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POSTER ABSTRACTS

627.AGGRESSIVE LYMPHOMAS: CLINICAL AND EPIDEMIOLOGICAL

Validating the *Halp* Score (Hemoglobin,Albumin, Lymphocytes, and Platelets) and the Neutrophil/Lymphocyte Ratio (*NLR*) As Prognostic Factors for Overall Survival in Patients with Diffuse Large B-Cell Lymphoma. Retrospective Analysis By the Grupo De Estudio De Latino America De Linfoproliferativos (GELL)

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Introduction. Diffuse large B-cell lymphoma (**DLBCL**) is the most common type of malignant lymphoid neoplasm. The international Prognostic Index (IPI) and its variants are the main prognostic tools used in DLBCL with value in the rituximab era. Certain molecular biomarkers and genetic signatures in DLBCL have been identified, but the cost and unavailability in

Latin America (**LATAM**) are an issue. Therefore, using accesible tools in LATAM is a potencially unmet need. **Vlatka (2021)**, reported a new score (HALP: hemoglobin, albumin, lymphocytes, and platelets) for overall survival (OS) in DLBCL. These parameters are easy to access in LATAM centers. Thus, we aim to validate this novel OS score in the GELL database, and expanding database from LATAM countries.

Methods. This was a retrospective analyses of patients with *de novo* DLBCLtreated with curative intent between 2010 and 2018. The classic 5 international prognostic index variables [age, ECOG, Extranodal (EN) involvement, Lactate dehydrogenase (LDH), and advanced stage] and low serum albumin defined as ≤3.5mg/dL(divided in low, 3.4-2.5 mg/dL, and very low, ≤2.4 mg/dL), as previously described by our group (**Villela,2018&2019**). We also calculated the NLR considering an adverse prognostic factor >4, as previously published by us (**Beltran&Villela,2020**). The HALP score was calculated using the following formula: *hemoglobin(g/L) x albumin (g/L) x absolute lymphocyte count (k/μL) divided by platelets (k/μL).* The ROC method was used to calculate the HALP cut-off. Demographic characteristics are reported using descriptive statistics. Cox proportional-hazard regression model was used to evaluate parameters associated with OS, and survival curves were estimated with the Kaplan-Meier (KM) method.

Outcomes. 1407 patients were included, who were treated with standard RCHOP (n=1112,79%), RminiCHOP (n=93,7%), REPOCH (n=111,8%), and CHOP (n=91,6%). The median follow-up was 36 months (IQR: 7 to 56). NLR >4 was observed in 18.5%. The median HALP score was 24 (IQR, 12 to 40), and the cut-off of ≤13 (AUC 0.58;95%CI 0.56 to 0.61; p<0.0001) was considered an adverse prognostic factor, which was observed in 451 patients (32.7%). Female sex, ECOG >1, EN >1. high LDH, advance stage, low and very low albumin, and NLR>4 were associated with HALP≤13, but age was not (**Table 1**). Patients with HALP ≤13 had a lower 3-years OS rate than HALP>13 (48% vs. 66%, respectively; p<0.001). **Table 2** shows the univariate & multivariate analysis of the variables with independent influence on OS, including HALP & NLR. In multivariate analysis, HALP and EN involvement were left out of the model (Harrellś C-Index, 0.73;95%CI 0.69 to 0.76).

Conclusion: NLR>4, but not HALP ≤13, could prognosticate inferior OS in LATAM patients with DLBCL treated with curative intent. The adverse prognostic value of NLR>4 should be validated prospectively in other cohort of DLBCL patients.

Disclosures Villela Martinez: *Sanofi:* Speakers Bureau; *TEVA:* Speakers Bureau; *roche:* Speakers Bureau; *Merck Sharp and Dome:* Speakers Bureau; *astra zeneca:* Speakers Bureau. **Ramirez:** *roche:* Speakers Bureau; *merck sharp and dome:* Speakers Bureau. **Quintero:** *Takeda:* Speakers Bureau; *astra zeneca:* Speakers Bureau; *roche:* Speakers Bureau; *Merck Sharp and dome:* Speakers Bureau. **Perini:** *Takeda:* Consultancy, Speakers Bureau; *Merck:* Membership on an entity's Board of Directors or advisory committees, Speakers Bureau; *Janssen:* Consultancy, Speakers Bureau; *Abbvie:* Consultancy, Speakers Bureau; *Astra zeneca:* Consultancy, Membership on an entity's Board of Directors or advisory committees, Speakers Bureau; *MSD:* Consultancy, Speakers Bureau; *Lilly:* Consultancy, Speakers Bureau. **Gomez-Almaguer:** *AMGEN:* Consultancy, Honoraria; *Janssen:* Consultancy, Honoraria; *Novartis:* Honoraria; *AbbVie:* Consultancy, Honoraria. **Castillo:** *AstraZeneca:* Consultancy, Research Funding; *Loxo:* Consultancy, Research Funding; *Cellectar:* Consultancy, Research Funding; *BeiGene:* Consultancy, Research Funding; *Abbvie:* Consultancy, Research Funding; *Pharmacyclics:* Consultancy, Research Funding; *Mustang Bio:* Consultancy; *Kite:* Consultancy.

TABLE 1. Clinical data between HALP high vs. HALP low	HALP >13 N=956(100%)	HALP≤13 N=451 (100%)	P-value
Median age (IQR)	65 (52 to 79)	64 (53 to 73)	0.53
Gender (Female)	452 (47.3)	270 (60)	0.0002
Performance status (ECOG ≥2)	251 (26)	216 (48)	<0.0001
Extranodal involvement (≥2)	189(19.8)	136 (30)	0.0001
Lactate Dehydrogenase (LDH), High	413(43.2)	303(67.1)	<0.0001
Age, ≥60 years	625 (65.3)	303(67.1)	0.92
Advanced Stage (3-4 Ann Arbor)	614(64.2)	343(76)	<0.0001
Albumin (mg/dL) Low (<3.5 to 2.5) Very Low (≤2.4)	 178(18.6) 25(2.6)	 205(45.5) 33(15.7)	<0.0001
NLR (Neutrophil/Lymphocyte ratio), >4	134(14)	96(22)	<0.0001

TABLE 2. Univariate analysis for OS	Hazard Ratio	Confidence Interval,95%	P-value
Performance status (ECOG ≥2)	2.51	2.1 to 2.9	<0.0001
Extranodal involvement (≥2)	1.52	1.3 to 1.8	<0.0001
Lactate Dehydrogenase (LDH), High	1.84	1.6 to 2.1	<0.0001
Age, ≥60 years	1.51	1.3 to 1.8	<0.0001
Advanced Stage (3-4 Ann Arbor)	1.91	1.6 to 2.2	<0.0001
NLR (Neutrophil/Lymphocyte ratio), >4	2.24	1.70 to 2.96	<0.0001
HALP <13	1.71	1.46 to 2.96	<0.0001
Multivariate analysis for OS	**Hazard Ratio**	**Confidence Interval,95%**	**P-value**
Performance status (ECOG ≥2)	1.94	1.2 to 2.0	<0.0001
Lactate Dehydrogenase (LDH), High	1.79	1.2 to 2.1	<0.0001
Age, ≥60 years	1.44	1.1 to 1.9	0.0004
Advanced Stage (3-4 Ann Arbor)	1.37	1.02 to 1.8	0.03
NLR (Neutrophil/Lymphocyte ratio), >4	1.97	1.5 to 2.6	<0.0001

Figure 1

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