



## The 65th ASH Annual Meeting Abstracts

## POSTER ABSTRACTS

## 906.OUTCOMES RESEARCH-MYELOID MALIGNANCIES

**Impact of Facility Type on Survival in Chronic Myelomonocytic Leukemia: A Propensity Score Matched, National Cancer Database Analysis**Douglas Tremblay, MD<sup>1</sup>, Grace Van Hyfte<sup>2</sup>, John Mascarenhas, MD<sup>1</sup>, Jonathan Feld, MD<sup>1</sup><sup>1</sup>Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai, New York, NY<sup>2</sup>Icahn School of Medicine At Mount Sinai, New York, NY**Introduction**

Chronic myelomonocytic leukemia (CMML) is an MDS/MPN overlap syndrome with a heterogeneous clinical presentation and limited therapeutic options. Given its rarity, we hypothesize that there may be disparate outcomes based on the type of treatment facility (academic versus community) similar to what has been observed in other myeloid malignancies such as acute myeloid leukemia (VR Bhatt AJH 2017). To that end, we performed an analysis of the National Cancer Database (NCDB) to assess the impact of academic status of the facility on overall survival (OS) in patients with CMML.

**Methods**

We identified patients in the NCDB by the ICD-O-3 code for CMML (9945); we excluded patients who did not receive treatment and those who received all or part of their treatment outside of the reporting facility. Importantly, baseline clinical characteristics, laboratory/mutational data, and treatment details are generally not available in the NCDB. Academic centers were defined as those with a peer-reviewed NCI-designated cancer center support grant or university medical school that provide postgraduate medical education in at least four program areas, as defined by the Commission on Cancer Accreditation program.

The primary outcome was OS. Propensity score matching (PSM) was performed and after backwards selection, the following variables were used for matching: age, race, median income, urban/rural, education, Charlson comorbidity index (CCI). Cox proportional hazard multivariable regression was employed to identify independent predictors of survival in the PSM population.

**Results**

A total of 6290 patients were identified. Baseline characteristics based on facility type are shown in Table 1. Patients treated at an academic center were younger, with a higher prevalence of Black race and lower comorbidity burden. Academic centers also had a patient population with a significantly higher median household income, more private insurance, and higher education level as compared to non-academic centers.

The median follow-up time was 14.6 months (95% CI 0.4-89.7). The median OS for the entire cohort was 59 months (95% CI 56.7-62.0) and the median survival was significantly longer in patients treated at an academic center (60.6 months [95% CI 57.5-64.8]) as compared to those treated at a non-academic center (57.3 months [95% CI 53.4-61.8]).

In the PSM analysis, a cohort of 1884 patients treated at an academic center were matched to 1895 patients treated at a non-academic center. In an unadjusted analysis, there was no significant difference in median OS ( $p=0.3$ ) between the academic and non-academic groups. However, in a multivariable analysis of the PSM populations that accounted for age, race, CCI, insurance, distance to center, and median income, patients treated at an academic center had a significantly improved survival as compared to those treated at a non-academic center (HR 0.82, 95% CI 0.71-0.94,  $p = 0.005$ , Figure 1).

**Discussion**

We found significant differences in the characteristics of CMML patients treated at academic versus non-academic centers. After PSM and multivariable adjustment, survival was significantly improved with treatment at an academic center versus non-academic. Although limited in the depth of information about CMML prognostic features and treatments, this relatively large analysis of CMML patients suggests that management of this rare disease at an academic center may be associated with improved survival outcomes. Future prospective studies to ascertain the underlying causes for survival discrepancy in CMML at academic versus non-academic centers may help identify patients that should be triaged to an academic facility.

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Characteristic	Academic, N = 2,746	Non-Academic, N = 3,544	p-value
Age, median (IQR)	70 (63, 77)	75 (68, 81)	<0.001
Sex, N (%)			0.2
Female	942 (34.3%)	1,267(35.8%)	
Male	1,804 (65.7%)	2,277 (64.2%)	
CCI, N (%)			<0.001
0	1,993 (72.6%)	2,261 (63.8%)	
1	447 (16.3%)	684 (19.3%)	
≥2	306 (11.1%)	599 (16.9%)	
Race, N (%)			<0.001
White	2,358 (87.1%)	3,189 (90.5%)	
Black	231 (8.5%)	229 (6.5%)	
Other	118 (4.4%)	105 (3.0%)	
Insurance, N (%)			<0.001
Private	716 (27.2%)	557 (15.9%)	
Medicaid	154 (5.9%)	122 (3.5%)	
Medicare	1,664 (63.3%)	2,712 (77.6%)	
Other Government	36 (1.4%)	58 (1.7%)	
Uninsured	61 (2.3%)	46 (1.3%)	
Median income, N (%)			<0.001
< \$46,277	332 (14.2%)	445 (14.6%)	
\$46,277 - \$57,856	473 (20.2%)	757 (24.8%)	
\$57,857 - \$74,062	579 (24.8%)	806 (26.4%)	
≥\$74,063	953 (40.8%)	1,043 (34.2%)	
No high school degree, N (%)			0.022
<5.0%	587 (25%)	721 (23.6%)	
5.0% - 9.0%	688 (29.3%)	953 (31.1%)	
9.1% - 15.2%	619 (26.4%)	873 (28.5%)	
≥15.3%	453 (19.3%)	513 (18.8%)	
Urban/rural			<0.001
Metro	2,221 (86.4%)	2,812 (81.2%)	
Rural	39 (1.5%)	95 (2.7%)	
Urban	312 (12.1%)	555 (16.0%)	

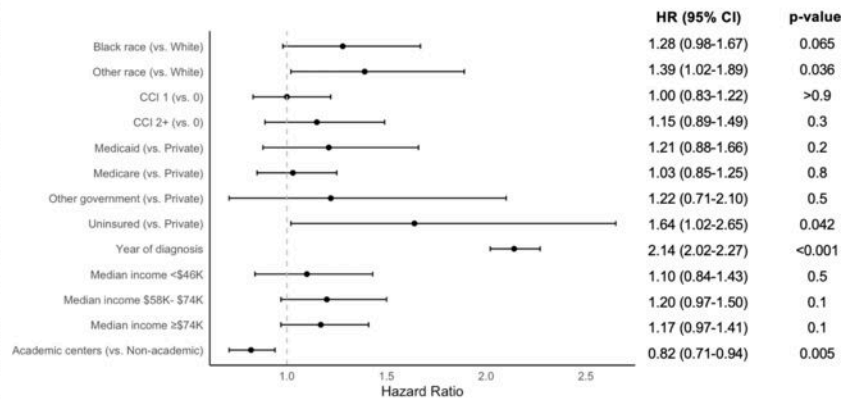


Figure 1

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