

## Clinicopathological Classification of Diffuse large B-cell lymphoma in a tertiary care centre.

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### Abstract

**Abstract:** Diffuse large B-cell lymphoma (DLBCL) is a neoplasm of large B lymphoid cells, the most common type of Non Hodgkins Lymphoma (NHL) amongst adults constituting 30%–58% of lymphoma series. It is an aggressive tumor accounting for about 35% of cases in India. Limited information is available from developing countries regarding its clinico-pathological presentation. We undertook this study to determine the clinico-laboratory characteristics and to classify DLBCL. **Material and Methods:** A total of 83 cases of Mature B cell neoplasms were diagnosed of which there were 34 (40.9%) cases of DLBCL. The study was conducted after approval by institutional ethics committee as applicable. **Statistics:** It is a descriptive study using averages and proportions for statistical analysis

**Keywords:** Diffuse large B-cell lymphoma. Clinicopathological, India.

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### Introduction

Hematological/ Lymphohemopoietic malignancies originate from the bone marrow/ lymphatic system and include Diffuse large B-cell lymphoma (DLBCL) which is an aggressive neoplasm of large B lymphoid cells, constitutes 30%–58% of lymphoma series, with increasing incidence with increasing age, median age being 70 years[1-3]. It accounts for about 35% of cases in India[4]. DLBCL can also present as progression or transformation/secondary of a less aggressive lymphoma. Morphologic, biologic and clinical studies have subdivided DLBCL into morphologic variants, molecular and immunophenotypical subgroups and distinct disease entities. and DLBCL Not Otherwise Specified (NOS) as mentioned in WHO classification[5,6].

### Material and methods

All mature B cell neoplasms diagnosed over a period of 18 months, were included in the study with the aim to classify DLBCL as per WHO classification. A total of 83 cases of Mature B cell neoplasms

were diagnosed of which there were 34 (40.9%) cases of DLBCL. The tissue sections and bone marrow trephine biopsies were routinely processed in Leica automatic histopathology tissue processor. Relevant Immunohistochemistry (IHC) markers were done wherever possible using the antigen retrieval by pressure cooker technique. The relevant clinical details, histopathological subtypes were noted in all patients. For statistical analysis averages and proportions were used. The study was conducted after approval by institutional ethics committee as applicable.

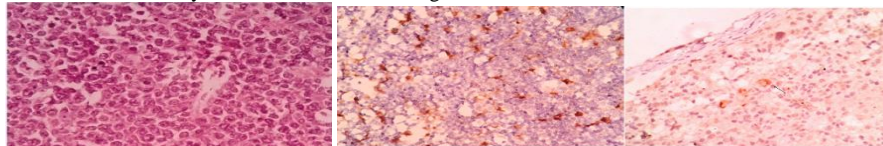
### Results and analysis

There were 34 (40.9%) cases of DLBCL out of 83 mature B cell neoplasms with a mean age of 61.7 years with M:F of 2:1. Lymphadenopathy was commonest presenting complaint 32 cases(94.1%). There were 30 cases of DLBCL NOS as described in WHO 2008 classification.(Table 1)

**Table 1: Classification of DLBCL cases**

Types	N = 34	%
1. DLBCL NOS	30	88.2
2. T cell /Histiocyte rich large B cell lymphoma	02	5.8
3. Primary DLBCL of CNS	01	2.9
4. EBV positive DLBCL of the elderly	01	2.9

A known case of SLL, presented with progression to DLBCL and showed lymphomatous infiltration in LN with positivity for CD20, CD5, BCL2, BCL6 and CD23. Ki67 was 30%. Cyclin D1 and CD10 were negative.



**Fig 1:**Lymph nodes-diffuse large B-cell lymphoma H&E 400 X

**Fig 2:**IHC-T cell histiocytes rich DLBCL

**Fig 3:**IHC-EBV+DLBCL

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**Discussion**

DLBCL in our study comprised 36.5% of all NHL, similar to Roy et al[7] 2013 and Naresh et al[8]2000. As per WHO 2008 classification, the cases were divided and compared with different studies as shown in table 2.

**Table 2: Comparison of classification DLBCL.**

Types	Present study (2014) %	Padhi S et al[9] (2012) %	Lopez- Guillermo et al[2] (2005)%	Pan et al[10](2012) %
No. of cases of DLBCL	34	68	382	212
1. DLBCL NOS	88.2	69%	56%	-
2. T cell /histiocyte rich large B cell lymphoma	5.8	-	-	-
1. Primary DLBCL of CNS	2.9	-	2.5	-
2. EBV positive DLBCL of the elderly	2.9	-	-	3.8

**Conclusion**

To conclude, DLBCL is a common Non Hodgkin Lymphoma presenting commonly in males in their middle age, with predominant LN enlargement. Immunohistochemical markers are used to classify DLBCL. A less aggressive lymphoma can progress to aggressive DLBCL.

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