Second Primary Malignancies in Multiple Myeloma: A Retrospective Population-Based Analysis

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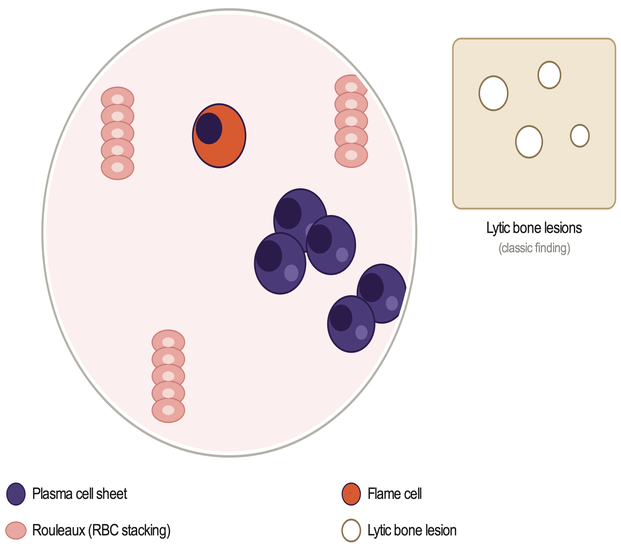
Background

Multiple myeloma (MM) accounts for approximately 1%–2% of all cancers and 10% of hematologic malignancies in the United States. Second primary malignancies (SPMs) significantly affect morbidity and mortality in cancer survivors, yet SPM data in MM remain limited. We aimed to evaluate and discuss the risk of SPMs among MM patients using a large population-based registry



Methods

We analyzed the Surveillance, Epidemiology, and End Results (SEER) Research Data, 8 Registries, November 2025 submission (1975–2023). SPM was defined as any malignancy developing 6 or more months after index MM diagnosis. The SEER Multiple Primary and Standardized Incidence Ratio (MP-SIR) session was used to calculate observed-to-expected (O/E) ratios and absolute excess risk (AER) per 10000 person-years, referenced against the general US population

Results

Of 42740 MM cases, 3305 (7.7%) developed SPMs, with a mean age at SPM diagnosis of 72.18 years. Overall solid tumor risk was modestly lower than the general population (O/E, 0.93; 95% confidence interval [CI], 0.90–0.98; P<0.05). However, significantly elevated risks were observed for colon and rectum (O/E, 1.15; 95% CI, 1.04–1.28), salivary gland (O/E, 1.94; 95% CI, 1.11–3.15), Hodgkin lymphoma (O/E, 2.28; 95% CI, 1.28–3.76), thyroid (O/E, 2.29; 95% CI, 1.80–2.88), non-Hodgkin lymphoma (NHL) extranodal (O/E, 1.51; 95% CI, 1.16–1.92), acute lymphoblastic leukemia (ALL) (O/E, 19.82; 95% CI, 14.67–26.25), and acute myeloid leukemia (AML) (O/E, 6.14; 95% CI, 5.24–7.15), all P<0.05.

Conclusion

MM patients carry a modestly reduced overall solid tumor risk but significantly elevated risks of specific malignancies, particularly leukemias and lymphomas. These findings highlight the need for proactive SPM surveillance and structured follow-up in MM survivors