

Association of race and ethnicity with clinical phenotype, genetics, and survival in pediatric acute myeloid leukemia

Supplementary materials

Supplementary table 1. Characteristics of patients with *KMT2Ar* AML

	White non-Hispanic (N=123)	Black (N=25)	Hispanic (N=21)	p value
Male sex	65 (52.8)	11 (44.0)	8 (38.1)	0.38
Age at diagnosis	3.3 (0.9, 11.9)	11.7 (2.3, 15.1)	2.7 (1.1, 8.5)	0.04
Mutations				
<i>FLT3</i>	8 (6.5)	2 (8.3)	1 (4.8)	0.89
<i>NPM1</i>	0	0	0	
<i>CEBPA</i>	0	0	0	
<i>cKIT</i> (exon 8)	0	0	0	
<i>cKIT</i> (exon 17)	0	0	0	
Treatment protocol				0.19
AAML0531	107 (87.0%)	18 (72.0%)	19 (90.5%)	
AAML03P1	9 (7.3%)	3 (12.0%)	2 (9.5%)	
CCG-2961	7 (5.7%)	4 (16.0%)	0 (0.0%)	
WBC at diagnosis	40.5 (11.4, 101.8)	46.0 (18.5, 96.1)	89.0 (25.6, 210.9)	0.19
CNS disease at diagnosis	8 (6.5%)	1 (4.0%)	0	0.45
MRD at end of course 1				0.36
Positive	15 (12.2%)	6 (24.0%)	5 (23.8%)	
Negative	83 (67.5%)	13 (52.0%)	13 (61.9%)	
Unknown	25 (20.3%)	6 (24.0%)	3 (14.3%)	
MRD at end of course 2				0.43
Positive	11 (8.9%)	3 (12.0%)	3 (14.3%)	
Negative	73 (59.3%)	10 (40.0%)	12 (57.1%)	
Unknown	39 (31.7%)	12 (48.0%)	6 (28.6%)	
HSCT at first CR	18 (14.6%)	1 (4.0%)	4 (19.0%)	0.27

Categorical data are n (%). Continuous data are median (interquartile range).

Abbreviations: WBC, white blood cell; CNS, central nervous system; MRD, minimal residual disease; HSCT, hematopoietic stem cell transplant; CR, complete response

Supplementary Table 2. Characteristics of patients with Core Binding Factor AML

	White non-Hispanic (N=135)	Black (N=34)	Hispanic (N=48)	p value
Male sex	76 (56.3%)	15 (44.1%)	23 (46.9%)	0.31
Age at diagnosis	11.9 (7.4, 15.7)	11.5 (7.2, 13.4)	10.1 (5.8, 14.2)	0.23
Mutations				
<i>FLT3</i>	7 (5.2%)	3 (8.8%)	3 (6.1%)	0.73
<i>NPM1</i>	0 (0.0%)	1 (2.9%)	0	0.22
<i>CEBPA</i>	1 (0.7%)	0	0	0.80
<i>cKIT</i> (exon 8)	22 (16.3%)	7 (20.6%)	3 (6.1%)	0.39
<i>cKIT</i> (exon 17)	16 (11.9%)	0	6 (12.2%)	0.29
Treatment protocol				0.01
AAML0531	112 (83.0%)	25 (73.5%)	44 (89.8%)	
AAML03P1	15 (11.1%)	2 (5.9%)	5 (10.2%)	
CCG-2961	8 (5.9%)	7 (20.6%)	0	
WBC at diagnosis				0.32
Median (IQR)	47.9 (16.4, 84.0)	28.1 (15.3, 45.3)	40.6 (14.5, 76.5)	
CNS disease at diagnosis	10 (7.4%)	6 (17.6%)	6 (12.2%)	0.18
MRD at end of course 1				0.01
Positive	17 (12.6%)	7 (20.6%)	2 (4.1%)	
Negative	87 (64.4%)	14 (41.2%)	38 (77.6%)	
Unknown	31 (23.0%)	13 (38.2%)	9 (18.4%)	
MRD at end of course 2				<0.01
Positive	3 (2.2%)	5 (14.7%)	2 (4.1%)	
Negative	94 (69.6%)	13 (38.2%)	35 (71.4%)	
Unknown	38 (28.1%)	16 (47.1%)	12 (24.5%)	
HSCT at first CR	1 (0.7%)	0	0	0.73
Categorical data are n (%). Continuous data are median (interquartile range). Abbreviations: WBC, white blood cell; CNS, central nervous system; MRD, minimal residual disease; HSCT, hematopoietic stem cell transplant; CR, complete response				

Supplementary Table 3. Sensitivity analysis of survival outcomes with and without patients treated on CCG-2961

Race-ethnicity	Event free survival HR (95% CI)	Overall survival HR (95% CI)
All cytogenetic subgroups (n = 769)		
White non-Hispanic	ref	ref
Black	1.61 (1.22-2.12) 1.57 (1.21-2.04)	2.10 (1.54-2.87) 1.97 (1.47-2.65)
Hispanic	1.09 (0.84-1.40) 1.04 (0.81-1.34)	1.29 (0.95-1.73) 1.22 (0.91-1.63)
<i>KMT2Ar</i> (n = 109)		
White non-Hispanic	ref	ref
Black	2.14 (1.13-4.08) 2.31 (1.41-3.79)	2.60 (1.31-5.17) 2.54 (1.43-4.51)
Hispanic	2.40 (1.23-4.67) 2.20 (1.27-3.80)	1.66 (0.77-3.61) 2.07 (1.09-3.93)
t(8;21) or inv(16) (n = 203)		
White non-Hispanic	ref	ref
Black	1.79 (0.98-3.26) 1.93 (1.14-3.28)	3.22 (1.47-7.05) 3.24 (1.60-6.57)
Hispanic	1.02 (0.58-1.77) 0.99 (0.57-1.71)	2.14 (1.04-4.41) 2.03 (1.00 – 4.10)
<p>Sensitivity analysis excluding patients in CCG-2961 is in orange, and original analysis (Table 2 of manuscript) is in black. Estimates where significance has dropped below $\alpha = 0.05$ are italicized Statistically significant results are bolded Abbreviations: CI = confidence interval</p>		

Supplementary Table 4. Sensitivity analysis of survival outcomes with and without patients experiencing early mortality (< 50 days)

Race-ethnicity	Event free survival HR (95% CI)	Overall survival HR (95% CI)
All cytogenetic subgroups (n = 793)		
White non-Hispanic	ref	ref
Black	1.49 (1.14-1.95) 1.57 (1.21-2.04)	1.86 (1.36-2.54) 1.97 (1.47-2.65)
Hispanic	1.01 (0.78-1.31) 1.04 (0.81-1.34)	1.18 (0.87-1.60) 1.22 (0.91-1.63)
<i>KMT2Ar</i> (n = 165)		
White non-Hispanic	ref	ref
Black	2.32 (1.40-3.84) 2.31 (1.41-3.79)	2.56 (1.42-4.63) 2.54 (1.43-4.51)
Hispanic	2.02 (1.14-3.61) 2.20 (1.27-3.80)	1.83 (0.92-3.66) 2.07 (1.09-3.93)
t(8;21) or inv(16) (n = 212)		
White non-Hispanic	ref	ref
Black	1.68 (0.96-2.30) 1.93 (1.14-3.28)	2.69 (1.24-5.83) 3.24 (1.60-6.57)
Hispanic	0.95 (0.54-1.67) 0.99 (0.57-1.71)	1.99 (0.96-4.13) 2.03 (1.00 – 4.10)
<p>Sensitivity analysis excluding patients with early death is in orange, and original analysis (Table 2 of manuscript) is in black Estimates where significance has dropped below $\alpha = 0.05$ are italicized Statistically significant results are bolded Abbreviations: CI = confidence interval</p>		

Supplementary Figure 1. Causal mediation analysis of relationship between Black race, t(6;11) cytogenetics, and overall survival

