PROPHYLACTIC TOCILIZUMAB TO REDUCE THE RISK OF CRS AND ICANS IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA TREATED WITH ELRANATAMAB

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INTRODUCTION

- Cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS) are potentially fatal toxicities of bispecific antibody (BsAb) therapy.[1]
- Elranatamab is a BCMA-directed BsAb requiring step-up dosing, the period of highest CRS risk.[2]
- Prophylactic tocilizumab, an IL-6 receptor antagonist, may mitigate these toxicities and enable outpatient step-up dosing.[3]
- Strategies that reduce CRS and ICANS may lower morbidity and mortality.

AIM

Examine survival outcomes and complications in patients treated with elranatamab **with and without prophylactic tocilizumab**.

Primary outcomes

- Rates of CRS and ICANS

Secondary outcomes

- Overall survival, infection, treatment delay, and treatment discontinuation

METHOD

- Retrospective cohort of **86 patients** receiving elranatamab step-up dosing at Moffitt Cancer Center, Oct 2023 – Mar 2026.
- Patients treated in both inpatient and outpatient settings.
- **42 (49%)** received prophylactic tocilizumab prior to step-up dosing.
- CRS and ICANS graded by ASTCT consensus criteria.
- Fisher exact tests, Kaplan–Meier with log-rank, and Cox regression (R 4.5.0).

CONCLUSIONS

- Absolute rates of CRS (**22% vs 30%**) and ICANS (**12% vs 14%**) were lower with prophylactic tocilizumab, but not significantly so.
- Tocilizumab was associated with **significantly less treatment discontinuation** in prior-BCMA, prior CAR-T, and age >65 subgroups.
- Discontinuation and treatment delay were the strongest predictors of death.
- **No ICANS** occurred in the 16 outpatients, all of whom received prophylaxis.
- Prospective study is warranted, particularly for outpatient dosing.

RESULTS

Table 1. Baseline patient characteristics (N = 86).

Characteristic	N = 86
Age, median (range)	71 (45–95)
Male	41 (48%)
White / Black	67 (83%) / 10 (12%)
Hispanic	15 (18%)
ECOG PS 0–1	57 (72%)
Prior lines, median (range)	6 (2–15)
Prior autologous SCT	43 (51%)
Prior CAR T-cell therapy	47 (55%)
Prior BCMA-directed therapy	38 (45%)
del(17p) / t(4;14)	22 (26%) / 11 (13%)
gain(1q21) / t(14;16)	51 (61%) / 5 (13%)
Outpatient step-up dosing	16 (19%)
Prophylactic tocilizumab	42 (49%)

Table 2. Outcomes by prophylactic tocilizumab group.

Outcome	No toci (n=43)	Toci (n=42)	p
Any CRS	13 (30%)	9 (22%)	0.54
Any ICANS	6 (14%)	5 (12%)	1.00
Infection	19 (44%)	16 (38%)	0.73
Treatment delay	4 (9%)	11 (26%)	0.079
Discontinuation	28 (65%)	17 (42%)	0.051
Discontinuation by subgroup			
Prior BCMA (n=38)	18 (69%)	3 (25%)	**0.028**
Prior CAR-T (n=47)	18 (62%)	5 (28%)	**0.047**
Age > 65 (n=60)	20 (71%)	13 (41%)	**0.033**

All outpatients received prophylactic tocilizumab, so no setting-stratified comparison is possible.

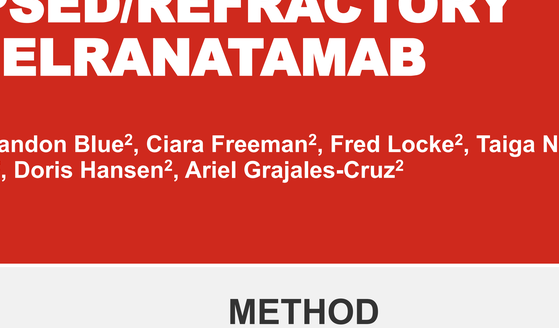

Figure 1. Patient population and toxicity by prophylaxis group.

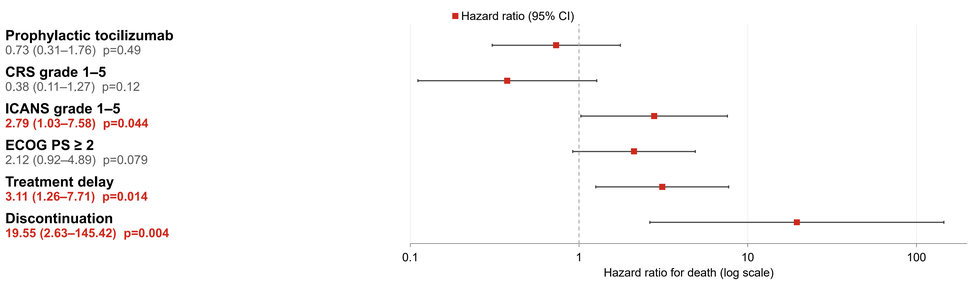

Figure 2. Univariate Cox regression. HR > 1 indicates increased risk of death.

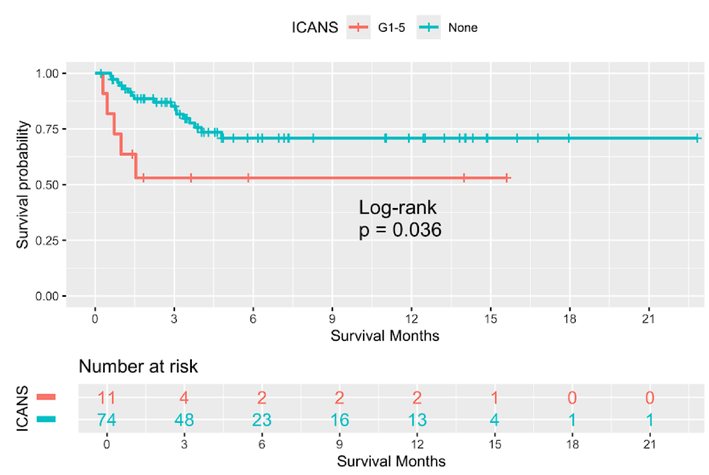

Figure 3. Overall survival by ICANS occurrence (log-rank p = 0.036).

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