

A DECADE-LONG REAL-WORLD EXPERIENCE OF CORE BINDING FACTOR ACUTE MYELOID LEUKEMIA IN INDIA: CLINICAL OUTCOMES AND TREATMENT PATTERNS

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INTRODUCTION

- Core Binding Factor Acute Myeloid Leukaemia (CBF-AML) includes t(8;21)(q22;q22) or inv(16)(p13q22)/t(16;16).
- It is a favorable-risk AML sub-group, and treatment recommendations include intensive chemotherapy-based regimens and data from India is scarce.

AIMS AND OBJECTIVES

- Primary Objective:**
Analyze outcomes of CBF-AML treatment in frontline and relapsed settings.
- Outcome Measures:**
Complete remission (CR) and partial response (PR) as per ELN 2022; time to relapse; relapse-free survival (RFS) and overall survival (OS).

METHODS

- Retrospective analysis of patients with CBF-AML between January 2011 and December 2021.
- Demographic outline, clinical presentation, cytogenetic and molecular profiles, treatment, and survival outcomes were analyzed.
- Data were collected from electronic medical records.
- SPSS v23 was used for statistical analysis.
- Kaplan–Meier curves were used to determine OS and EFS

RESULTS

- 50 patients with CBF-AML were studied.
- Median age: 28 years (range 17–71); M:F = 1:1.
- 34 (68%) had t(8;21) and 16 (32%) had inv(16)/t(16;16).
- 37 (74%) achieved CR after induction; 5 (10%) died during induction.
- Median follow-up: 676 days; 19 patients (38%) relapsed.
- Median time to relapse: 388 days.
- Among relapsed patients, 6 underwent allogeneic HSCT in CR2.
- OS: 72.8% at 1 year, 62.3% at 2 years, 57.8% at 3 years.
- RFS: 53.1% at 1 year and 33.0% at 2 and 3 years.

CONCLUSIONS

- This retrospective cohort represents a decade-long real-world experience of CBF-AML in the Indian population.
- CBF-AML showed good initial response rates following intensive chemotherapy, with 72.8% OS at 1 year.
- A 33% relapse-free survival at 3 years suggests that many patients require salvage chemotherapy followed by allogeneic transplantation.

TABLE 1: BASELINE CHARACTERISTICS

Demographic Profile	n=50
Age 18–34 years	20 (40%)
Age 35–59 years	27 (54%)
Age >60 years	3 (6%)
Male / Female	25 (50%) / 25 (50%)
ECOG 1 / 2 / 3	31 (62%) / 12 (24%) / 7 (14%)
No comorbidities	32 (64%)
Fever / Bleeding	30 (60%) / 19 (38%)
Weakness	33 (66%)
t(8;21)	34 (68%)
inv(16)/t(16;16)	16 (32%)
Aberrant CD19+/CD56+	31 (62%)
FISH cKIT	9 (18%)

TABLE 2: TREATMENT PROFILE

Pre-induction HMA	4 (8%)
3+7 induction	44 (88%)
HMA induction	6 (12%)
Complete remission	37 (74%)
Not in remission	2 (4%)
Death / not done	8 (16%) / 3 (6%)
HIDAC	11 (22%)
IDAC	23 (46%)
IDAC + GO	2 (4%)
HMA consolidation	3 (6%)
No consolidation (death/LTFU)	11 (22%)
Relapse	19 (38%)
Median time to relapse	388 days
Alive in CR / Dead / Alive with disease	16 (32%) / 19 (38%) / 15 (30%)

REFERENCES

- Bataller A, Garrido A, Guijarro F, et al. European LeukemiaNet 2017 risk stratification for acute myeloid leukemia: validation in a risk-adapted protocol. Blood Advances. 2022;6(4):1193–1206.
- Borthakur G, Kantarjian H. Core binding factor acute myelogenous leukemia—2021 treatment algorithm. Blood Cancer Journal. 2021;11(6):114.

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