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POSTER ABSTRACTS

627.AGGRESSIVE LYMPHOMAS: CLINICAL AND EPIDEMIOLOGICAL

Racial and Ethnic Disparities for Primary CNS Lymphoma: A National Cancer Database Analysis with Emphasis on Hispanics

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BACKGROUND

Primary central nervous system lymphoma (PCNSL) is an aggressive, extra nodal non-Hodgkin lymphoma (NHL), that accounts for 4% of newly diagnosed central nervous system (CNS) tumors and 1-2% of all NHL. (*Blood PMID 26980727*). The majority of PCNSL tumors are of the highly aggressive diffuse large cell subtypes, usually of B-cell phenotypic origin (*J Clin Oncol PMID 28640701*). Treatment survival remains heterogenous due to biologic differences and racial disparities. Multiple epidemiological studies have evaluated racial differences, with heterogenous results. There are published reports of culturally and ethnically diverse populations from high-income countries, showing statistically significant differences in PCNSL incidence and survival rates among different ethnicities (*Neuro Oncol PMID 19273630*), but there are no studies comparing Hispanics (HI) and Non-Hispanics (NH). This National Cancer Database (NCDB) analysis aims to provide information on how demographic, clinical, and survival outcomes differ in HI versus NH patients with PCNSL.

METHODS

Data were analyzed on PCNSL patients in the US reported to the NCDB between 2004 and 2019. Demographic and treatment characteristics were compared between ethnic groups. Kaplan-Meier and Cox regression analyses were used to compare OS between HI and NH populations. Multivariate analysis and propensity score matching was performed with adjustment for age, stage, co-morbidity score, and insurance status, type of facility and great circle distance.

RESULTS

Of 15908 PCNSL patients, 8% were HI, and 87% NH. 58% of HI were male, compared to 50% in NH. As compared to NH at diagnosis, HI pts were younger (mean 60 years vs. 67 years) ($p < 0.001$); the majority of HI (59%) were diagnosed in the age of <65 vs majority of NH (45%) who were diagnosed in the age bracket of 65-70 ($p < 0.001$). Regarding race, most of HI and NH were whites (92% vs 85%), followed by blacks (0.9% vs 7.3%).

When examining insurance type; *Government Sponsored* was the most prevalent type in HI vs NH (56% vs 61%), followed by private insurance (29% vs 33%). The most non-Insured group was HI (12%) vs NH (2%). Regarding Census Median Income (2008-2012), the most prevalent bracket (29%) for HI was \$48,000 - \$62,999, and for NH (36%) \$63,000 +. When looking at median income of less than \$38,000, HI were 25% vs NH 14%. Regarding Charlson-Deyo Score (comorbidities score), HI had 20% \geq 2 score, vs NH 16%. ($p < 0.001$). Academic/Research Programs, including NCI-designated comprehensive cancer centers, was the most prevalent type of facility providing care for both HI (49%) and NH (50%). Regarding the median distance in miles between the patient's residence and the hospital that reported the case (Great Circle Distance), HI lived at a median of 9.7 miles, vs NH at median of 14.7 miles. On survival analysis, the survival probability at 2, 5 and 10 years of HI vs NH were (54% vs 47%), (43% vs 34%), and (32% vs 22%), respectively. The median survival time (MS) was 3 years for HI, vs 1.6 years for NH; and there was an overall survival (OS) difference favoring HI with ($p < 0.0001$).

Independently, on multivariate analysis, not insured status was associated with worse OS (HR 1.22, CI 1.02-1.47, $p < 0.01$) and private insurance type was associated with better OS (HR 0.82, CI 0.73-0.93, $p < 0.01$). Interestingly, the propensity matched analysis demonstrated significant MS difference between HI vs NH (median 1.64 years vs. 1.43 years; $p < 0.01$).

CONCLUSION

In this data analysis from the NCDB between 2004-2019, HI with PCNSL have dissimilar outcomes when compared to NH. There were statistically significant differences between HI and NH in age at diagnosis, median income, and higher Charlson-Deyo Score. There were statistically significant differences in MS, survival at 2, 5, and 10 years and OS favoring the HI cohort. Unique and heterogeneous characteristics from HI may explain why there is an increase in OS after PCNSL diagnosis in this cohort of patients, with differences mainly arising from HI being diagnosed at a younger age and living closer to the treatment facilities as compared to NH. As personalized therapies for PCNSL are being developed, equitable access including clinical trials should be advocated for resource-limited settings as well as aiming at studying biologically characteristics of HI with PCNSL to better understand and improved outcomes in all cohorts.

Disclosures Diaz Duque: *Morphosys: Consultancy; Genentech: Consultancy; Lilly: Consultancy; ADCT: Consultancy; AstraZeneca, ADCT, Lilly, Morphosys, Genentech: Consultancy, Honoraria.*

Figure 1. Survival Analysis for PCNSL.

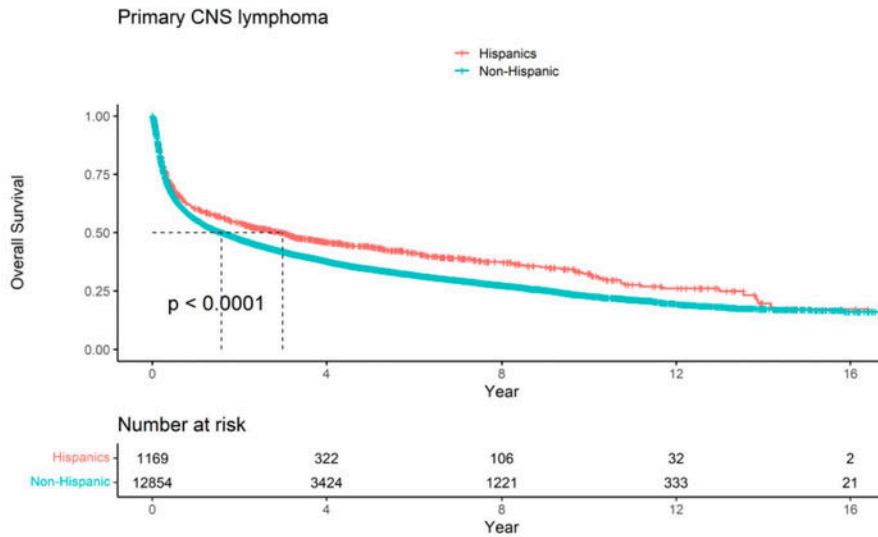


Table 1. Sociodemographic Characteristics.

Variables	Non-Hispanic	Hispanic	Total	p-value
	(N=13940)	(N=1288)	(N=15908)	
Sex				<0.001
Female	6897 (49.5%)	540 (41.5%)	7437 (46.7%)	
Male	7043 (50.5%)	748 (58.1%)	7791 (48.9%)	
Age				<0.001
<65	6065 (43.5%)	765 (59.4%)	6830 (42.9%)	
>79	1606 (11.5%)	65 (5.0%)	1671 (10.5%)	
65-79	6269 (45.0%)	458 (35.6%)	6727 (42.2%)	
Ethnicity				< 0.001
Mexicans	0 (0.0%)	219 (17.0%)	219 (1.3%)	
Non-Hispanics	13940 (100%)	0 (0.0%)	13940 (87%)	
Other Hispanics	0 (0.0%)	1003 (77.9%)	1003 (6.3%)	
Puerto Ricans and Cubans	0 (0.0%)	66 (5.1%)	66 (4.1%)	
Primary Payer				< 0.001
Government Sponsored	8606 (61.7%)	730 (56.7%)	9336 (58%)	
Insurance status Unknown	15506 (16.3%)	20 (1.6%)	15526 (97%)	
Not insured	380 (2.7%)	160 (12.4%)	540 (33.9)	
Private Insurance / Managed Care	4692 (33.7%)	378 (29.3%)	5070 (31.8%)	

Figure 1

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