THE UNIVERSITY OF KANSAS CANCER CENTER

TRENDS OF BCMA RE-EMERGENCE POST IDE-CEL AND CILTA-CEL IN MYELOMA

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INTRODUCTION

- Outcomes of patients with triple and penta-class relapsed refractory multiple myeloma (RRMM) are poor
- B-cell maturation antigen (BCMA) chimeric antigen receptor T-cell (CAR T) therapy in RRMM has been approved since March 2021
- Early re-emergence of soluble BCMA may be a prognostic indicator for clinical relapse

OBJECTIVES

- To trend re-emergence of BCMA at 3 months and 6 months using multiparameter flow cytometry (MFC) from bone marrow (BM) aspirate or biopsy to compare outcomes between BCMA CAR T products

METHODS

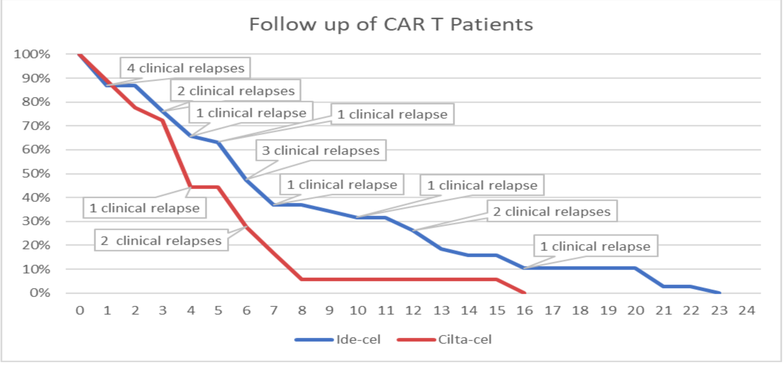
- Prospective cohort study
- Total 56 RRMM patients who received BCMA CAR T at the University of Kansas Health System between May 2021 and May 2023 were included
- All patients had standard procedure of BM evaluation at 1, 3, and 6 months, and 1 year
- Eight-color MFC was performed on the BM specimens
- Responses were evaluated using the International Myeloma Working Group criteria
- BCMA re-emergence was defined as BCMA greater than nadir on either polyclonal or monoclonal BM plasma cells

RESULTS

- 56 patients were included in the analysis, of which 38 received ide-cel and 18 received cilta-cel
- A greater proportion of ide-cel patients had cumulative re-emergence of BCMA within 12 months post-CAR T compared to cilta-cel patients (58% vs. 17%, p=0.004)
- However, the possible limitation is that there was a significant difference in follow-up time between ide-cel and cilta-cel patients that could explain this difference (11 vs. 4 months, p=0.004)

Table 1. Demographics and Clinical Characteristics

n (%)	All Patients (n=56)	Ide-cel (n=38)	Cilta-cel (n=18)	*p*- value
Gender				
Male	31 (55)	23 (61)	8 (44)	0.388
Female	25 (45)	15 (39)	10 (56)	
Median Age at Infusion	65 (58-69)	65 (59-69)	65 (57-69)	0.569
Race				
White	46 (82)	32 (84)	14 (78)	0.337
Black	9 (16)	6 (16)	3 (17)	
Other	1 (2)	0 (0)	1 (6)	
Triple class RRMM	53 (98)	38 (100)	15 (94)	0.296
Penta class RRMM	34 (63)	23 (61)	11 (69)	0.759
Prior ASCT	45 (80)	31 (82)	14 (78)	0.732
Re-emergence of BCMA post CAR-T	25 (45)	22 (58)	3 (17)	**0.004**
Re-emergence of BCMA by 3 months	12 (28)	11 (38)	1 (7)	0.067
Re-emergence of BCMA by 6 months	12 (52)	10 (63)	2 (29)	0.193
Re-emergence of BCMA by 12 months	12 (100)	11 (100)	1 (100)	NC
Median Follow Up in Months	7 (4-14)	11 (6-16)	4 (3-7)	**0.004**
Clinical Relapse	21 (38)	18 (47)	3 (17)	**0.039**
Mortality	13 (23)	12 (32)	1 (6)	**0.042**



CONCLUSIONS

- There are possible differences in re-emergence of BCMA in different BCMA-CAR T products
- This is an early observation and more patient enrollment and longer follow-up is needed