IMPACT OF SOCIODEMOGRAPHIC FACTORS ON CONDITIONING INTENSITY & OUTCOMES OF HCT RECIPIENTS WITH MYELOID MALIGNANCIES

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Introduction

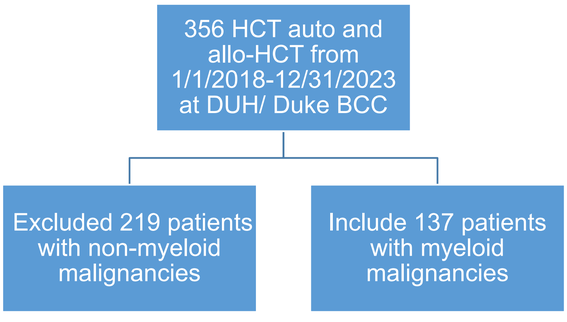
- Conditioning intensity (CI) selection in allogeneic hematopoietic stem cell transplantation (HCT) is guided by patient, disease and transplant related factors
- Intensity ranges from intensive myeloablative conditioning (MAC) to less intensive reduced intensity conditioning (RIC) or non- myeloablative conditioning (NMA)
- Sociodemographic (SD) factors impact all aspects of HCT- the pre-HCT, HCT and post-HCT periods
- Yet, the relationship between SD factors and the perceived tolerance of different CI remains underexplored

Objectives

- Examine the relationship between sociodemographic factors and conditioning intensity
- Evaluate the impact of conditioning intensity on transplant survival outcomes

Methods

- **Design/setting:** Retrospective cohort study of transplant recipients at Duke University Hospital(DUH) and Duke Blood Cancer Center (BCC) transplant database from 1/1/2018-12/31/2023
- **Patient cohort:** Included patients with myeloid malignancies including acute myeloid leukemia (AML), chronic myeloid leukemia (CML), myelodysplastic syndrome (MDS), myeloproliferative neoplasms (MPNs), and MDS/MPN overlap syndromes



- **Variables:**

1) Sociodemographic factors-age, self-reported race/ethnicity, sex, education, insurance, zip code derived income and rurality, self-reported financial toxicity (FACIT-COST) and health related social needs (HRSN)

2) Outcomes

1°- Differences in SD factors between MAC and NMA/RIC groups; Odds of receipt of MAC vs. NMA/RIC by SD factors

2° - Relationship between SD factors, CI and survival outcomes

- **Statistical analysis**

1°-Kruskal Wallis (continuous), Chi-Square Test (categorical); Multivariable Logistic Regression

2°-Kaplan-Meier Method, Log Rank Test; Cumulative Incidence, Gray's Test; Cox Proportional Hazards

Results

Table 1: Baseline Characteristics of cohort, n=137

Variable	MAC (n= 77)	NMA/RIC (n=60)	P-value
Median age (IQR)	56.6 (46.2-63.7)	63.8 (53.6-69.8)	0.0003
Sex (n, %) Male Female	 43(55.8) 34 (44.2)	 44(73.3) 16(26.7)	0.0349
Race(n, %) White American Indian/ Asian/Black	 65 (84.4) 12(15.6)	 47 (78.3) 13 (21.7)	0.3605
Ethnicity (n, %) Non-Hispanic Hispanic	 76(98.7) 1 (1.3)	 56 (96.6) 2 (3.4)	0.4016
Insurance (n, %) Private Government	 62 (80.5) 15 (19.5)	 37 (61.7) 23 (38.3)	0.0145
Education (n, %) Some College or more ≤ High School	 55(73.3) 20 (26.7)	 47 (81.0) 11(19.0)	0.2975
Rurality (n,%) Urban Rural	 48 (62.3) 29 (37.7)	 43(71.7) 17 (28.3)	0.2513
Income (n, %) $50,000- $100,000 > $100,000	 54(71.1) 22(28.9)	 41(68.3) 19 (31.7)	0.7315
Disease (n, %) AML Non-AML	 39 (50.6) 38 (49.4)	 32(53.3) 28 (46.7)	0.7551

A

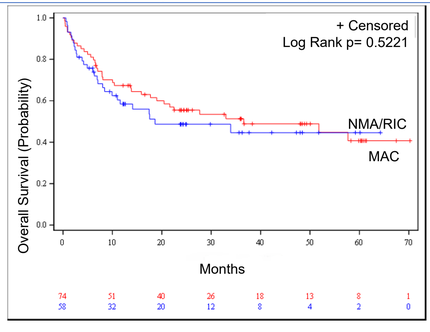


Figure 1A: No significant difference in the probability of overall survival by conditioning intensity

B

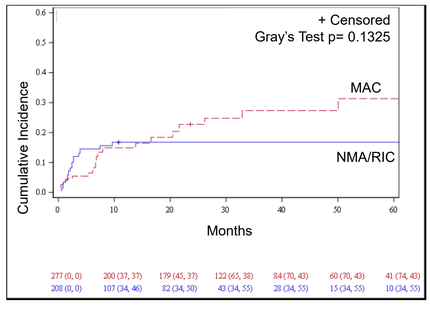


Figure 1B: No significant difference in the cumulative incidence of non-relapse mortality by conditioning intensity

Table 2: Odds of Myeloablative versus Non-Myeloablative/Reduced Intensity Conditioning by Sociodemographic Factors

Variable	Unadjusted OR (95% CI)	P-value	Adjusted OR (95% CI)	P-value
Age	0.96 (0.93, 0.99)	**<0.01**	**0.95 (0.92, 0.98)**	**<0.01**
White Race	1.50 (0.63, 3.56)	0.36	1.84 (0.65, 5.18)	0.25
Hispanic Ethnicity	0.37 (0.03, 4.17)	0.42	0.17 (0.01,2.74)	0.21
Private Insurance	2.57 (1.19, 5.54)	0.02	1.99(0.85, 4.67)	0.11
Education	0.64 (0.28, 1.48)	0.30	N/A	N/A
Rurality	1.53 (0.74, 3.16)	0.25	1.87 (0.84, 4.14)	0.12
Income	0.88 (0.42, 1.84)	0.73	N/A	N/A

Summary

- Age was the only SD factor associated with CI; increasing age ➡ lower odds of MAC
- Non-significant trend of higher odds of MAC in more rural settings
- NRM and OS were not significantly different by CI

Discussion/Future Directions

- Multi-institutional data is needed to further explore the relationship between SD factors and CI, especially related to rurality **SOHO2025**

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