RACIAL DISPARITIES IN CLINICAL OUTCOMES AMONG PATIENTS WITH NEWLY DIAGNOSED MULTIPLE MYELOMA IN THE UNITED STATES: A 21-YEAR COMPARATIVE ANALYSIS

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Introduction

Despite significant advances in the treatment of multiple myeloma (MM), longstanding racial disparities persist in incidence, access to care, and outcomes.

Black individuals face a higher incidence of MM, yet survival and treatment toxicity profiles vary across populations.

Aim

To evaluate racial disparities in clinical outcomes and laboratory parameters among patients with newly diagnosed multiple myeloma.

Objectives

To compare risks of major complications and mortality between Black, Asian, and White patients after propensity score matching.

Methods

TriNetX US Collaborative Network

69 Healthcare Organizations

Inclusion Criteria

• Adults ≥18 • Newly diagnosed MM (ICD-10: C90.0, C90)
• No prior MM diagnosis • Exclude relapsed MM (C90.02)

2,277 Asians | 57,904 Whites | 14,050 Blacks

1:1 Propensity Score Matching

Matched on demographics, clinical variables, and baseline characteristics

2,199 Asian patients
13,572 White patients

Results

Black vs. White patients

Higher risk: seizure (RR 1.34, p<0.001), stroke (RR 1.42, p<0.001), CKD (RR 1.41, p<0.001), heart failure (RR 1.25, p<0.001).

Lower risk: osteoporosis (RR 0.64, p<0.001), neuropathy (RR 0.91, p=0.023), mortality (RR 0.94, p=0.005).

Asian vs. White patients

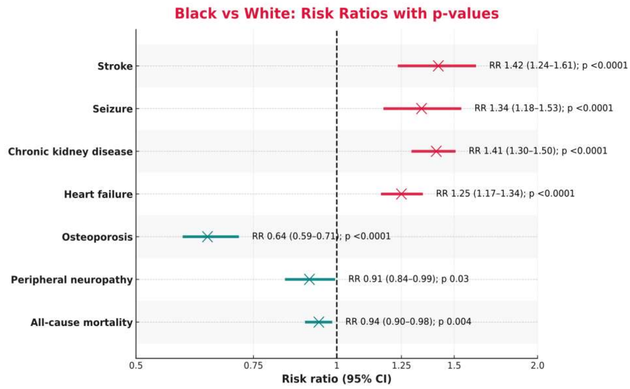
Lower risk: hospitalization (RR 0.90, p=0.039), seizure (RR 0.64, p=0.023), osteoporosis (RR 0.72, p=0.002), neuropathy (RR 0.72, p=0.004).

Mortality: similar (RR 0.93, p=0.184).

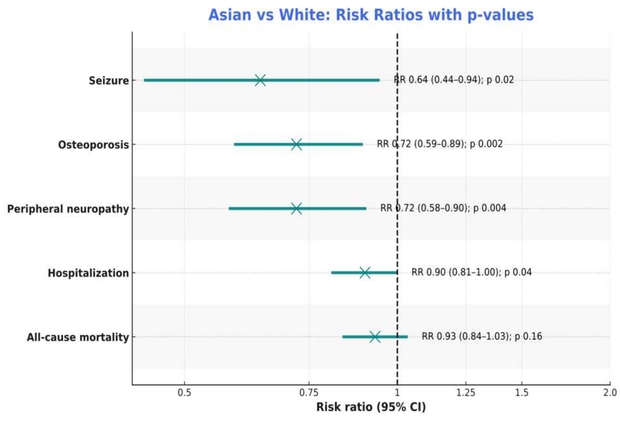
Laboratory findings

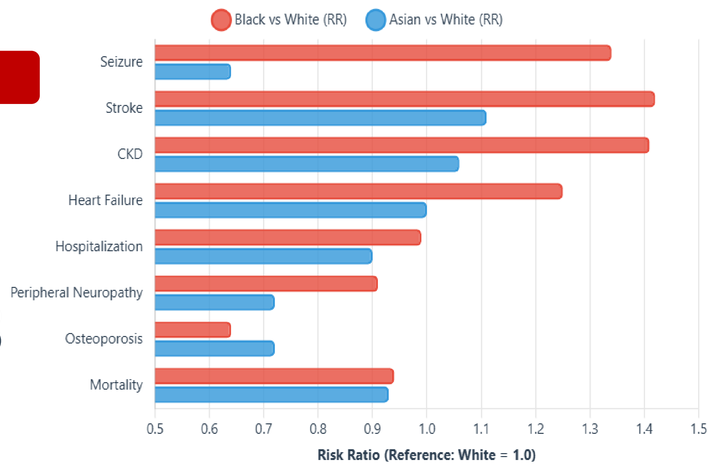
Highest creatinine: Black patients (1.89 mg/dL, p<0.001).

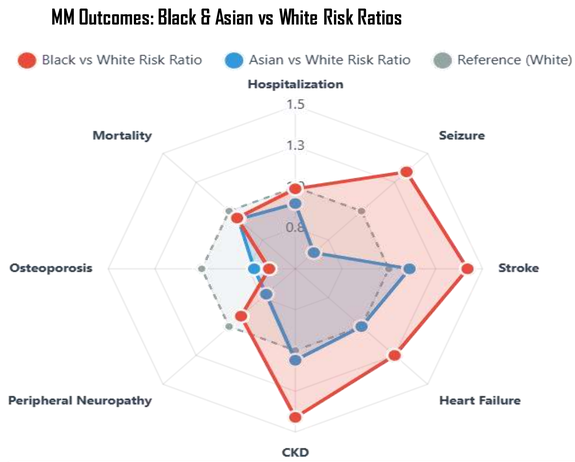
Lowest creatinine: Asian patients (1.70 mg/dL, p=0.012).



Results







Discussion

Black patients demonstrated higher risks of cardiovascular and renal complications but lower mortality compared to White patients, while Asian patients had generally lower complication rates with similar survival.

These findings highlight persistent disparities and emphasize the need for tailored strategies in multiple myeloma management.

Summary

• Black vs White: ↑ Stroke, Seizure, CKD, HF; ↓ Osteoporosis, Neuropathy; Lower 5-yr mortality.

• Asian vs White: ↓ Hospitalization, Seizure, Osteoporosis, Neuropathy; Mortality ~ similar.

• Implication: Tailored cardio-neuro-renal risk mitigation for Black patients; toxicity reduction focus across groups.