

Impact of Diabetes Mellitus on Outcomes in Multiple Myeloma Patients Receiving Bispecific Antibodies: A Real-World Analysis

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INTRODUCTION

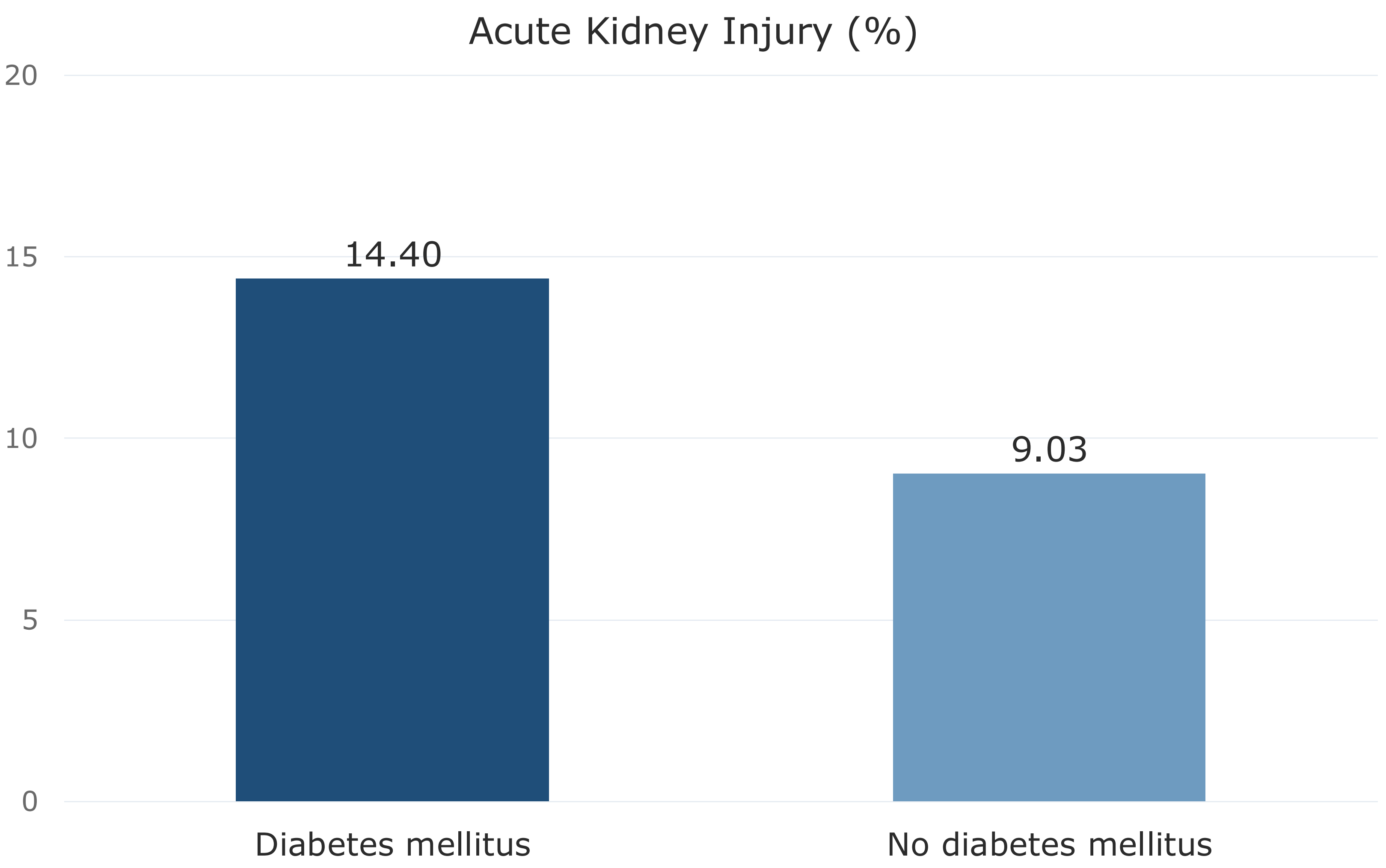
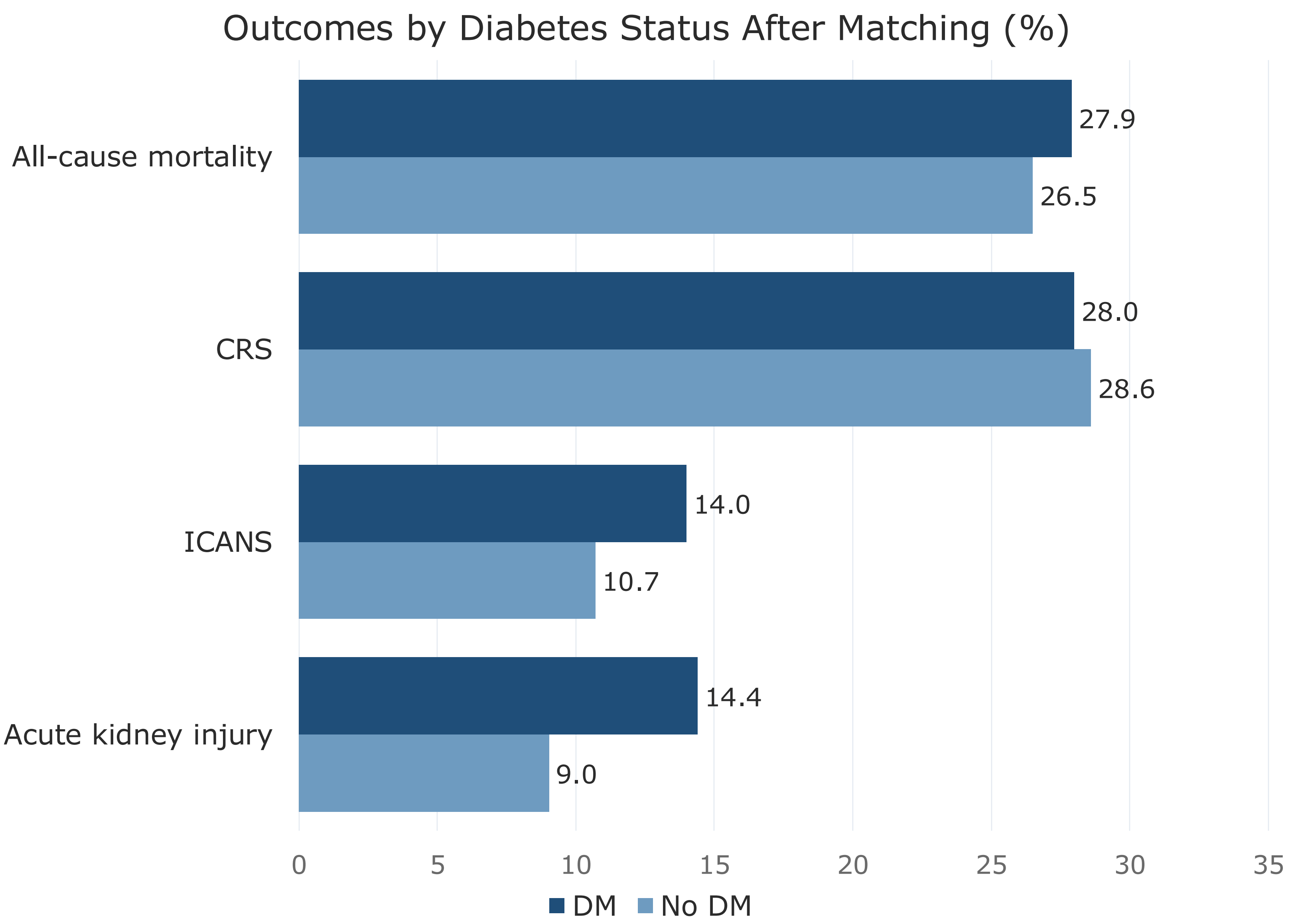
- Bispecific T-cell-engaging antibodies targeting BCMA have shown substantial efficacy in relapsed/refractory multiple myeloma (MM).
- Teclistamab, Elranatamab, and Talquetamab were evaluated in trials enrolling selected patients with adequate organ function and performance status.
- The impact of diabetes mellitus (DM), a common comorbidity linked to immune dysregulation, remains incompletely defined in real-world settings.

METHODS

- Design:** Retrospective cohort study using the TriNetX US Research Network (2022-2026).
- Population:** Adults with MM treated with bispecific antibodies, stratified by DM status before therapy.
- Matching:** Propensity-score matching to balance baseline characteristics.
- Endpoints:** All-cause mortality, CRS, ICANS, hematologic toxicity, infection, AKI, and ICU utilization.

COHORT

- 2,161 patients identified: 712 with DM and 1,449 without DM.
- After matching, 663 patients per cohort.



AKI was the only outcome that differed significantly: RR 1.59 (P = 0.03).

RESULTS

Outcome	DM (%)	No DM (%)	RR	P value
All-cause mortality	27.9	26.5	1.05	0.57
CRS	28.0	28.6	0.97	0.79
ICANS	14.0	10.7	1.32	0.10
Acute kidney injury	14.4	9.03	1.59	0.03

AKI = acute kidney injury; CRS = cytokine release syndrome; ICANS = immune effector cell–associated neurotoxicity syndrome; RR = relative risk.

CONCLUSIONS

- DM was not associated with increased mortality, CRS, ICANS, grade ≥3 cytopenias, sepsis, respiratory infections, or ICU admission in patients with MM receiving bispecific antibodies.
- DM was associated with a significantly higher risk of AKI, underscoring the need for enhanced renal monitoring; prospective studies are warranted to inform comorbidity-based risk stratification.

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