

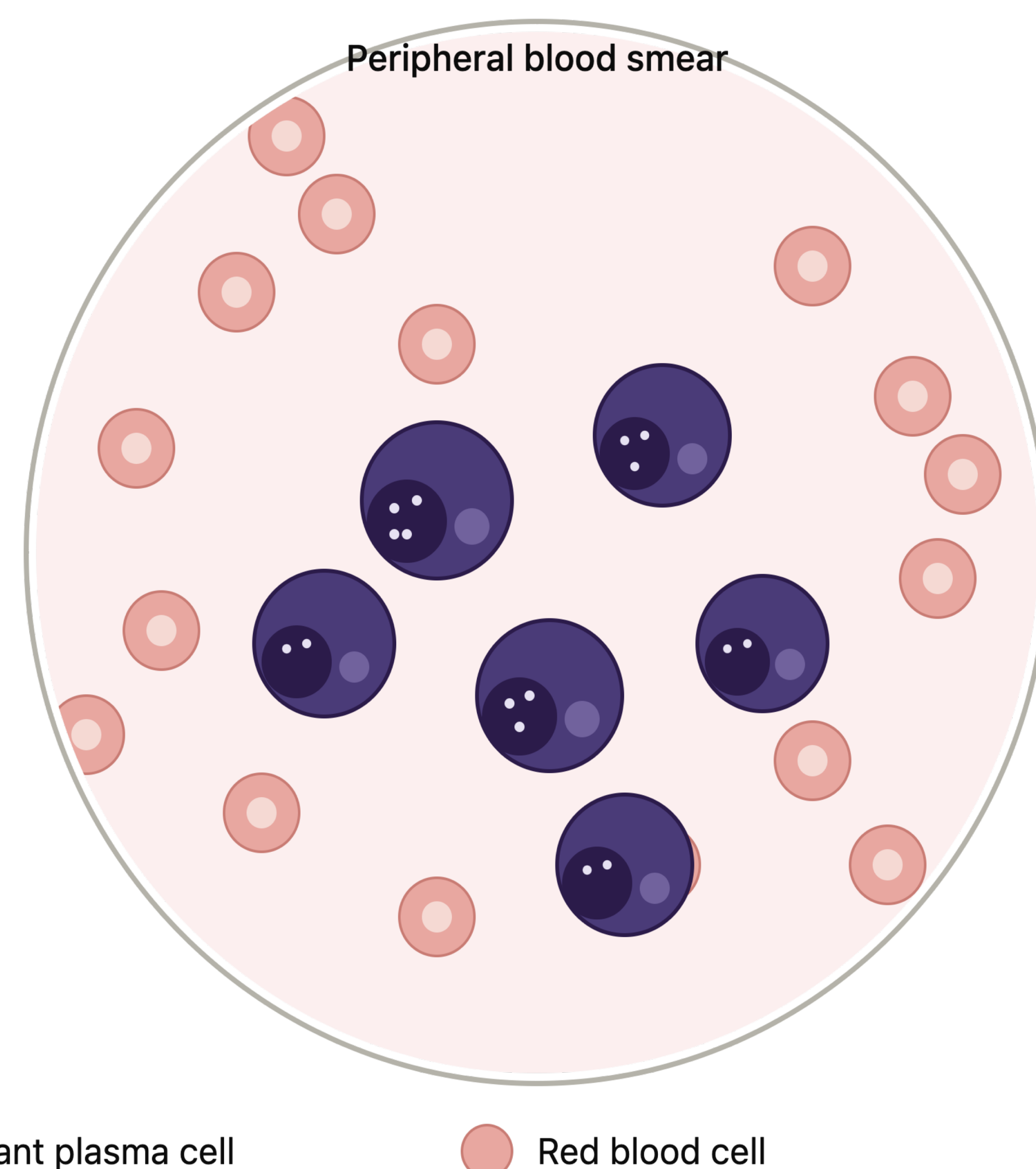
Second Primary Malignancies in Plasma Cell Leukemia: A Retrospective Population-Based Analysis



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Background

Plasma cell leukemia (PCL) is a rare and aggressive plasma cell disorder representing the most advanced leukemic phase of plasma cell dyscrasias. Second primary malignancies (SPMs) represent a significant complication among cancer survivors, with meaningful effects on morbidity and mortality. Data on SPM risk in PCL remain limited given its rarity. We aim to evaluate the incidence and risk of SPMs among patients with PCL using a large national registry



Method

From the Surveillance, Epidemiology, and End Results Program (SEER) Research Data, 8 Registries, November 2025 submission (1975–2023), we analyzed all PCL cases diagnosed from 1975 to 2023. An SPM was defined as any malignancy that developed ≥ 6 months after the index PCL 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 population in the United States

Result

A total of 79 PCL patients met inclusion criteria, of whom 5 (6.3%) patients developed SPMs, with a mean age at SPM diagnosis of 63.33 years. The overall SPM risk was not statistically significantly different from that of the general population (O/E, 1.3; 95% CI, 0.37–2.65; $P > 0.05$). Among individual malignancies, colon cancer was the only site-specific finding that reached statistical significance (O/E, 5.58; 95% CI, 1.15–16.31; $P < 0.05$), although this finding should be interpreted with caution given the wide CI, which reflects the small sample size. Lung cancer, breast cancer, and leukemia did not show significantly elevated rates compared with rates in the general population

Conclusion

In this population-based analysis of patients with PCL, overall SPM risk was not significantly elevated in comparison with the general population. A statistically significant elevation in colon cancer risk was observed, although the small cohort size limits definitive conclusions. These findings represent preliminary hypothesis-generating data and highlight the need for larger studies to better characterize SPM risk in patients with this rare malignancy. Nonetheless, clinicians should maintain vigilance for SPM development, particularly colorectal cancer, in patients diagnosed with PCL

