

To the editor:

Survival trends in Waldenström macroglobulinemia: an analysis of the Surveillance, Epidemiology and End Results database

Waldenström's macroglobulinemia (WM) is a rare indolent B-cell lymphoma. Approximately 1000-1500 new cases of WM are diagnosed every year in the United States.¹ Although previous studies suggested prolonged survival in WM patients, it is unclear whether there have been survival improvements in recent years. Therefore, our objective was to perform a population-based analysis to investigate trends in survival rates of US patients diagnosed with WM. Our study was based on the Surveillance, Epidemiology, and End Results (SEER) database² and included patients with WM diagnosed between 1980 and 2010 (n = 7744). We excluded patients younger than age 20 years (n = 9), patients in whom WM was not the first malignancy (n = 1422), and patients diagnosed by autopsy (n = 82). Our analytical cohort included 6231 WM patients. No major differences in patients' characteristics between the 1980-2000 and 2001-2010 epochs were identified (supplemental Table 1 available on the *Blood* Web site).

Relative survival (RS) was the end point of interest.³ RS was defined as the ratio of observed survival divided by the expected survival of the general population in a specific calendar year, and it was estimated by using the Ederer II method.⁴ Time period analyses were performed to study trends in 5-year RS according to categorical variables.⁵ The 5-year and 10-year RS rates of the cohort were 73% and 57%, respectively. Patients diagnosed during 2001-2010 had higher 5-year (78% vs 67%) and 10-year (66% vs 49%) RS rates than patients diagnosed during 1980-2000. In a multivariate model, older age, male sex, and black race were associated with worse outcomes, and epoch of diagnosis 2000-2010 was associated with better outcomes (supplemental Table 2). There was an improvement in RS observed in the 2001-2005 and 2006-2010 periods (supplemental Figure 1). In the period analysis, there was an increase in 5-year RS rates regardless of age, sex, primary site of involvement, histology, or US region (Figure 1). A Greek study that included 345 patients with WM showed no overall or cause-specific survival improvement in recent years⁶; however, given the small sample size, that study might have been underpowered to detect the expected benefit. Our results are consistent with a Swedish study in 1555 patients with WM diagnosed between 1980 and 2005.⁷ Similar to our results, results in that study showed that the 5-year RS rate improved from 57% in 1980-1985 to 78% in 2001-2005.

In our study, there was RS improvement in whites and other races but no improvement was seen in blacks. Blacks have had consistently worse outcomes in previous epidemiological studies of various lymphomas.⁸⁻¹⁰ This disparity in outcomes could be ascribed to socioeconomic (ie, insurance coverage, attitudes toward therapy) and biological factors (ie, blacks have a higher risk of developing immunoglobulin A [IgA] and IgG but lower risk of IgM monoclonal paraproteinemia).

Our study has several limitations such as lack of pathological confirmation, lack of information on relevant laboratory data, and use of chemotherapy and immunotherapy. Despite these limitations, we were able to identify, in the largest population-based study to date, an improvement in RS in patients with WM during the last

decade in the United States. We expect further improvements in survival in WM patients.

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Contribution: J.J.C. designed the research; J.J.C., A.J.O., and A.M.C. performed the research; J.J.C., Z.R.H., and S.P.T. analyzed the data; and J.J.C. drafted the manuscript. All the authors read, critically reviewed, and approved the final manuscript.

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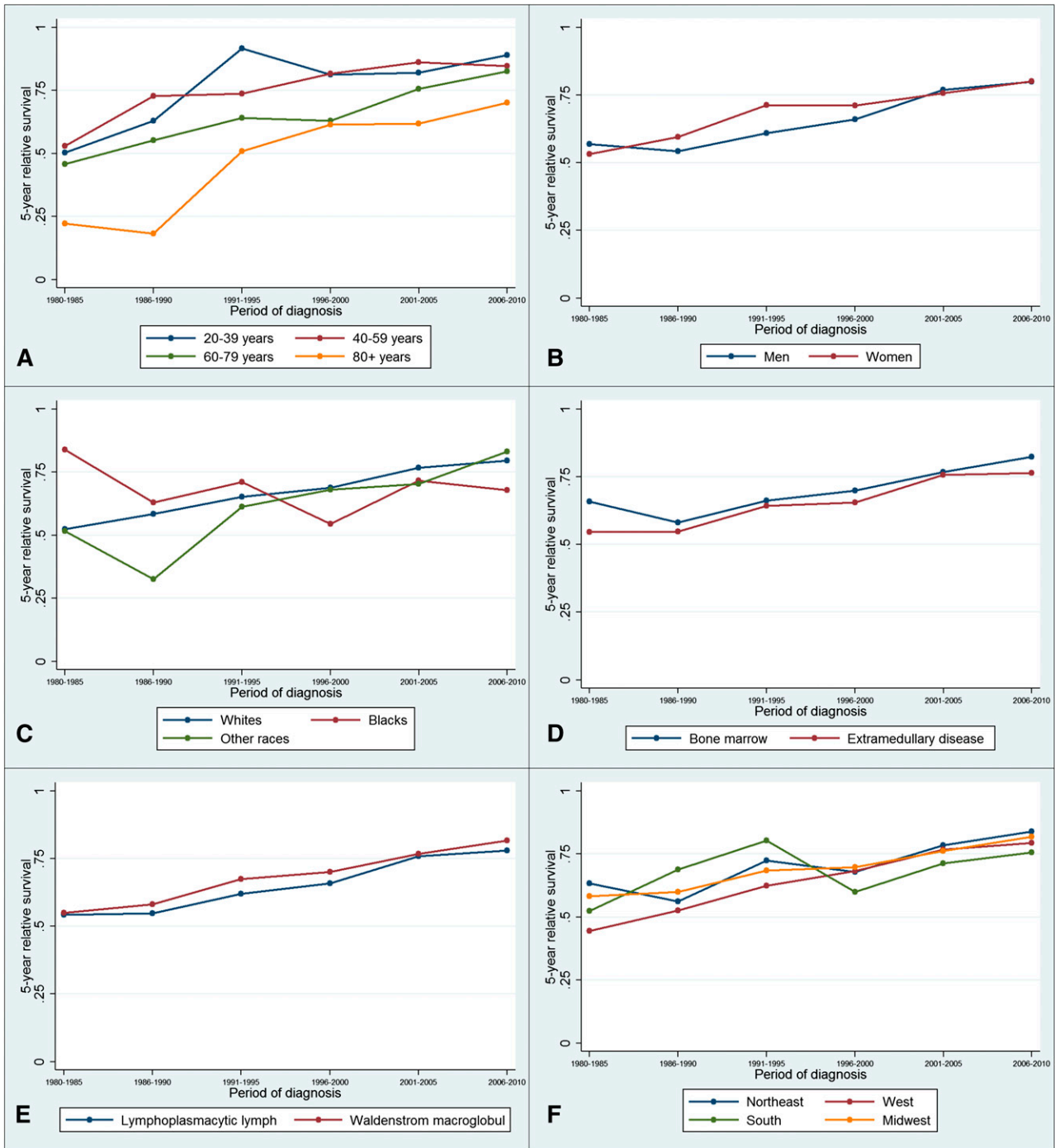


Figure 1. Trends in 5-year relative survival of patients with Waldenström's macroglobulinemia from the SEER database (1980-2010). Data is broken down according to categories of (A) age, (B) sex, (C) race, (D) site of involvement, (E) lymphoma subtype, and (F) region.

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