Efficacy of Inotuzumab ozogamicin when used as salvage / bridging therapy prior to CD19-directed CAR-T therapy in relapsed / refractory B-ALL: A single-center experience

A. John[1], A. Shetty[1], L. Nayak[1], B. Bagal[1], B. S. Girish[1], C. S. Meghana[2], S. Ravikumar[2], D. Kalra[2], L. K. Aishwarya[2], A. Karulkar[2], R. Purwar[2], N. Sharma[1], T. Eipe[1], Y. Shah[1], H. Jain[1], M. Sengar[1]

[1]Tata Memorial Hospital, Mumbai, India. [2]ImmunoACT, Mumbai, India

INTRODUCTION

- High disease burden before CAR-T compromises outcomes in relapsed/refractory B-ALL.
- InO provides effective cytoreduction and may serve as an effective debulking strategy prior to CAR-T cell therapy.
- We evaluated the outcomes and toxicities of InO when used as salvage / bridging prior to talicabtagene autoleucel (Tali-cel).

AIM

To evaluate the efficacy and safety of InO as a salvage/bridging therapy in patients with R/R B-ALL receiving Tali-cel therapy.

METHODS

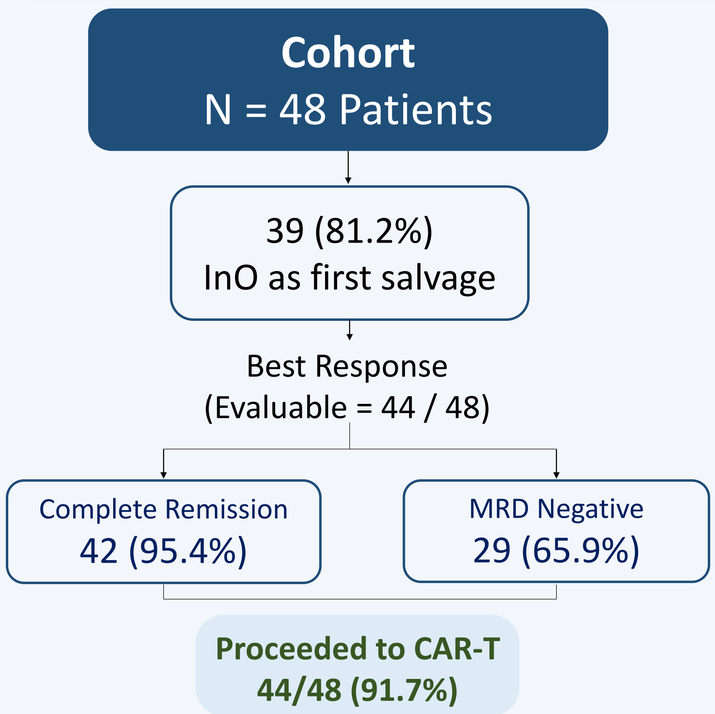
- Retrospective single-center study
- Patients ≥15 years with R/R B-ALL receiving InO before Tali-cel between Jan-2024 and Dec-2025.
- Following FC conditioning, patients received Tali-cel infusion of ≥5×10^6 CAR T cells/kg.
- Outcomes included response, MRD, CAR-T feasibility, toxicity and survival.

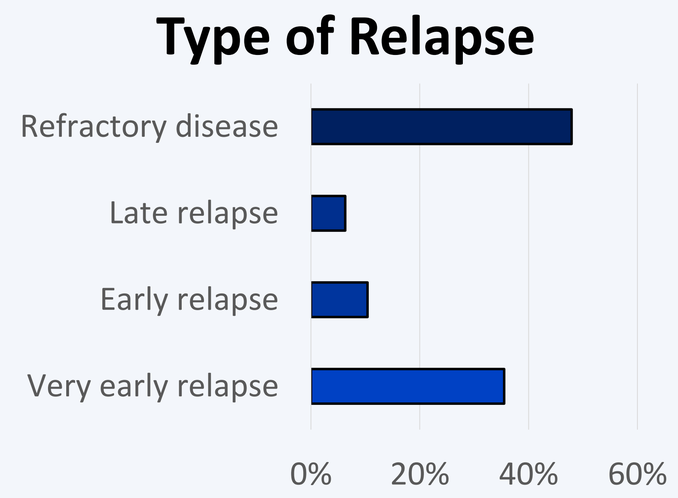
CONCLUSIONS

- InO provided effective cytoreduction and successful bridging to CAR-T in R/R B-ALL.
- CAR-T infusion was feasible in 91.7%, with manageable toxicity.

RESULTS

Median age at relapse	21.5 years (range 15–64)
Male	37 (77.1%)
Ph+ ALL	13 (27.1%)
Median CD22 expression	98.8%(range 45–100%)

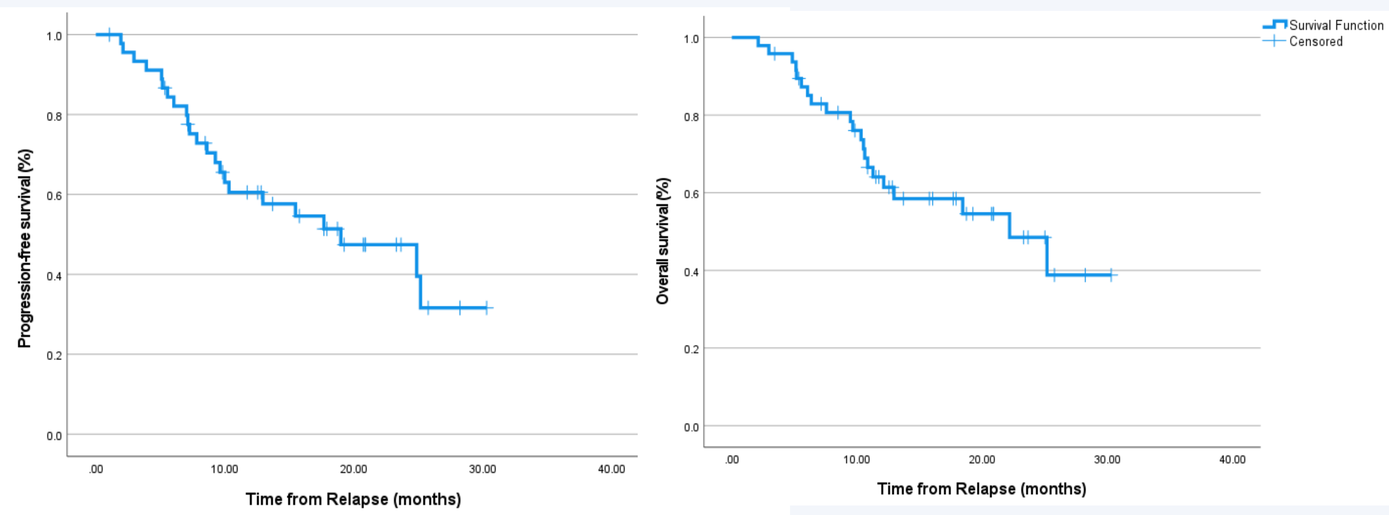




Median cumulative InO = 0.9 mg/m² (0.3 – 3.3)	
Single agent InO	**Combination therapy**
8 (16.6%)	40 (83.4%)

Event, n (%)	InO	CART
≥G3 hepatotoxicity	3 (6.0%)	8 (18.2%)
SOS	0 (0%)	0 (0%)
CRS	X	35 (79.5%)
ICANS	X	1 (2.3%)
IEC-HS	X	17 (38.6%)

2-Year Outcomes	
Median Follow-up	**18.72 Months**
PFS	**OS**
47.4% (95% CI: 31.1 – 63.7)	48.5% (95% CI: 30.5 – 66.5)



References:

Jain H, Karulkar A, Kalra D, Ravikumar S, Shah S, Firfiray A et al. Talicabtagene autoleucel for relapsed or refractory B-cell malignancies: results from an openlabel, multicentre, phase 1/2 study. Lancet Haematol2025; 12: e282–e293.

Contact:
Dr. Anupa John
Email: anupajohn7@gmail.com