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POSTER ABSTRACTS

652.MULTIPLE MYELOMA: CLINICAL AND EPIDEMIOLOGICAL

Tocilizumab Prophylaxis for Patients Treated with Teclistamab: A Single-Center Experience

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Background: Teclistamab, a bispecific antibody targeting B-cell maturation antigen (BCMA) and CD3, is the first-in-class FDA approved treatment for relapsed/refractory multiple myeloma (RRMM). Early studies of teclistamab have shown high rates of response along with cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS) (Moreau et al. NEJM 2022). Emerging data from 28 RRMM patients treated with the bispecific antibody cevostamab (targeting FcRH5 and CD3) indicate that use of prophylactic tocilizumab, an anti-IL6 monoclonal antibody, can reduce the risk of developing CRS significantly, without impacting its anti-myeloma activity (Trudel et al. Blood 2022). Preliminary data from 14 patients treated with prophylactic tocilizumab prior to teclistamab were presented at ASCO 2023, suggested reduced CRS risk and no new safety signals (van de Donk et al. J Clin Oncol). We were motivated to administer a single dose prophylactic tocilizumab prior to the first teclistamab step-up dose in a real-world setting including 31 patients.
Methods: This single-center study includes all RRMM patients treated with teclistamab in the real-world setting at the University of Miami Hospital and Clinics, Sylvester Comprehensive Cancer Center between FDA approval (October 25, 2022) and data cutoff (July 21, 2023). Patients were prospectively followed for safety and efficacy outcomes. The primary aim was to investigate the effect on CRS which was assessed by the standard Lee ASTCT criteria (Lee et al. Biol Blood Marrow Transplant 2019). Other adverse events were graded according to CTCAE V5.0. P-values were calculated using Fisher's exact test.
Results: At the time of data cutoff 31 patients had received teclistamab. The median age was 71 (range 50-84) and 10 (32%) patients were 75 or older. Nine (29%) patients were black and eight (26%) were Hispanic ethnicity. A total of 24 (77%) patients had extramedullary disease, 17 (55%; $p<0.01$) of which had soft tissue plasmacytomas. Twenty-six (84%) met at least one exclusion criteria for the MAJESTEC-1 trial. In this population we observed a low rate of CRS (13%: binomial 95%CI 4%-30%; $p<0.01$) and ICANS (10%: 2%-26%); CRS was limited to grade 1 and there was 1 episode of grade 2 neurotoxicity. IgG <400 mg/dL occurred in 21 (68%) of the patients and documented infections occurred in eight (26%) of patients. Neutropenia was observed in 27 (87%) patients, including 20 (65%) with Grade 3 or higher. Among 30 patients with secretory disease, the best overall response rate (ORR) was 15/30 (50%: 31%-69%). Based on standard response criteria, we found 9 (30%: 15%-49%) complete response, 4 (13%: 4%-31%) partial response, 11 (37%: 20%-56%) stable disease, and 4 (13%: 4%-31%) progressive disease. Median follow-up was 109 days (range 9-225) and median duration of response was not reached. At time of data cutoff, 17 (55%) of patients were currently receiving teclistamab therapy.
Conclusions: Our findings suggest that tocilizumab may be effective as a preventative, rather than reactive, measure for patients treated with teclistamab. Larger studies are needed to confirm and expand on our results.

Disclosures Kowalski: *Pfizer:* Consultancy. **Kazandjian:** *Sanofi:* Consultancy, Honoraria; *Arcellx:* Consultancy, Current Employment, Honoraria; *Aptitude Health:* Consultancy, Honoraria; *Aperture Medical Technology, LLC:* Consultancy, Honoraria; *Curio Science:* Ended employment in the past 24 months, Honoraria; *Karyopharm Therapeutics:* Current Employment, Speakers Bureau; *Bristol Myer Squibb:* Consultancy, Honoraria; *Bridger Consulting Group:* Consultancy, Honoraria; *MMRF:* Ended employment in the past 24 months, Honoraria; *MJH Life Sciences:* Current Employment, Honoraria; *Plexus Communications:* Ended employment in the past 24 months, Honoraria; *Alphasights:* Consultancy, Honoraria. **Landgren:** *Merck:* Consultancy,

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OffLabel Disclosure: Tocilizumab for the prevention of cytokine release syndrome in patients treated with teclistamab

Table 1. Baseline Characteristics

Characteristic	Current Study	Majestec-1 Clinical Trial [1]
Total (N)	31	165
Median Age (Range) Age ≥ 75 (%) Female Sex (%)	71 (50-84) 10 (32) 21 (68)	64 (33-84) 24 (14.5) 69 (41.8)
White Race (%)	22 (71)	134 (81.2)
Hispanic Ethnicity (%)	8 (26)	NR
Extramedullary disease (%) Extramedullary Disease – Soft Tissue (%) ≥ 60% Plasma Cells in Bone Marrow (%)	24 (77) 17 (55) 8 (26)	NR 28 (17.0) 18/160 (11.2)
High Risk Cytogenetic Profile (%)	9 (29)	38/148 (25.7)
ECOG 0-1 (%) ECOG 2 (%) ECOG 3 (%) Median Lines of Previous Therapy (Range)	15 (48) 12 (39) 4 (13) 5 (4-12)	164 (99.4) 0 (0) 1 (0.6) 5 (2–14)
Triple Class Exposure (%) Triple Class Refractory (%) Penta Class Exposure (%) Penta Class Refractory (%) Refractory to Last Line (%) Previous Stem Cell Transplant (%)	31 (100) 26 (84) 21 (68) 6 (19) 28 (90) 12 (39)	165 (100.0) 128 (77.6) 116 (70.3) 50 (30.3) 148 (89.7) 135 (81.8)
Ineligible for MAJESTEC-1 (%) Hematological Ineligibility (%) GFR <40 ml/min (%) Previous BMCA Therapy (%) Second Malignancy (%) Known CNS Involvement (%)	26 (84) 15 (48) 8 (26) 4 (13) 1 (4) 2 (7)	NA NA NA NA NA NA

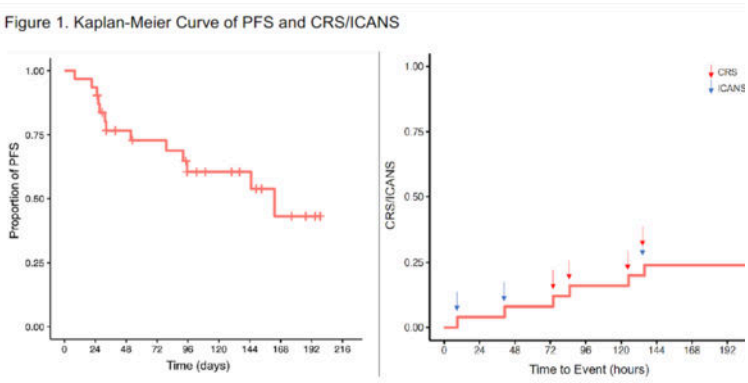

Figure 1

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