ESTABLISHING T-CELL ENGAGING BISPECIFIC ANTIBODIES THERAPY IN COMMUNITY PRACTICE

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INTRODUCTION :

T-cell engaging bispecific antibodies (TCEs) are increasingly used for relapsed or refractory malignancies. Implementation outside academic centers remains challenging because of “step up” dosing requirements, cytokine release syndrome (CRS), immune effector cell associated neurotoxicity syndrome (ICANS), supportive care needs, infections and the requirement for immediate access to tocilizumab. Real world data describing community-based initiation models remain limited.

AIM :

To evaluate the feasibility and safety of a structured, multidisciplinary model for initiating T-cell engaging bispecific antibodies in a community oncology setting, with focus on treatment-related toxicities and unplanned healthcare utilization.

METHODS :

- Conducted a prospective quality improvement and cohort study of adult patients who initiated TCEs at a community oncology practice between October 2025 and May 2026. Standard ASBMT criteria defined CRS and ICANS.
- Patients received “step-up” dosing at a single Institution followed by continued administration with local oncologist.
- Following out-patient administration, patients were hospitalized for 23 hours for first 3 doses. All patients received 8 mg dexamethasone at hospitalization and at discharge. Access to oral 16 mg dexamethasone was provided. Non tarlatamab patients received pan prophylaxis and IgG monitoring.
- Patients and caregivers were educated and carried a checklist for home vitals monitoring. A 24-hour direct access to attending physician facilitated prompt action to prevent hospitalization. Analysis included drug discontinuation, CRS, ICANS, cytopenias, infections, unplanned hospitalization and ICU utilization.

RESULTS:

A total of twenty-five patients (media age 63 years, range 48-82; 52% female) were included in the cohort. Therapies included tarlatamab (n=13), talquetamab (n=6), teclistamab (n=2), glofitamab (n=3) and mosunetuzumab (n=1). No grade II-IV CRS or ICANS occurred. Grade -I CRS occurred in 11 (44%); 3 patients received tocilizumab. Grade-I ICANS occurred in 8 (32%). Eight (32%) patients required unplanned hospitalization (CRS=2, ICANS=4, dehydration =2). Outcomes were similar between patients who received tarlatamab and non-tarlatamab therapies for CRS, ICANS and unplanned hospitalization. Two patients developed self-limiting upper respiratory infections. At a median follow-up of 4 (1- 8) months, 7 (28%) patients discontinued therapy due to disease progression (including 2 deaths) while 18 (72%) remain on treatment. Response assessment and IVIG utilization is ongoing.

TABLE 1:

KEY CLINICAL OUTCOMES

Clinical Outcome	% of Patients (N = 25)
Grade 1 CRS	**11 (44%)**
Grade 1 ICANS	**8 (32%)**
Unplanned hospitalization	**8 (32%)**
Tocilizumab administered	**3 (12%)**
Discontinued therapy	**7 (28%)**
Remained on treatment	**18 (72%)**

CONCLUSIONS :

A structured, multidisciplinary care model (navigator, coordinator, infusion nurse, pharmacist, advanced nurse practitioner, hospitalist) incorporating standardized protocols, caregiver engagement and rapid physician access enables safe, effective delivery, and broader adoption of TCEs in the community.

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ACKNOWLEDGEMENTS

This research was supported (in whole or in part) by HCA Healthcare and/or an HCA healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.