



Incidence of Hodgkin's & Non Hodgkin's Lymphomas and Comparison of Their Hematological Parameters

Authors

Mustafa Ali¹, Fatima Bhopalwala Ali²

¹Department of Pathology, Amaltas Institute of Medical Sciences, Dewas (MP), India

²Department of Anatomy, Amaltas Institute of Medical Sciences, Dewas (MP), India

Corresponding Author

Dr Fatima Bhopalwala Ali

Email: dr.fatimaali@ymail.com

Abstract

Background: *There is a rise in incidence of lymphomas over the past few years. They can arise in lymph nodes, other lymphatic tissues and extranodal organs. Changes in complete blood count frequently occur lymphomas.*

Objective: *To look for incidence of various lymphoma and abnormal hematological parameters associated with lymphomas*

Material and Methods: *We performed complete blood count and peripheral blood examination on all the FNAC or biopsy proven cases of Hodgkin's (HL) & Non Hodgkin's lymphoma (NHL) visiting Department of Pathology, King George's medical university after taking proper history, consent and general examination.*

Results: *Diffuse large B Cell lymphoma was most common subtype in NHL while in HL mixed cellularity type was most commonly encountered. The Hb level was towards lower side in both the group but was higher among the patients of Hodgkin's Lymphoma compared with Non Hodgkin's group. However there was no significant difference in total leukocyte count and platelet count between Hodgkin's lymphoma and Non Hodgkin's Lymphoma. Peripheral blood examinations revealed majority of Red blood cells were normocytic normochromic.*

Conclusion: *Majority of the patient had anaemia and leucocytosis and peripheral blood involvement in form of abnormal lymphoid cell was present in 5 cases out of 40 (12.5%) without any other significant hematological manifestations.*

Keywords: *Hodgkin's lymphoma, Non Hodgkin's lymphoma, Complete blood count, peripheral blood examination*

Introduction

Lymphomas are malignant neoplasms characterized by the proliferation of cells native to the lymphoid tissue. They are divided into two broad groups, Hodgkin's lymphoma (HL) and Non-Hodgkin's lymphoma (NHL).^[1] NHL involves uncontrolled

clonal expansion of B and T cells. B-cell NHL constitutes the majority of cases and, of these, diffuse large B-cell lymphoma (DLBCL) and follicular lymphoma (FL) are the two major subtypes.^[2] HL is characterised morphologically by the presence of neoplastic giant cells, the Reed

Sternberg (RS) cell admixed with a variable inflammatory infiltrate.^[1] Changes in complete blood count frequently occur in non-Hodgkin's lymphoma (NHL). Examination of these at the time of diagnosis often provides useful information on the progression of the disease and its effects on the haemopoietic system.

Materials & Methods

It was a perspective descriptive study of one year duration containing total 40 proven patients of lymphoma. Patients already on treatment, relapsed cases of lymphoma, and patients below 10 yrs of age group were excluded from the study. After taking proper history and examination, patient's blood sample was collected in K₂EDTA tubes after taking full aseptic precaution and also slide from finger prick was made to avoid EDTA changes. Collected sample was run in 5 part differential haematology analyser and slide was stained with Leishman's stain. Finally data obtained was compiled and analysed.

Results

Patient's age ranged from 13 to 87 years. About half of the patients of Non Hodgkin's Lymphoma group (47.1%) and 50% of Hodgkin's lymphoma group were >40 years of age. However, 35.3% of Non Hodgkin's and 50% of Hodgkin's Lymphoma were <30 years of age. More than half of the patients in both Hodgkin's (58.8%) and Non Hodgkin's Lymphoma (83.3%) were males. The percentage of DLBCL was highest (27.5%) followed by Follicular lymphoma (12.5%) in Non Hodgkin's Lymphoma. The percentages of other lymphoma subtype were 10% or less. In Hodgkin's lymphoma group Mixed Cellularity type was most common (7.5%) while Lymphocytic Predominance was least common (2.5%). The Hb level was higher among the patients of Hodgkin's Lymphoma (10.68±3.00) compared with Non Hodgkin's group (9.90±2.13). There was no significant difference in TLC and platelet count between Hodgkin's lymphoma and Non Hodgkin's Lymphoma. More than half of cases in both Hodgkin's lymphoma (64.7%) and Non Hodgkin's

Lymphoma (66.7%) had Normocytic Normochromic Rbcs. However, 17.6% in Non Hodgkin's Lymphoma and 16.7% in Hodgkin's Lymphoma had Microcytic Hypochromic Rbcs.

Fig.1: Age distribution of the patients

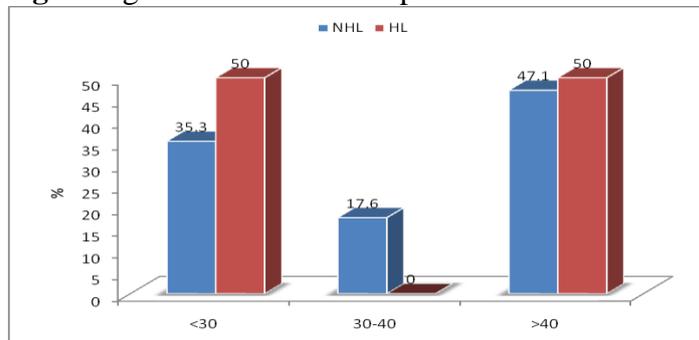


Fig.2: Sex distribution of the patients

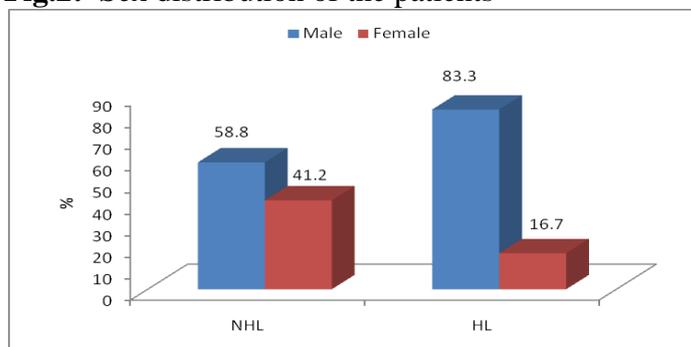


Fig.3: Hb distribution of the patients

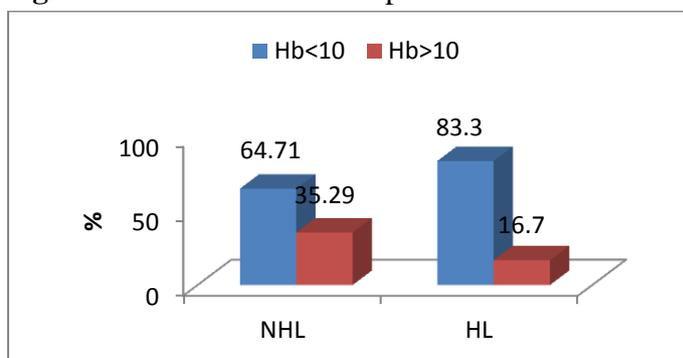


Fig.4: Distribution of GBP

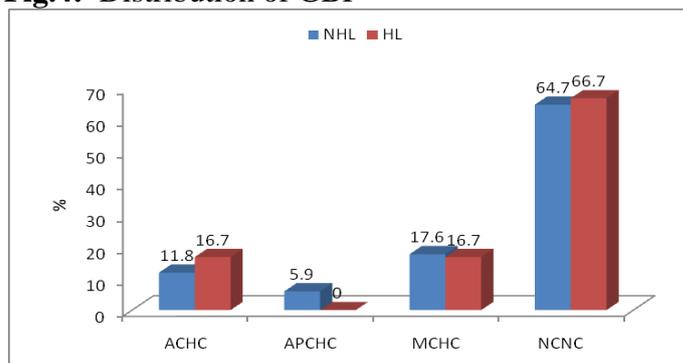
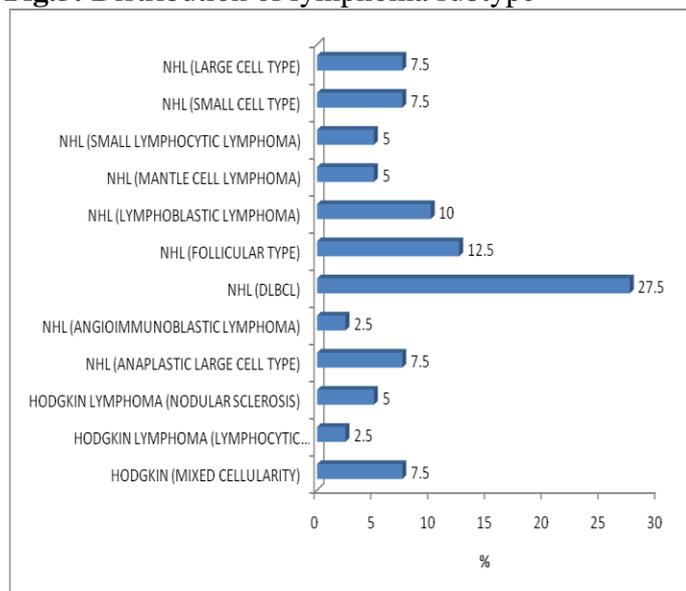


Fig.5: Distribution of lymphoma subtype

Discussion

In our study we tried to detect incidence of varieties of lymphomas and also noted various hematological parameters associated with lymphomas. A total of 40 patients of lymphomas were included in the study comprising of 34 patients of NHL (n=34) and 6 patients of HL (n=06). In our study, majority of cases in Hodgkin's lymphoma group showed bimodal age distribution that is below 30yrs and after 40yrs, while the cases of Non Hodgkin's lymphoma involved all age groups but more commonly above 40yrs which brings this in accordance with most of studies done by Sahni CS and Kumar S et al.^[3, 4] In the study of E J Lim et al 14 out of 46 cases were of DLBCL (most common) followed by Lymphoblastic Lymphoma (10/46). Kalyan K et al encountered that the two most common types were diffuse large cell lymphoma and small lymphocytic lymphoma. In agreement with above studies we also found DLBCL (27.5 %) to be most common type and follicular type (12.5 %) to be second most common type followed by Lymphoblastic Lymphoma (10%) among Non Hodgkin's Lymphomas cases. Also in our study mixed cellularity (7.5%) was most common type of Hodgkin's lymphoma followed by nodular sclerosis type (5%) which is in accordance with study by Lone A et al where they got 43.5% and 28.5 % cases were of mixed cellularity and nodular

sclerosis respectively.^[5, 6] Fair number of patients showed anaemia in both lymphoma group and same was seen with majority of the previous studies (Stein et al and Neeravari VS et al), however we got lymphocytosis in fair number of cases for both the type of lymphomas including peripheral blood involvement in form of abnormal lymphoid cell was present in 5 cases out of 40 (12.5%).^[7, 8]

Conclusion

Males were more commonly involved than females in both the type of lymphomas with majority of cases in both lymphoma group showed bimodal age distribution that is below 30yrs and after 40yrs. Majority of the patient had anaemia, with normocytic normochromic Rbcs and leucocytosis. Peripheral blood involvement in form of abnormal lymphoid cell was present in 12.5% cases without any other significant hematological manifestations.

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Conflicts of interest: none

Competing interest: none

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