soho2023
ELEVENTH ANNUAL MEETING

HISPANIC PATIENTS WITH T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA/LYMPHOBLASTIC LYMPHOMA HAD WORSE OVERALL SURVIVAL IN A MINORITY PREDOMINANT COHORT

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INTRODUCTION

In patients with T-cell acute lymphoblastic leukemia (T-ALL), prior reports based on general population have suggested lower overall survival (OS) in Hispanic and Black populations compared to Non-Hispanic Whites [1,2].

AIM

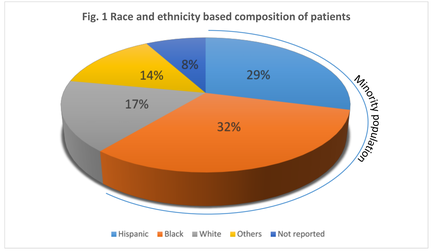
We conducted one of the first studies in a **minority-predominant population** of T-ALL patients receiving chemotherapy and hematopoietic stem cell transplant (HSCT) to investigate whether OS differs based on race and ethnicity.

METHOD

- Single-Center retrospective observational study of T-ALL patients at Montefiore Medical Centre, NY (2004-2022).
- Univariate Cox regression analysis was initially done, followed by multivariate analysis.
- We included 59 patients (46 male, 13 female) with T-ALL with a median age at diagnosis of 20 years, including 17 (29%) patients of **Hispanic ethnicity** and 37 (63%) **Non-Hispanic** (n=19 Black race, 10 White race, and 8 other races) **(Figure 1)**.
- All patients received chemotherapy. Ten patients received HSCT.

RESULTS

- We did **not** find a **significant** difference in OS based on **immunophenotype, sex, or race (Table 1)**.
- Patients of **Hispanic** ethnicity had **significantly worse outcomes** with lower OS compared to Non-Hispanic patients, with a hazard ratio of 4.787 (95% confidence interval 1.4-15.9, P=0.0046) **(Figure 2)**. The difference was still significant (P=0.0004) after correction for age (age groups: <15 and =/> 15 years) **(Table 1)**.
- The OS of patients transplanted in first complete remission (CR1) did not differ from those not receiving HSCT in CR1 p=0.5).
- Among the patients who eventually relapsed (n=13), **OS was significantly higher** in patients who had received **upfront HSCT** in CR1 before relapsing (n=5) vs patients receiving chemotherapy only (P=0.025).
- There was no difference in OS in Hispanic (n=5) vs Non-Hispanic (n=5) patients who underwent transplant (P=0.06).



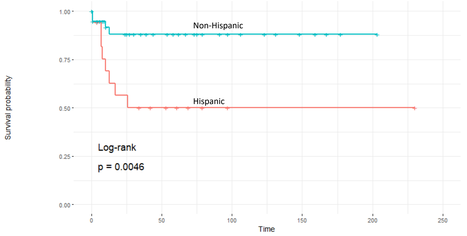


Figure 2. Kaplan-Meier curve comparing overall survival of Hispanic and Non-Hispanic patients.

	Univariate Analysis			Multivariate analysis		
Parameters	HR	95% CI	p-value	HR	95% CI	p-value
Sex:				-	-	-
Female	Ref	Ref	Ref			
Male	0.02	0.27-3.76	0.98			
Ethnicity:						
Non-Hispanic	Ref	Ref		Ref	Ref	Ref
Hispanic	4.787	1.4-15.9	0.01	1.77	1.77-19.78	0.004
Age:						
<15 years	Ref	Ref	Ref	Ref	Ref	Ref
15 years and more	2.03	0.99-59.3	0.02	2.3	1.25-76.17	0.03
Race:				-	-	-
Black	Ref	Ref	Ref			
White	-1.905e+1	-	0.9			
Other	5.675e-10	0.47-6.6	0.4			
Immunophenotype:				-	-	-
ETP-ALL	Ref	Ref	Ref			
Non ETP-ALL	0.97	0.33-20.47	0.3			

Abbreviations: HR, Hazard ratio; CI, Confidence interval; ETP-ALL, Early T-cell precursor acute lymphoblastic leukemia/lymphoma

Table 1. Survival outcomes analysis

CONCLUSIONS

- In a minority-predominant population, Hispanic patients with T-ALL had worse OS compared to Non-Hispanics, but there was no difference in OS between different races.
- Furthermore, patients at high risk of relapse might benefit from an upfront HSCT.
- Further studies are needed to identify the modifiable factors to address this disparity.
- The main limitation of our study is the small sample size.

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ACKNOWLEDGEMENTS

The authors would like to thank all the patients and their families who were included in the study. We also offer sincere thanks to nursing staff and PCAs of Montefiore Hematology/Oncology department.

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