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Outcomes of ETP-ALL in Adolescent and Adult Patients Treated with a Pediatric-Inspired Protocol: Analysis from a Tertiary Cancer Center

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INTRODUCTION

- ETP-ALL represents a unique immunophenotype exhibiting – poor prednisolone response and high minimal residual disease (MRD) positivity post-induction.
- Leads to early relapse and reduced survival in absence of treatment intensification and allogeneic stem cell transplant in resource constraint settings.

AIM

To evaluate the treatment and survival outcomes in ETP-ALL patients treated with paediatric inspired regimen (m-BFM90 protocol).

METHOD

- **Study period:** January 2018 to December 2023
- **Study population:** 112 patients with newly diagnosed ETP-ALL aged >/= 15 years.
- **Study design:** Retrospective analysis

Data extracted from Indian Acute Leukemia Research Database (INwARD), a prospective registry maintained by the Clinical Data Management Center (CDMC), Vellore.

CTRI registration number: CTRI/2020/02/023455

RESULTS

Table 1. Baseline characteristics of patients

Characteristic	n (%)
Total no. of patients	112
Median age, (range)	26 (15 – 54)
Sex	
Male	84 (75%)
Female	28 (25%)
ECOG PS	
0-1	91 (82%)
≥2	20 (18%)

Total WBC	
<100 x 10^9/L	98 (87.5%)
≥100 x 10^9/L	14 (12.5%)
LDH	
Median (IQR)	397.5 (262 - 775)
CNS stage	
CNS 1	76 (67.9%)
CNS 2	30 (26.8%)
CNS 3	3 (2.7%)

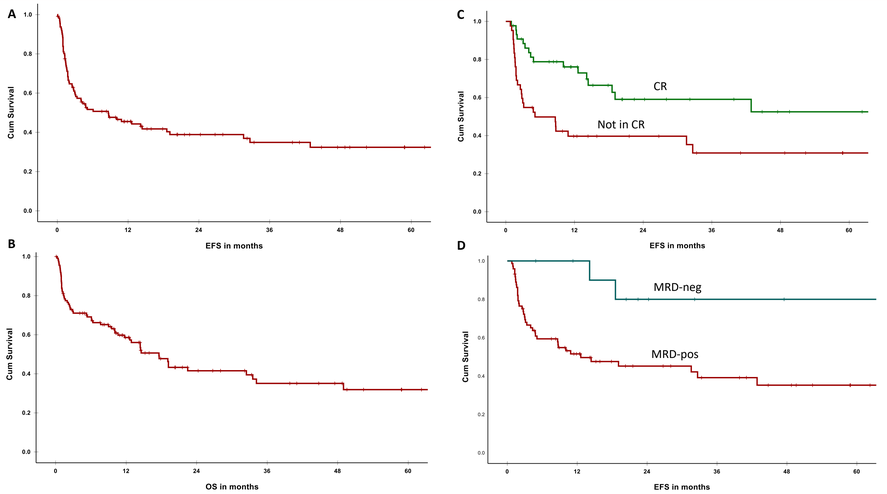


Fig1. KM curves showing (A) Event-free survival (EFS) and (B) Overall survival (OS) in the overall cohort; Event-free survival categorised as post-induction morphological response (C) (*P* = 0.005) and MRD clearance (D) (*P* = 0.013).

Table 2. Treatment and survival outcomes of ETP-ALL patients

Assessment	Response	No response	Not done
Day 8 prednisolone response	48 (43%)	20 (18%)	44 (39%)
Post Phase 1 induction response	44 (39%) in CR	42 (37.5%) not in CR	26 (23%)
MRD clearance	12 (11%) MRD-neg	73 (65%) MRD-pos	27 (24%)

	Median OS	OS	Median EFS	EFS
Overall cohort	17.5 months (95% CI, 12.5-22.6)	2-year 41.5%	8.6 months (95% CI, 1.5-15.8)	2-year 38.9%
non-ETP T-ALL (historical)	-	3-year 71.3% (95% CI, 62.3-81.7)	-	3-year 69.4% (95% CI, 60.3-80)

CONCLUSIONS

- ETP-ALL patients show poor response to induction therapy, with persistent disease and high complications making treatment intensification unviable.
- Palliative care is often the primary option due to limited transplant accessibility and high costs.

REFERENCES

Rajendra A, Jain H, Bonda VNA, Nayak L, Tembhare P, Shetty D, et al. Outcomes and prognostic factors in adolescents and young adults with ALL treated with a modified BFM-90 protocol. Blood Adv. 2021;5(5):1178–93.

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