“PLACE MATTERS:” SITE-OF-PRESENTATION DETERMINES SURVIVAL IN IMMUNOPHENOTYPICALLY IDENTICAL CHRONIC LYMPHOID NEOPLASMS — A 23-YEAR SEER ANALYSIS OF 118,667 PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA/SMALL LYMPHOCYTIC LYMPHOMA

Manzer Ali[1], Hanzala Jehangir[2], Thanuja Neerukonda[3], Mersiha Hadziahmetovic[3], Hammad Rashid[3]

1. Pakistan Institute of Medical Sciences, Islamabad, Pakistan, 2. Rutgers-Trinitas Regional Medical Center, Elizabeth, NJ, USA, 3. University of Toledo Medical Center, Toledo, OH, USA

CONTEXT

Chronic lymphocytic leukemia (CLL) and small lymphocytic lymphoma (SLL) are immunophenotypically identical B-cell neoplasms that differ only by site of involvement—blood/marrow in CLL versus lymph nodes/tissue in SLL.

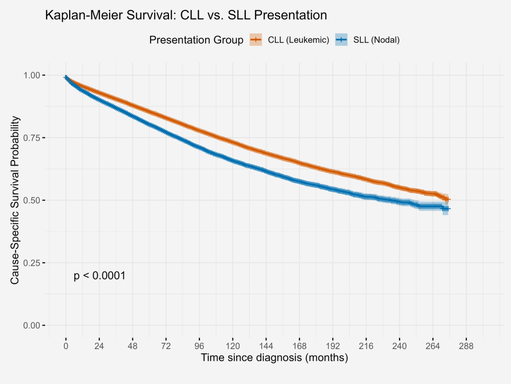
OBJECTIVE

To evaluate whether the site of disease involvement (CLL vs. SLL) independently influences prognosis.

RESULTS

Among 118,667 patients, 81.6% presented as CLL and 18.4% as SLL. Median follow-up among survivors was 62 months. Five-year OS was 68.8% for CLL versus 64.6% for SLL; 10-year OS was 54.6% versus 49.5% (log-rank $p < 0.0001$). After adjustment for age and sex, SLL was associated with 25% higher mortality (HR 1.25; 95% CI 1.23–1.28). This effect persisted in both eras: 27% higher hazard pre-WHO (HR 1.27) and 20% post-WHO (HR 1.20; interaction $p = 0.009$). Fine–Gray models confirmed a 38% higher cancer-specific mortality in SLL (sHR 1.38; 95% CI 1.34–1.42). Within SLL, advanced stage conferred greater mortality: distant (HR 1.38), regional (HR 1.17), and unstaged (HR 1.14) compared to localized. Stage adjustment attenuated, but did not eliminate, the prognostic impact of presentation (HR 1.06; 95% CI 0.99–1.13; $p = 0.10$).

KAPLAN-MEIERSURVIVAL: CLL VS SLL



KEYWORDS

Chronic Lymphocytic Leukemia, Small Lymphocytic Lymphoma, Prognostic Factors, SEER Registry

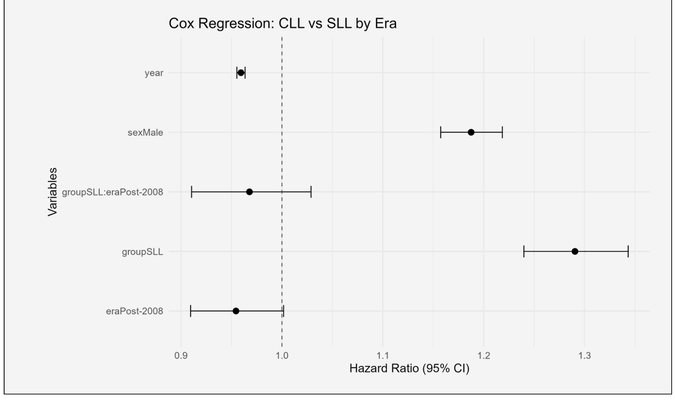
FINANCIAL DISCLOSURE

This author declares no competing financial interests

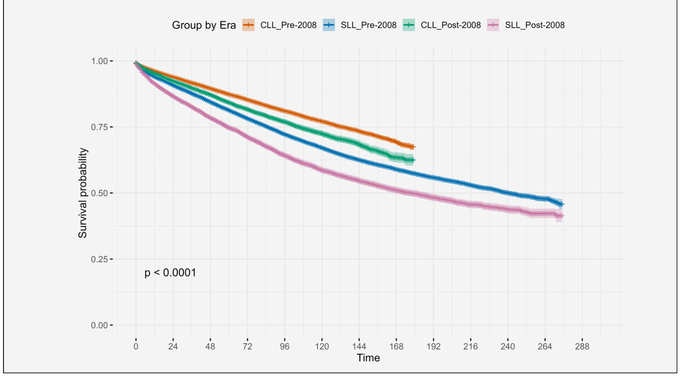
METHODOLOGY

Using SEER-17 data (2000–2022), we identified adults (≥20 years) with histology codes 9670/3 or 9823/3 and complete survival data. Presentation was classified as CLL (leukemic) or SLL (nodal/extranodal) using WHO site recodes. Patients were stratified by diagnostic era (pre-WHO harmonization ≤2007 vs post-WHO ≥2008). Overall survival (OS) was analyzed using Kaplan–Meier estimates, log-rank tests, and multivariable Cox proportional hazards models adjusting for age and sex. Cancer-specific mortality (CSM) was assessed with Fine–Gray competing-risk models. Summary stage (available through 2017) was evaluated descriptively and incorporated into stage-adjusted models for SLL.

COX REGRESSION: CLL VS SLL BY ERA



SURVIVAL PROBABILITY ANALYSIS STRATIFIED BY ERA



CONCLUSION

SLL consistently portends worse OS and cancer-specific survival than CLL, even after adjusting for age, sex, era, and stage. Topography appears to be an independent prognostic factor and should be considered in clinical risk models, surveillance strategies, and trial stratification.

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