

## Introduction

Diffuse large B cell lymphoma (DLBCL) is the most common type of non-Hodgkin's lymphoma that is classified in multiple subtypes with different biological features and outcomes. Cell of origin (COO) classification subdivides DLBCL in 2 main biologic entities - germinal center (GCB) and non-germinal center (non-GCB) B-cell like. Rearrangements of MYC in combination with BCL-2 and/or BCL6 rearrangements [double (DH) or triple hit (TH) lymphomas] and concomitant immunohistochemical expression of MYC and BCL2 [double expressor (DE)] have also been associated with inferior outcomes. UM has a strategic location in the United States with a Hispanic population of approximately 68% according to 2016 Census. The objective of this study was to evaluate potential biologic variations in Hispanics.

## Methods

Retrospective chart review of patients with treated at UM between 2015-2016. Patient characteristics and tumor biologic information were collected. Patients were classified as Hispanic and non-Hispanic.

## Results

A total of 66 patients met inclusion criteria. Median age was 62, 75% with advanced stage, 36 Hispanic (55%), 30 non-Hispanic (45%).

Median follow-up was 15 months. Non-GCB was more common (n=45, 68%) with similar proportion between Hispanics and non-Hispanics. 21% of patients died (14/66).

DH/DE status could be evaluated on 59 cases. Nearly one quarter was DE (n=14, 24%) and 5 DH (8%), also with similar proportion between groups. Fourteen patients (21%) had primary refractory disease (PRD). 44% patients had PD (n=26/59, 13 Hispanic and 13 non-Hispanic, DE 5, DH 3, TH 2) with median time to recurrence 10.3 months. 56% CR (n=33/59, 20 Hispanic and 13 non-Hispanic, DE 8 and DH 2).

Median CNS-IPI score (3) was similar in both groups. Fourteen patients received CNS prophylaxis (low 3, 21%; intermediate 7, 50%; high 4, 29%) including 4 DE and 2 DH, with no reported CNS recurrence.

	Hispanic	Non-Hispanic	Total
	n = 36	n = 30	n = 66
GCB	13 (36%)	8 (27%)	21 (32%)
Non-GCB	23 (64%)	22 (73%)	45 (68%)
PRD	6 (16%)	8 (26%)	14 (21%)
	n = 33	n = 26	n = 59
DE	5 (15%)	9 (34%)	14 (24%)
DH	2 (6%)	3 (11%)	5 (8%)
TH	1 (3%)	1 (2%)	2 (3%)

• Table 1. DLBCL characteristics classified between ethnic groups

## Discussion

Despite our geographic location, the proportion of Hispanic and non-Hispanic patients in our cohort is very similar to the SEER data <sup>(1)</sup>. There was clear predominance of non-GCB DLBCL in Hispanics and non-Hispanics while the literature suggests a slight predominance of GCB cases. In the other hand, the incidence of DE, DH, and TH was as expected <sup>(2,5,6)</sup>.

The proportion of primary refractory disease was within the data published on the retrospective review SCHOLAR-1<sup>(3)</sup> with some predominance of non-Hispanic patients.

Specific characteristics have been associated with higher risk of central nervous system involvement such as elevated CNS-IPI <sup>(4)</sup> and DH phenotype.

While some patients did receive CNS prophylaxis, there was no uniform approach according to subtype reflecting the inconsistency in the literature. It is interesting to note no CNS recurrence was observed.

## Conclusions

Our small patient population does not demonstrate any distinct biology in patients with Hispanic ethnicity. Considering outcomes and disease biology are otherwise within expected ranges published in the literature except for the predominance of non-GCB cases, which was nevertheless similar between groups. This suggests Hispanic ethnicity does not play any specific role in DLBCL.

## References

1. SEER Cancer Statistics Review, 1975-2015/ Incidence & Mortality by Race/Ethnicity
2. Hu, S et al. (2013) "MYC/BCL2 protein co-expression contributes to inferior survival of activated B-cell subtype or DLBCL and demonstrates high risk gene expression signatures **Blood**. **2013;121(20):4021-4031**
3. Crump, M., et al. (2017). "Outcomes in refractory diffuse large B-cell lymphoma: results from the international SCHOLAR-1 study." **Blood** **130(16): 1800-1808**
4. Schmitz, N., et al. (2016). "CNS International Prognostic Index: A Risk Model for CNS Relapse in Patients With Diffuse Large B-Cell Lymphoma Treated With R-CHOP." **Journal of Clinical Oncology** **34(26): 3150-3156**.
5. Tilly, H., et al. (2015). "Diffuse large B-cell lymphoma (DLBCL): ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up†." **Annals of Oncology** **26(suppl 5): v116-v125**.
6. McHugh, D. J., et al. (2016). "Prevalence, clinico-pathological features and outcomes of 'double-hit' high-grade B-cell non-Hodgkins lymphoma (NHL): a single institution experience." **Annals of Oncology** **27(suppl 6): 913P-913P**.