Real-world Treatment Patterns and Outcomes of Patients with Large B-cell Lymphoma (LBCL) Who Received Loncastuximab Tesirine Prior to Chimeric Antigen Receptor T-Cell (CAR-T) Therapy

Mehdi Hamadani, MD; Melanie Lucero, MPH; Jakob D DeVos, MS; Lei Chen, MD, PhD

Center for International Blood and Marrow Transplant Research® (CIBMTR®), a research collaboration between National Marrow Donor Program®/Be The Match® and Medical College of Wisconsin.

Abstract #492

Introduction

- CD19-directed CAR-T is standard-of-care in relapsed/refractory diffuse large B-cell lymphoma (DLBCL).
- Loncastuximab tesirine (lonca) is a CD19-targeted antibody-drug conjugate approved for the treatment of DLBCL after at least two prior lines of systemic therapy.
- Data describing the efficacy of anti-CD19 CAR-T therapies in DLBCL patients treated with prior CD19-directed therapies are limited.
- This study examined real-world treatment patterns and outcomes among patients in the US who received lonca as either bridging therapy or the last line of therapy (LOT) prior to their first CAR-T infusion.

Patients

- Adults (≥18 years) with DLBCL who received lonca as either bridging therapy or the last LOT before their first anti-CD19 CAR-T infusion.
- Patients with missing dates for LOT or mantle cell lymphoma were excluded.

Methods

- Patients who received lonca between 2018 and 2022 were identified from the CIBMTR registry.
- Outcomes assessed included the best response to lonca (i.e., complete remission, partial remission, stable disease/no response, progressive disease), best response to CAR-T, progression-free survival (PFS), overall survival (OS), and relapse/progression post-CAR-T, and cause of death.
- Kaplan-Meier estimates were determined for OS and PFS at 6, 12, and 24 months post-CAR-T without censoring subsequent hematopoietic cell transplant.

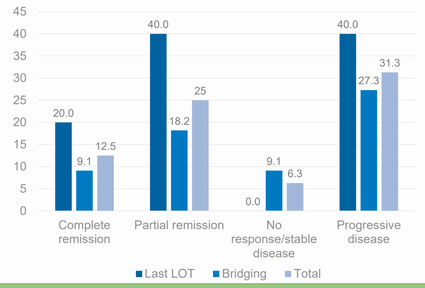
Characteristics

Variable	No. (%)
No. of patients	16
Demographic characteristics	
Age, median (range), yrs	63.2 (42.5-79.9)
Male	12 (75)
White	13 (81.3)
Not Hispanic or Latino	12 (75)
Sub-disease classification	
DLBCL	15 (93.8)
Follicular, unknown grade	1 (6.3)
Disease stage at diagnosis	
Stage I/II	3 (18.8)
Stage III/IV	11 (68.8)
Not reported	2 (12.5)
Therapy prior to CAR-T	
No. prior LOTs, median (range)	4.0 (2.0-7.0)
Prior hematopoietic cell transplant	4 (25)
Refractory to first LOT	
No	7 (43.8)
Yes	6 (37.5)
Not assessed	3 (18.8)
CAR-T product	
Axicabtagene ciloleucel	16 (100)
Disease status at CAR-T	
Refractory disease :	10 (62.5)
Sensitive relapse	6 (37.5)
Lonca therapy	
Lonca as last LOT	5 (31.3)
Lonca as bridging therapy	11 (68.8)
No. of cycles, median (range)	1.0 (1.0-5.0)
Follow-up of survivors	
Median (range), months	24.2 (6.4-37.4)

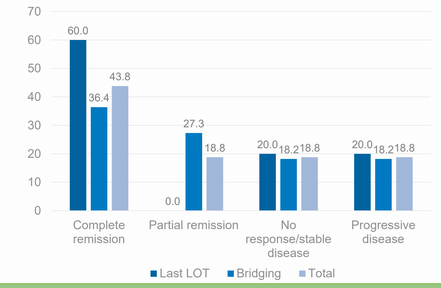
Outcomes

Time intervals and frequency of outcomes	Lonca Therapy Type: Last LOT N=5	Lonca Therapy Type: Bridging Therapy N=11	Total N=16
Duration of lonca line of therapy, days			
Mean (SD)	66.8 (33.17)	42.7 (19.99)	50.3 (26.32)
Median (Q1, Q3)	57.0 (57.0-91.0)	43.0 (24.0-43.0)	43.0 (33.0-57.0)
Range	22.0-107.0	22.0-95.0	22.0-107.0
Time from end of lonca therapy to CAR-T, days			
Mean (SD)	146.8 (122.24)	22.7 (28.96)	61.5 (89.84)
Median (Q1, Q3)	211.0 (28.0-237.0)	13.0 (6.0-28.0)	16.5 (6.5-74.0)
Range	1.0-257.0	1.0-100.0	1.0-257.0
Time from apheresis to CAR-T, days			
Mean (SD)	29.4 (3.36)	39.0 (22.75)	36.0 (19.21)
Median (Q1, Q3)	28.0 (27.0-33.0)	33.0 (28.0-40.0)	31.0 (27.5-34.5)
Range	26.0-33.0	23.0-104.0	23.0-104.0
Time from start of lymphodepleting chemotherapy to CAR-T, days			
Mean (SD)	5.0 (0.00)	5.7 (2.45)	5.5 (2.03)
Median (Q1, Q3)	5.0 (5.0-5.0)	5.0 (5.0-5.0)	5.0 (5.0-5.0)
Range	5.0-5.0	4.0-13.0	4.0-13.0
Relapse/progression, without censoring subsequent HCT, no. (%)			
Alive and disease/progression-free	2 (40.0)	2 (18.2)	4 (25.0)
Relapse/progression/treatment failure/death due to primary disease	3 (60.0)	7 (63.6)	10 (62.5)
Death due to other causes	0 (0.0)	2 (18.2)	2 (12.5)

Best response to lonca LOT

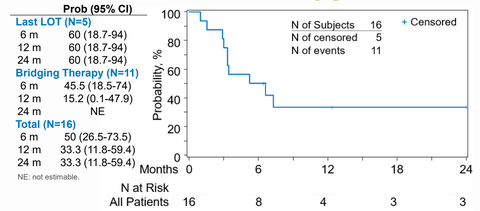


Best response to CAR-T

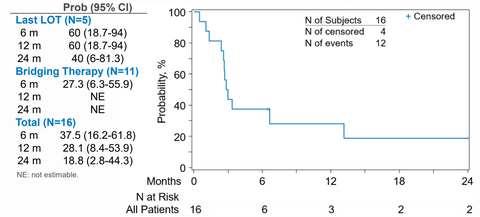


Outcomes of CAR-T

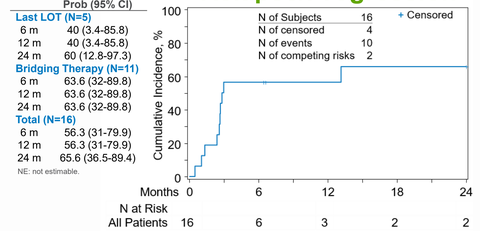
OS



PFS



Relapse/Progression



Conclusions

- In this small, observational, real-world study, treatment of patients with lonca prior to CAR-T infusion did not preclude subsequent responses to CD19-directed CAR-T therapy.
- Studies in a large patient population are warranted to confirm the findings.

Conflict of Interest Disclosure: Hamadani: Research Support/Funding: ADC Therapeutics SA with partial funding by Swedish Orphan Biovitrum AB; Spectrum Pharmaceuticals; Astellas Pharma; Consultancy: ADC Therapeutics, Omeros, CRISPR, BMS, Kite. Abbvie, Caribou, Genmab; Speaker's Bureau: ADC Therapeutics, AstraZeneca, BeiGene, Kite. Lucero and Chen were employees of ADC Therapeutics at the time of the study and currently own stock in the company. DeVos has no conflicts to report.