ELSEVIER

Blood 142 (2023) 1466–1467

The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

612.ACUTE LYMPHOBLASTIC LEUKEMIAS: CLINICAL AND EPIDEMIOLOGICAL

The Pediatric-Inspired Regimen Improved Quality and Quantity of Life for Patients with Acute Lymphoblastic Leukemia,Beyond Age, Risk Stratification, and Hematopoietic Stem Cell Transplantation

Junjie Chen[1], *Zhixiang Wang*[2], *Qifa Liu, MD*[3,3], *Hongsheng Zhou*[4]

[1] Southern Medical University/Hematology department, Guangzhou, China
[2] Nanfang Hospital, Guangzhou, China
[3] Department of Hematology, Nanfang Hospital, Southern medical university CN, Guangzhou, China
[4] Nanfang Hospital, Southern Medical University, Guangzhou, China

Abstract

Purpose

Patients in the Nanfang hospital with acute lymphoblastic leukemia (ALL) have had continuous survival improvement since the 2000s. To examine the main factors affecting prognosis, we conducted a retrospective analysis at a single center.

Patients and Methods

1023 evaluable patients were in this analysis (median age, 26, with a range of 14 to 73 years). The pediatric-inspired regimen, PDT-ALL-2016 regimen, was introduced in 2016, since then all patients received this treatment (N=414). While all patients between 2000 and 2015 received adult regimens (N=612). The median follow-up time for the PDT-ALL-2016 cohort was 44.7 months, and that for the adult regimen cohort was 92.9 months.

Results

For the whole series, the 5-year overall survival (OS5y) was 57.8±5.3% in PDT-ALL-2016 cohort and 31.3±5.4%in the adult regimen cohort (P<0.001). There was no significant difference in treatment-related mortality (TRM) between the two cohorts, with rates of 11.9% and 10.6%, respectively (P=0.652). The PDT-ALL-2016 cohort showed a lower cumulative incidence of relapse (CIR) at 5-year (38.1%) compared to the adult regimen (61.1%, P<0.001). Subgroup analysis revealed that all age groups, except for patients aged 41-50 years (HR=0.77, 95% CI, 0.48-1.21, P=0.251), can benefited from the PDT-ALL-2016 regimen. Notably, the older patients subgroup (50-73 years old) showed a significant improved outcome within the PDT-ALL-2016 cohort, compared with adult regimen cohort (HR=0.3, 95% CI, 0.17-0.54, P<0.001). Within this subgroup, CIR and TRM were 44.9% vs. 75.1% (P<0.001) and 4.3% vs. 12.1% (P=0.196), in PDT-ALL-2016 cohort and adult regimen cohort, respectively. Furthermore, subgroup analysis indicated that both high-risk and standard-risk patients had better outcome in the pediatric-inspired regimen cohort. For the HR group, OS5y were 25.1±6.3% vs. 55.5±6.1% (P<0.001), and EFS5y were 18.8±5.8% vs. 43.1±5.9% (P<0.001) in two cohorts. Patients who underwent allo-HSCT could also benefit from PDT-ALL-2016 regimen. For this subgroup, OS5y were 47.7±7.1% vs. 67.7±6.1% (P<0.001), and EFS5y were 37.2±6.7% vs. 53.9±6.7% (P<0.001) in adult regimen cohort and PDT-ALL-2016 cohort, respectively.

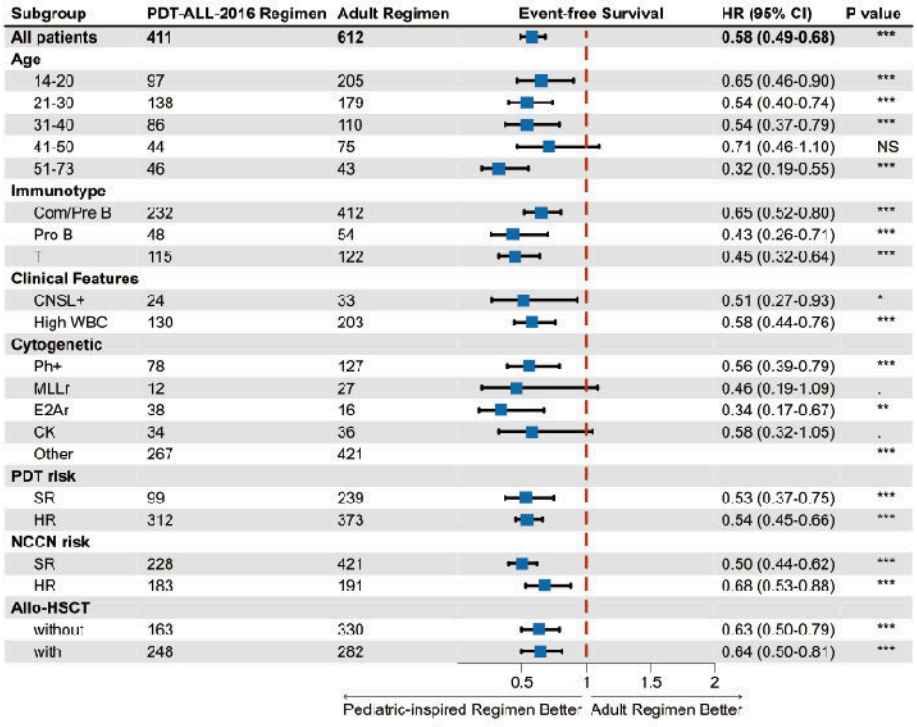
Conclusion

For adult ALL patients, compared with adult regimen, pediatric-inspired regimen resulted in significant improved outcome in all age and risk groups, as well as in patients who underwent allo-HSCT.

This research was supported by the National Natural Science Foundation of China(NFSC82170163, 81970147), Clinical Study of Nanfang Hospital(LC2016ZD009/2019CR012).

Disclosures No relevant conflicts of interest to declare.

Figure



Subgroup	PDT-ALL-2016 Regimen	Adult Regimen	HR (95% CI)	P value
All patients	**411**	**612**	**0.58 (0.49-0.68)**	***
Age				
14-20	97	205	0.65 (0.46-0.90)	***
21-30	138	179	0.54 (0.40-0.74)	***
31-40	86	110	0.54 (0.37-0.79)	***
41-50	44	75	0.71 (0.46-1.10)	NS
51-73	46	43	0.32 (0.19-0.55)	***
Immunotype				
Com/Pre B	232	412	0.65 (0.52-0.80)	***
Pro B	48	54	0.43 (0.26-0.71)	***
T	115	122	0.45 (0.32-0.64)	***
Clinical Features				
CNSL+	24	33	0.51 (0.27-0.93)	*
High WBC	130	203	0.58 (0.44-0.76)	***
Cytogenetic				
Ph+	78	127	0.56 (0.39-0.79)	***
MLLr	12	27	0.46 (0.19-1.09)	.
E2Ar	38	16	0.34 (0.17-0.67)	**
CK	34	36	0.58 (0.32-1.05)	.
Other	267	421		***
PDT risk				
SR	99	239	0.53 (0.37-0.75)	***
HR	312	373	0.54 (0.45-0.66)	***
NCCN risk				
SR	228	421	0.50 (0.44-0.62)	***
HR	183	191	0.68 (0.53-0.88)	***
Allo-HSCT				
without	163	330	0.63 (0.50-0.79)	***
with	248	282	0.64 (0.50-0.81)	***

Figure 1

https://doi.org/10.1182/blood-2023-188479