

Superior survival with allogeneic hematopoietic stem cell transplantation *versus* chemotherapy for high-risk adult acute lymphoblastic leukemia in a PDT-ALL-2016 pediatric-inspired cohort

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Figure S1. Subgroup analysis for Ph-negative HR-ALL

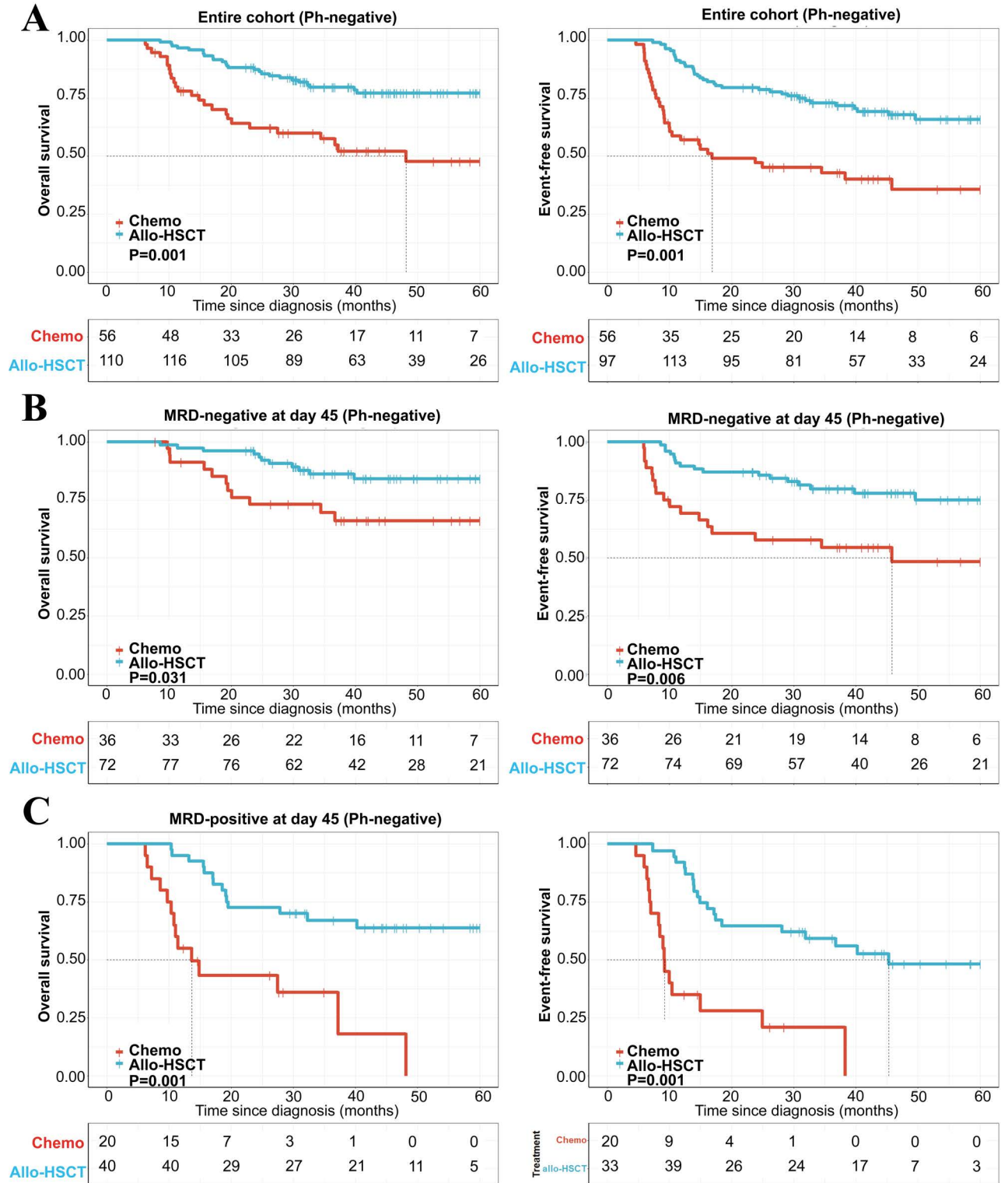


Figure S1: Survival outcomes. (A) Overall survival (OS) and Event-free survival (EFS) for entire cohort (Ph-negative) according to allo-HSCT versus chemotherapy by left-truncated Kaplan-Meier method. (B) OS and EFS for Ph-negative patients who had negative minimal residual disease (MRD) at day 45 (post-induction) according to allo-HSCT versus chemotherapy by left-truncated Kaplan-Meier method. (C) OS and EFS for Ph-negative patients who had positive MRD at day 45 according to allo-HSCT versus chemotherapy by left-truncated Kaplan-Meier method.

Supplemental Tables

Table S1. Multivariate analysis.					
	Number	EFS	OS	CIR	NRM
Age					
≥35	72 (31.4%)			Ref	
<35	157 (68.6%)	0.89 (0.57-1.38, p=.596)	0.64 (0.39-1.05, p=.079)	1.17 (0.66-2.08, p=.591)	0.44(0.17-1.15, p=.101)
Immuno-type					
B-ALL	176 (76.9%)			Ref	
T-ALL	53 (23.1%)	0.64 (0.33-1.25, p=.189)	0.77 (0.35-1.69, p=.511)	0.55 (0.24-1.28, p=.170)	1.40 (0.41-4.82, p=.601)
CNSL at presentation					
No	215 (93.9%)			Ref	
Yes	14 (6.1%)	1.25 (0.49-3.18, p=.636)	1.09 (0.38-3.13, p=.870)	2.28 (0.71-7.30, p=.172)	NA
High WBC ^a					
No	132 (57.6%)			Ref	
Yes	97 (42.4%)	1.66 (1.10-2.53, p=.017)	1.49 (0.93-2.38, p=.097)	1.99 (1.13-3.50, p=.017)	0.99 (0.38-2.55, p=.982)
Cytogenetic features					
Non / other	128 (55.9%)			Ref	
Ph	70 (30.6%)	1.10 (0.65-1.87, p=.715)	1.32 (0.71-2.44, p=.380)	1.32 (0.69-2.50, p=.401)	1.72 (0.52-5.63, p=.371)
MLL	10 (4.4%)	2.08 (0.82-5.23, p=.122)	3.67 (1.39-9.67, p=.009)	2.92 (0.98-8.68, p=.053)	NA

Table S1. Multivariate analysis.

	Number	EFS	OS	CIR	NRM
E2A	7 (3.1%)	2.02 (0.73-5.57, p=.175)	1.70 (0.49-5.92, p=.408)	1.29 (0.22-7.78, p=.785)	2.09(0.15-30.0, p=.594)
IGHdel	14 (6.1%)	1.18 (0.51-2.71, p=.703)	1.48 (0.62-3.54, p=.378)	1.43 (0.52-3.90, p=.490)	1.52 (0.33-7.05, p=.597)
CK					
No	205 (89.5%)			Ref	
Yes	24 (10.5%)	1.18 (0.57-2.46, p=.651)	1.35 (0.61-2.98, p=.462)	2.21 (0.96-5.11, p=.062)	0.34 (0.04-2.71, p=.311)
Allo-HSCT					
No	83 (36.2%)			Ref	
Yes	146 (63.8%)	0.32 (0.20-0.50, p<.001)	0.31 (0.19-0.51, p<.001)	0.12 (0.07-0.22, p<.001)	4.04 (1.23-13.3, p=.022)
Ph-like					
No	199 (86.9%)			Ref	
Yes	30 (13.1%)	2.19 (1.18-4.04, p=.012)	2.21 (1.08-4.52, p=.030)	2.62 (1.19-5.79, p=.017)	2.03 (0.57-7.21, p=.281)
IKZF1mut/del					
No	191 (83.4%)			Ref	
Yes	38 (16.6%)	1.16 (0.68-2.00, p=.586)	1.40 (0.77-2.56, p=.275)	1.18 (0.62-2.26, p=.612)	1.30 (0.43-3.87, p=.642)
MRD					
Negative	137 (59.8%)			Ref	
Positive	92 (40.2%)	2.16 (1.42-3.27, p<.001)	2.68 (1.66-4.33, p<.001)	1.95 (1.14-3.34, p=.015)	1.43(0.56-3.65, p=.462)

Abbreviations: CNSL, central nervous system leukemia; WBC, white blood cell; Ph+, Philadelphia chromosome positive; MLLr, MLL rearrangement; E2Ar, E2A rearrangement; CK, complex karyotype; OS, Overall survival; EFS, Event-free survival; CIR, Cumulative incidence of relapse; NRM, Non-relapse mortality a, For B-ALL, WBC>30×10⁹/L; for T-ALL, WBC> 100×10⁹/L.

Table S2. Multivariate analysis for MRD subgroup.

	MRD-negative subset			MRD-positive subset		
	Number	EFS	OS	Number	EFS	OS
Age						
≥35	39 (28.5%)			33 (35.9%)		
<35	98 (71.5%)	0.63 (0.32-1.23, p=.175)	0.29 (0.13-0.69, p=.005)	59 (64.1%)	1.29 (0.66-2.53, p=.460)	1.07 (0.53-2.16, p=.844)
Immuno-type						
T-ALL	105 (76.6%)			71 (77.2%)		
B-ALL	32 (23.4%)	0.40 (0.14-1.19, p=.099)	0.65 (0.18-2.38, p=.513)	21 (22.8%)	0.63 (0.24-1.67, p=.354)	0.67 (0.24-1.87, p=.444)
CNSL at presentation						
No	129 (94.2%)			86 (93.5%)		
Yes	8 (5.8%)	2.09 (0.61-7.14, p=.241)	2.40 (0.53-10.78, p=.254)	6 (6.5%)	0.68 (0.16-2.99, p=.614)	0.86 (0.19-3.87, p=.846)
High WBC ^a						
No	80 (58.4%)			52 (56.5%)		
Yes	57 (41.6%)	0.91 (0.47-1.77, p=.780)	0.66 (0.30-1.46, p=.303)	40 (43.5%)	2.31 (1.29-4.13, p=.005)	2.00 (1.05-3.79, p=.034)
Cytogenetic features						
Normal	83 (60.6%)			45 (48.9%)		
Ph	37 (27.0%)	1.18 (0.54-2.58, p=.671)	1.55 (0.57-4.18, p=.388)	33 (35.9%)	0.91 (0.39-2.13, p=.831)	1.03 (0.43-2.44, p=.952)
MLL	7 (5.1%)	1.82 (0.48-6.87, p=.379)	3.12 (0.73-13.42, p=.126)	3 (3.3%)	1.77 (0.44-7.19, p=.422)	3.41 (0.85-13.75, p=.085)
E2A	3 (2.2%)	2.46 (0.55-10.93, p=.238)	1.56 (0.19-12.70, p=.678)	4 (4.3%)	1.11 (0.26-4.65, p=.887)	1.05 (0.20-5.39, p=.954)

Table S2. Multivariate analysis for MRD subgroup.

	MRD-negative subset			MRD-positive subset		
	Number	EFS	OS	Number	EFS	OS
IGHdel	7 (5.1%)	1.87 (0.54-6.55, p=.326)	4.33 (1.13-16.58, p=.032)	7 (7.6%)	0.87 (0.26-2.95, p=.825)	0.74 (0.22-2.55, p=.637)
CK						
No	124 (90.5%)			81 (88.0%)		
Yes	13 (9.5%)	0.22 (0.03-1.65, p=.139)	0.38 (0.05-3.05, p=.363)	11 (12.0%)	2.46 (1.01-6.00, p=.048)	2.08 (0.79-5.45, p=.137)
Allo-HSCT						
No	49 (35.8%)			34 (37.0%)		
Yes	88 (64.2%)	0.45 (0.24-0.83, p=.011)	0.44 (0.21-0.92, p=.030)	58 (63.0%)	0.24 (0.11-0.50, p<.001)	0.20 (0.09-0.43, p<.001)
Ph-like						
No	120 (87.6%)			79 (85.9%)		
Yes	17 (12.4%)	2.06 (0.84-5.02, p=.113)	1.69 (0.52-5.53, p=.383)	13 (14.1%)	2.01 (0.82-4.94, p=.130)	2.75 (1.04-7.26, p=.041)
IKZF1mut/del						
No	116 (84.7%)			75 (81.5%)		
Yes	21 (15.3%)	1.19 (0.54-2.62, p=.673)	1.43 (0.56-3.69, p=.458)	17 (18.5%)	0.99 (0.44-2.27, p=.989)	1.19 (0.50-2.79, p=.697)

Abbreviations: CNSL, central nervous system leukemia; WBC, white blood cell; Ph+, Philadelphia chromosome positive; MLLr, MLL rearrangement; E2Ar, E2A rearrangement; CK, complex karyotype; OS, Overall survival; EFS, Event-free survival; CIR, Cumulative incidence of relapse; NRM, Non-relapse mortality a, For B-ALL, WBC>30×10⁹/L; for T-ALL, WBC> 100×10⁹/L.