Salvage Chemotherapy Intensity Does Not Impact Survival in Relapsed/Refractory AML: A Single Center Retrospective Analysis

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INTRODUCTION

- AML is often refractory to induction chemotherapy and has a high risk of relapse after remission. Relapsed/refractory (R/R) AML carries a very poor prognosis, with no consensus on optimal salvage intensity.
- Intensive chemotherapy (IC) has been the traditional salvage approach for fit patients; however, low-intensity therapy (LIT) regimens have demonstrated similar or improved response rates when used as frontline treatment.[1]
- Whether IC confers a survival advantage over LIT as salvage chemotherapy remains unclear, however, prior data have suggested similar outcomes,[2] with significantly reduced risk of adverse effects associated with LIT.[3]

AIM

To compare survival outcomes by salvage chemotherapy intensity – stratified by prior induction regimen – in R/R AML at a single academic center.

METHODS

- Retrospective analysis of AML patients at Baylor St. Luke's Medical Center from 10/2013 - 6/2026
- Patients were stratified into 4 groups based on induction -> salvage intensity: IC→IC (n=30), IC→LIT (n=19), LIT→IC (n=12), and LIT→LIT (n=23)
- IC: 7+3/CPX-351, FLAG, CLIA, or MEC regimens
- LIT: Azacitidine or Decitabine or Cladribine/Cytarabine +/- Venetoclax
- Kaplan-Meier analysis with log-rank testing was performed to compare OS and PFS and chi square tests of independence were used to compare secondary outcomes.

CONCLUSIONS

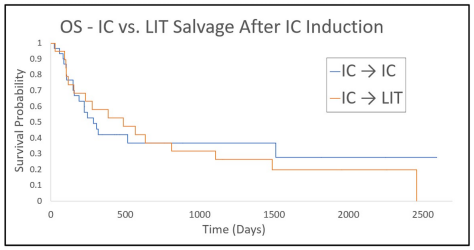
- Salvage chemotherapy intensity did not significantly impact PFS or OS in R/R AML, regardless of induction regimen.
- IC→LIT patients achieved similar PFS and OS to IC→IC patients despite older age, suggesting LIT-based salvage may offer comparable efficacy.
- IC salvage was associated with significantly higher rates of neutropenic fever, bacteremia, and ICU admission
- Limitations include the retrospective design, small subgroups, and absence of molecular stratification.
- Prospective studies comparing salvage intensity with molecular risk-adjusted endpoints are warranted.

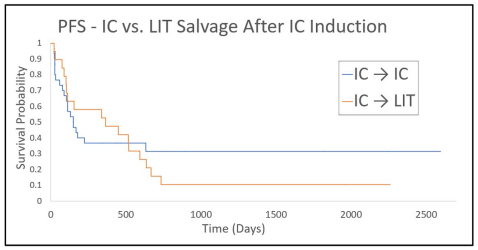
RESULTS

- Of 256 AML patients, 84 received salvage therapy.
- Group sizes: IC→IC (n=30), IC→LIT (n=19), LIT→IC (n=12),and LIT→LIT (n=23).

IC vs LIT Salvage Following IC Induction

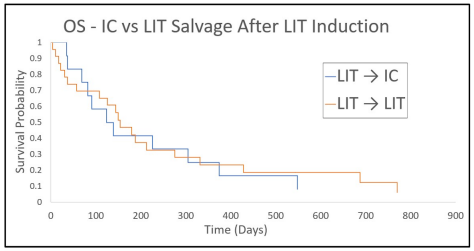
- IC→IC patients were younger than IC→LIC patients (age 45.4 vs. 58.7 years; p=0.002)
- The two groups had similar rates of adverse-risk disease (51.6% vs. 63.6%, p=0.40)
- IC→IC did not improve PFS (4.9 vs 12.0 months; p=0.76) or OS (9.4 vs 16.0 months; p=0.85) compared with IC→LIT
- CR/CRi rates were 62.5% vs 60% (*p*=0.88), and MRD negatives responses were 50.0% vs 27.2% (p=0.24), respectively. Post-salvage transplant rates were 23.3% (IC→IC) vs 31.6% (IC→LIT) (p=0.52).

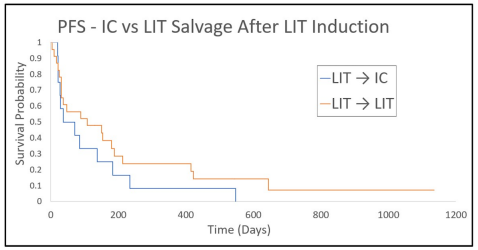




IC vs LIT Salvage Following LIT Induction

- LIT→IC patients were younger than those who received LIT→LIT on average (62.2 vs 70.0 years; P=0.03)
- Similar rates of adverse risk disease (25.0% vs 30.4%; p=0.73)
- LIT→IC did not improve PFS (1.2 vs 3.5 months; p=0.25) or OS (4.1 vs 5.1 months; p=0.65) compared with LIT→LIT.
- No significant difference in the rates of CR/CRi (55.6% vs 45.5%; p=0.65) or stem cell transplantation (16.7% vs. 13.0%; p=0.77) were found.





Treatment Toxicity Rates – IC vs LIT Salvage

Adverse Event	% of IC Salvage pts (n)	% of LIT Salvage pts (n)	X^2 (p-value)
Neutropenic Fever	92.9 (39)	38.1 (16)	p <0.0001
Sepsis	76.2 (32)	28.6 (12)	p <0.0001
Bacteremia	45.2 (19)	21.4 (9)	p = 0.02
ICU Admission	33.3 (14)	11.9 (5)	p = 0.02
Transaminitis	45.2 (19)	23.8 (10)	p = 0.04
UTI	16.7 (7)	4.7 (2)	p = 0.08
Pneumonia	26.2 (11)	21.4 (9)	p = 0.61
AKI	26.2 (11)	23.8 (10)	p = 0.80

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