Outcome of Acute Lymphoblastic Leukemia in Adults Undergoing Allogeneic Hematopoietic Transplant: A Single-Center Study

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Introduction

- Allo-HSCT: cornerstone of treatment for high-risk ALL[1]
- Molecular characterization allows better risk assessment
- MRD – powerful predictor of relapse[2]

Aim

- The aim of the study was to determine the overall outcome of patients undergoing allogeneic HSCT for acute lymphoblastic leukemia (ALL) at our center

Methods

- Data collection – 2011 till 2022
- Variables analyzed included:

Pre-transplant	Peri-transplant	Post-transplant
Age Gender	Donor's gender	GVHD
Subtype	Haplo vs MRD	Relapse
MRD	Days to WBC recovery	OS DFS

- Kaplan Meier survival analysis and scatter plots were used to analyze the OS and DFS post transplant
- Rest of the analysis – descriptive statistics

Results

- Total # of patients – n=36

♂ n=27 ♀ n=09

- Median age – 29 ± 4.5 years

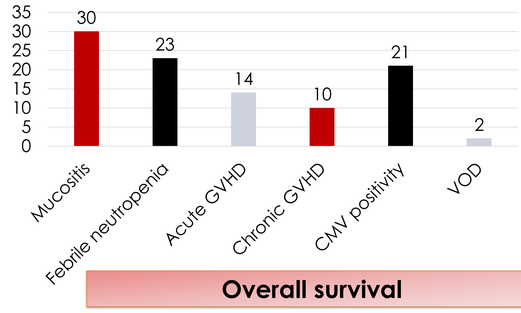
Indications for transplant	
Philadelphia positive n= 14	Disease relapse n=15
Other high risk cytogenetics n=2	MRD positive n=5

Characteristics	Cohort (n)
Subtype	
B-ALL	25
T-ALL	11
Type of transplant	
MRD	25
Haplo	11
Conditioning regimen	
CY/TBI	17
BUCY	09
Other	10

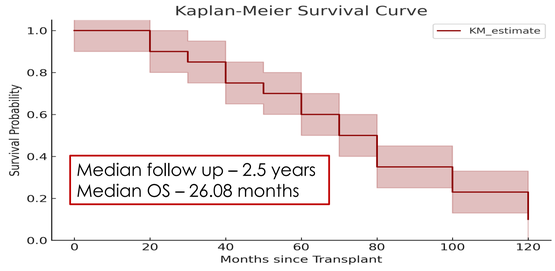
Results cont..

- Gender mismatched transplants – n=7
- Median neutrophil engraftment – 13 days
- Median platelet recovery – 17 days

Post-transplant complications



Overall survival



- Median DFS – 26 months
- Overall survival – 40%, disease relapse most common cause of mortality (44%)

Summary

- OS was 26.08 months with disease relapse being the main cause of mortality.
- GVHD, CMV rates were comparable with international literature

Discussion

- Median age was skewed towards younger patients
- Philadelphia positive patients – OS was 42% with TKI maintenance
- Male gender, haploidentical transplants – associated with poor outcome
- Comparative data:

Study	n	AGVHD (%)	OS (%)
Doney et al, 2011	161	84	38
Abdelaty et al, 2020	119	33	42
Punatar et al, 2016	77	44	62
Ali N et al, 2025	**36**	**38**	**40**

- Our data - more insight into treatment outcomes of ALL in LMIC – basis of clinical trials

References

1. Sun et al. Chin Med J (Engl). 2021 Dec10; 135 (8):890 – 900.
2. Saygin et al. Haematologica. 2022 Dec1;107 (12):2783–2793

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