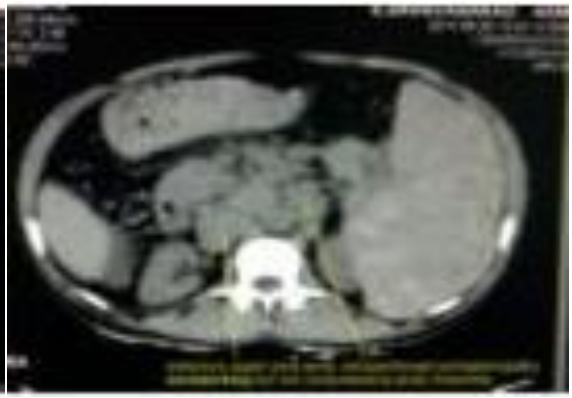
**Serum creatinine & amylase normal, Direct and indirect Coombs test were negative.**

Peripheral smear showed microcytic hypochromic anemia, Bone marrow: hyper cellular marrow M:E5.51, increased normoblastic erythropoiesis, myelopoiesis, and megakaryocytosis, LDH & ANA: normal.

Ultrasound abdomen revealed moderate hepatomegaly, massive spleenomegaly with multiple small hypo-echoic and mixed echogenic lesions, CT scan chest and abdomen showed massive spleenomegaly with multiple small calcific specks, non-enhancing hypo-dense lesions and extensive upper para-aortic & retroperitoneal lymphaedenopathy sandwiching but not compressing aortic branches.



**CT with spleenomegaly**



**CT with lymphadenopathy**

Immunohistochemistry showed CD3, CD20. CD30 were positive; CD45, CD15, EMA were negative with presence of Classic Reed Sternberg cell.

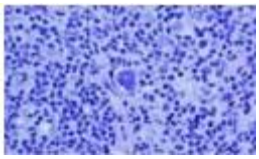
CD 15 -

CD 20 +

CD 30 +

CD 45 -

EMA -



RS cell

**Final diagnosis:**
Classical Hodgkin's Lymphoma stage III-1B with anemia of chronic disease presented as microcytic hypochromic type.

**Treatment:**
Patient was kept on ABVD (Adriamycin, Bleomycin, Vinblastine, Dacarbazine) regimen and is currently under follow-up with periodical evaluation.

## III. Discussion

Hodgkin's lymphoma (HL) is a cancer of the immune system that is marked by the presence of specific type of cell called the Reed-Sternberg (RS) cell. The inflammatory cells are present in different proportions depending on the histologic subtype. Almost all cases of Hodgkin lymphoma arise from germinal center B cells that cannot synthesize immunoglobulins.

In response to IL-6, the liver produces increased amounts of hepcidin. Hepcidin in turn causes increased internalization of ferroportin molecules on cell membranes which prevents release from iron stores causing iron deficiencyanemia.

**Types:** RYE'S classification
1. **Classical Hodgkin Lymphoma:** 4 subtypes
a) Lymphocyte-rich:Classical HL
b) Nodular sclerosis HL (30 — 60%): Lacunar type of RS cell
c) Mixed-cellularity HL (20-40%): Mononuclear RS cell,common in India
d) Lymphocyte-depleted HL (<10%): Reticular variant RS,common in HIV

**2. Lymphocvte predominant HL (<10%)**
Classic Hodgkins lymphoma: Frequent presence of Reed-sternberg cells with CD15, CD30 positive and CD45 negative.

Lymphocyte predominant HL: Rarely contains Reed-sternberg cells with CD15, CD30 negative and CD45 positive. Staging systems used are 1) Ann Arbor staging and 2) Cotswold staging.

**Diagnosis:** Definitive diagnosis is by immunohistochemistry.

**Treatment:** In classical HL for limited stage disease (ANN ARBOR stage 1,2) - chemotherapy and radiotherapy, and for advanced disease (ANN ARBOR stage 3,4) - chemotherapy with or without radiotherapy.
In lymphocyte predominant type for limited disease – radiotherapy, and for advanced disease - chemotherapy with or without radiotherapy.

Chemotherapy includes ABVD (Adriamycin, Bleomycin, Vinblastine, Dacarbazine) is the first line treatment of choice. others are MOPP (Mechlorethamine, Vincristine, Procarbozine, Prednisolone), STANFORD V (includes A, B, V, M, O, Prednisolone, Etoposide, and Radiotherapy), BEACOPP (Bleomycin, Etopaside. Adriamycin, Cyclophospamide, Vincristine, Prednisolone, Procarbazine).

**Prognosis:** Lymphocyte predominant >Nodular sclerosis > Mixed cellularity >Lymphocyte depleted
Poor prognostic factors for advanced disease - Male gender, age > 45yrs, stage 4 disease, hemoglobin < 10gms, albumin < 4gms, leukocytosis > 15,000/cu mm, lymphocytopenia<600/cumm(<8%).

## IV. Conclusion

Studies revealed that anemia of Hodgkin's Lymphoma is usually mild and normocytic, normochromic in type but anemia can rarely present as microcytic, hypochromic type as recorded in our patient. So, severe anemia (4.9 gm/dl in our case) is a rare association with Hodgkin's Lymphoma which indicates poor prognosis in advanced disease.

## References

[1]. Journal of clinical oncology, by American Society of Clinical Oncology, April 20, 2010. Doi 10.1200/JCO 2009.27.6873 JCO May 20, 2010 Vol. 28, No. 152538-2543.
[2]. Brauninger A, Schmitz R, Bechtel D, et al. : Molecular biology of Hodgkin's and Reed/Sternberg cells in Hodgkin's lymphoma, Int J Cancer 118 (8): 1853-61, 2006.
[3]. Mathas S: The pathogenesis of classical Hodgkin's lymphoma – A model for B-cell plasticity, Hematol Oncol Clin North Am 21 (5): 787-804, 2007.
[4]. Wintrobe's Clinical Hematology.
[5]. Robbins and Cotran Pathologic Basis of Disease.