MM - 948

Real-World Utilization and Survival Outcomes of Palliative Radiation Therapy in Multiple Myeloma Patients Receiving BCMA-Targeted Therapies: A Propensity Score-Matched TriNetX Analysis

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INTRODUCTION

- BCMA-targeted therapies - including bispecific antibodies, antibody-drug conjugates, and CAR-T cell therapies - have transformed the management of relapsed/refractory multiple myeloma (MM).
- Despite high skeletal burden in MM, palliative radiation therapy (RT) utilization and outcomes in BCMA-treated patients remain poorly characterized.
- We evaluated RT prevalence and its association with overall survival (OS).

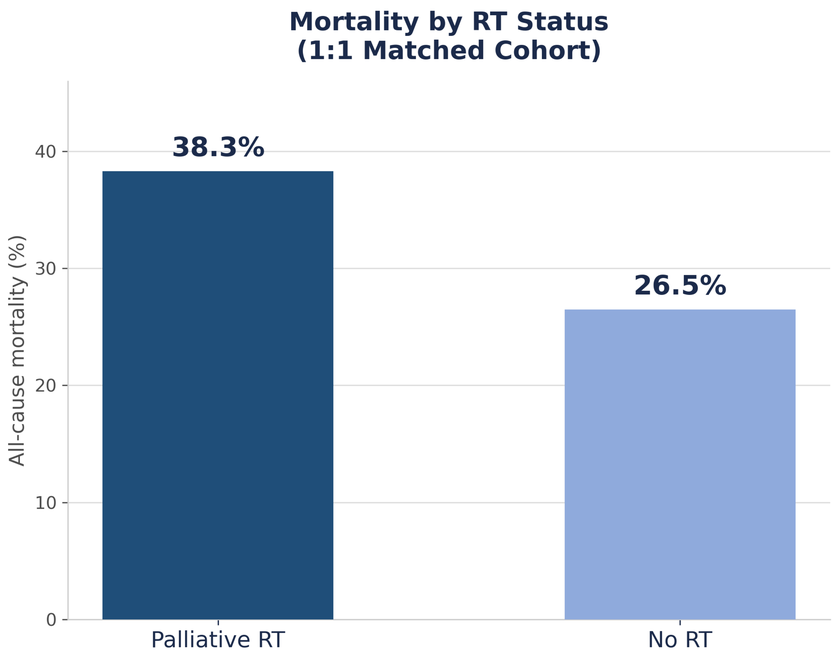
METHODS

- **Design:** Retrospective cohort study using the TriNetX US Collaborative Network (65 HCOs, ~92.5 million patients).
- **Population:** MM patients receiving BCMA-targeted therapy (idecabtagene vicleucel, ciltacabtagene autoleucel, belantamab mafodotin, teclistamab, or elranatamab) on or after January 1, 2020.
- **Matching:** Propensity-score matching to balance baseline characteristics.
- **Endpoint:** Overall survival via Kaplan-Meier methodology, log-rank testing, and multivariable Cox proportional hazards modeling.

COHORT

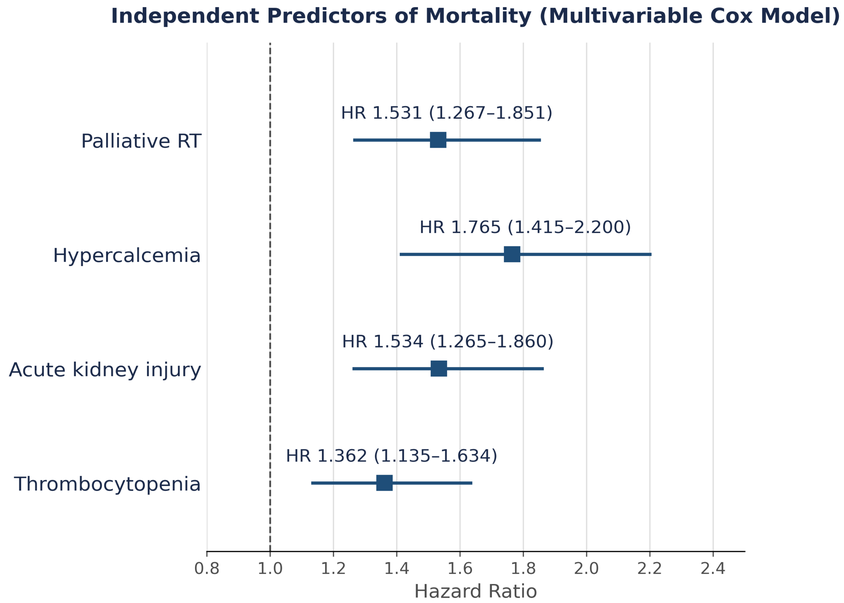
- Among 2,522 MM patients receiving BCMA-targeted therapy, 390 (15.5%) received palliative RT.
- After matching, 386 matched pairs were analyzed (median follow-up 395 days [RT] vs. 348 days [No RT]).

RESULTS



Outcome	Palliative RT	No RT	RR	P value
All-cause mortality	38.3%	26.5%	1.447 (1.174-1.784)	0.0004
Median overall survival	832 days	Not reached	-	Log-rank p = 0.013

RT = Radiation therapy; RR = relative risk



CONCLUSIONS

- Palliative RT was utilized in approximately 1 in 6 MM patients receiving BCMA-targeted therapy - a clinically significant and understudied population.
- Despite propensity matching, RT receipt was independently associated with higher mortality on adjusted analysis, likely reflecting greater disease burden rather than a direct treatment effect.
- **Limitations:** inability to verify RT palliative intent from CPT codes; unspecified temporal relationship between RT and BCMA initiation; residual confounding from unmeasured variables including ISS stage and prior therapy lines.
- Prospective investigation is needed to define optimal RT integration in BCMA-targeted regimens.

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