*Abstract Topic: 14. Myeloma and other monoclonal gammopathies - Clinical*

**EHA-5143**

# CURRENT USE OF BCMA-TARGETED AGENTS IN RELAPSED/REFRACTORY MULTIPLE MYELOMA AND KEY DRIVERS WHEN SELECTING CAR T-CELLS VERSUS BISPECIFICS. DATA FROM REAL-WORLD STUDY IN EU5 COUNTRIES AND IN THE US

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## Background:

Treatment of multiple myeloma (MM) improved thanks to frontline quadruplets in stem cell transplant (SCT) eligible patients and daratumumab-based triplets in SCT ineligible patients, leading to deeper responses with negative MRD status and prolonged PFS (1).

However, most patients relapse or become poor responders or refractory to the 3 main classes, i.e proteasome inhibitors (PIs), IMiDs and anti-CD38 monoclonal antibodies.

New anti-BCMA agents (CAR T cells and bispecific T-cell engagers, BiTEs) have now been included in international clinical practice guidelines after ≥3 prior lines of therapy including an IMiD, a PI, and an anti-CD38 mAb (2, 3).

Considerations when deciding between BCMA-targeted CAR T-cells vs. bispecific antibodies/BiTEs can rely on many criteria: patient/disease stability, logistics, ongoing vs. one-time dosing, response rate, safety, and sequencing (4, 5, 6).

## Aims:

Identify patterns and drivers for selecting CAR T treatment vs. bispecific antibodies in relapsed/refractory MM patients and compare patients' characteristics between those 2 groups.

## Methods:

Anonymized MM patient charts, provided by onco-hematologists in France, Germany, Spain, Italy, UK, and US were analyzed.

The analysis focused on R/R patients receiving a BCMA-targeted agent: CAR T-cells vs. bispecific antibodies.

192 patients receiving a CAR T (n=106 ide-cel ; n=86 cilta-cel) and 210 receiving a bispecific antibody (n=206 teclistamab ; n=4 elranatamab) were included in Q4 2023.

## Results:

Median age of patients was 62 for ide-cel, 61 for cilta-cel. The majority were <65 (64% ide-cel and 61% cilta-cel), and patients >75 represent a minority (7% ide-cel and 1% cilta-cel).

The vast majority had an ECOG score of 0-1 (75% ide-cel and 80% cilta-cel) and 43%/46% were fit with ide-cel/cilta-cel with few frail patients in the 2 groups (<10%).
No significant difference was seen on disease cytogenetic profile with 31%/20% high risk patients with ide-cel/cilta-cel.
A low percentage (29% ide-cel and 18% cilta-cel) had no comorbidity. The most frequent comorbidities were mild-moderate renal failure (25 to 30%), high blood pressure (35 to 40%), dyslipidemia (25%) and diabetes (25%) with no significant difference between the 2 groups.
Analysis of patients receiving a treatment with BCMA-targeted bispecific included only 4 patients with elranatamab, 3 in France and 1 in the US in 3rd or 5th line +.
The others in this bispecific subgroup received teclistamab, mainly in 4th or 5th line + (48 and 41%). Median age at treatment initiation was 67 with 45% aged between 65 to 75 and 20% >75.
ECOG status was 0-1 in 69% of patients and 33% were considered fit, 57% intermediate fit and 9% frail. Cytogenetic profile of this subgroup was similar to the CAR T group with 22% high risk, 36% intermediate and 33% standard risk.
Level of comorbidities was greater than in the CAR T group with 85% of patients with at least one, incl. 42% mild-moderate renal failure, 41% high blood pressure, 23% dyslipidemia and 14% diabetes.

**Summary/Conclusion:**
The main drivers for treatment selection between BCMA-targeted agents appear to be safety/tolerability based on patient profile and comorbidities, overall convenience, and response rate. BiTEs tend to be preferred in older patients with more comorbidities, especially more severe renal failure, and intermediate fitness.
Future approval by EMA of ide-cel and cilta-cel based on KarMMa-3 (7) and CARTITUDE-4 (8) trials should encourage their use in earlier lines of therapy and current assessment of anti-BCMA bispecifics in 1st and 2nd line of therapy might also enhance their role in treatment landscape for MM regardless of patient’s profile.

**Keywords:** Multiple myeloma, Bispecific, Real world data, CAR-T