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ELEVENTH ANNUAL MEETING

Acute Lymphoblastic Leukemia With t(1;19)(q23;p13)/TCF3-PBX1 in Adolescents and Adults as a Poor Prognostic Marker of Long-Term Outcome: An Indian Tertiary Care Center Experience

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INTRODUCTION

- Significant heterogeneity reported in outcome of Acute lymphoblastic leukemia with **t(1;19)(q23;p13)/TCF3-PBX1.**
- **No consensus on precise risk stratification till date.**
- NCCN 2023 recommendation has classified it as standard risk
- Paucity of long-term data on immunotherapy based regimes till date

AIM

- Evaluate clinical outcome of adult ALL cases **(≥15 years)** with t(1;19)(q23;p13) treated on intensive regimes.
- Clinical outcomes with complete remission (CR) rate, overall survival (OS), progression free survival (PFS) and cumulative incidence of relapse (CIR) was assessed.

METHOD

•Out of 637 consecutive ALL patients (Jan 2012 to April 2023), 17 were found to have t(1;19)(q23;p13) and/or TCF3-PBX1.

•Genotypes were defined by conventional karyotype and RT PCR assay from bone marrow.

•**COG-0232 (40 years age)** or **UK-ALL (>40 years)** regimes were given as per institutional policy.

•MRD was analyzed by multiparametric flow cytometry.

RESULTS

•Total 17 cases with median duration of follow up of 2.13 years.

•Thirteen cases had PCR positivity for TCF3-PBX1 rearrangement.

•**All achieved CR (100%).**

•11/14 (78.5%) achieved MRD negativity at end of induction (EOI).

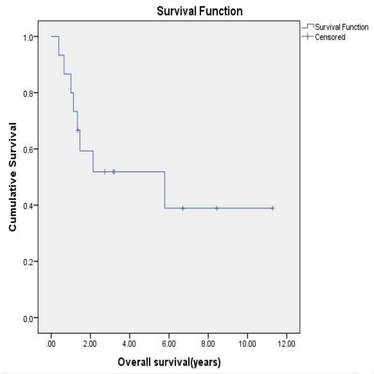
•One patient received allogeneic stem cell transplant in CR1.

•Median age of relapsed patients was 17.5 years .

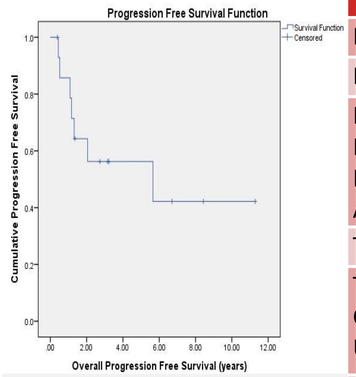
•One patient died in CR due to treatment related toxicity.

•**Overall survival at 2 years was 59.2%. The 5 year estimated OS and PFS was 51.8% and 56.2% respectively.**

•**The 5 years CIR was 56%.**



Overall survival (OS) at 2 years was 59.2% and estimated 5 years OS was 51.8%.



5 years estimated progression free survival was 56.2%.

Parameters	Values
Median Age (range) (years)	23.5 (15-62)
Male:Female (n)	13:4
Karyotype (n=14) Normal (n) Isolated t(1;19) (n) Additional Cytogenetics Abnormalities (n)	 6 3 5
TCF3:PBX1 rearrangement (n)	13
Treatment protocol (n) % COG0232 UKALL	 12 (70) 5 (30)
Remission CR rate, n(%)	17 (100)
EOI MRD negativity, n(%)	11/14 (78.5)
Relapse n (%) [Bone marrow/CNS]	**7 (46.7) [6/1]**

CONCLUSIONS

- ALL with t(1;19)/TCF3-PBX1 in adolescents and adults shouldn't be classified as a standard risk criteria.
- **Early favorable response, late relapses** are **unpredictable** and common even in young adolescents with B cell ALL having t(1;19)/TCF3-PBX1.
- **Early incorporation of novel immunotherapies, consolidation with HSCT** to improve long term outcome should be considered.

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