Trends of Mortality in Peripheral and Cutaneous T-Cell Lymphomas in the United States: A 24-Year Retrospective Analysis of the CDC Wonder Database

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Background

Peripheral and cutaneous T-cell lymphoma (PCTCL), a type of heterogeneous non-Hodgkin lymphoma, has aggressive behavior and limited treatment therapies, causing increased mortality. Limited healthcare access for some groups worsened the outcomes for T-cell lymphoma patients and created disparities.

Aim

We aim to explore the mortality patterns related to Peripheral and Cutaneous T cell lymphoma in adolescents and adults in the US from 1999 to 2023.

Methods

We used the CDC WONDER mortality database to extract age-adjusted mortality rates (AAMRs) per 100,000 individuals for deaths from Peripheral and Cutaneous T- cell lymphoma from 1999 to 2023. Joinpoint regression analysis was used to calculate annual percentage change (APC) and average APC (AAPC).

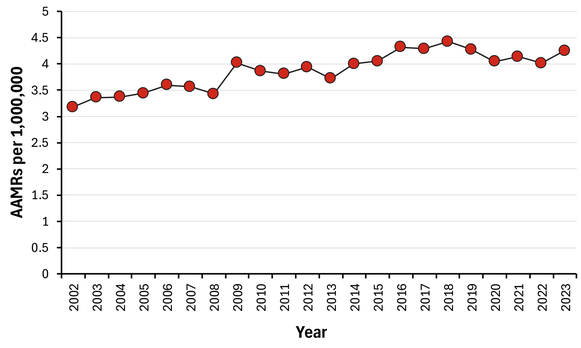
Discussion

Over the 24 years, the rising age-adjusted mortality rate (AAMR) in PCTCL (from 2.74 to 3.76 per 100,000; AAPC: 1.70%) underscores the aggressive nature of these lymphomas and the limitations of current treatment approaches, especially given the historically poor prognosis associated with T-cell variants compared to B-cell subtypes [1]. The higher and more rapidly increasing mortality among non-Hispanic Blacks likely reflects documented racial disparities in CTCL incidence and outcomes, where African-American patients exhibit poorer survival and more aggressive disease [2]. The gender disparity, higher male mortality but faster increase among females, parallels broader lymphoma trends, where men often have higher baseline mortality, yet women sometimes experience sharper increases in recent years [3]. The Northeast's pronounced regional increase in AAMR may point to specific demographic shifts, environmental exposures, or variation in healthcare access in that area [2,3]. The concentration of deaths among older adults, especially the 65+ and 85+ age groups, aligns with the known age-related vulnerability in lymphoma, driven by comorbidities, frailty, and immunosenescence [3]. These findings emphasize the urgent need for targeted interventions—particularly enhancing access to novel therapies for underserved racial groups, addressing regional healthcare inequities, and tailoring care for the elderly—to reverse the rising mortality trends in PCTCL.

Results

A total of 32,813 deaths were reported in 24 years. AAMR increased from 1999(2.74) to 2023 (3.76) with an AAPC of 1.70 (95% CI: 1.38 to 2.02). AAMR of males (3.90) was higher than females (2.68), but the increase in male mortality (AAPC: 1.87; 95%CI: 1.25 to 2.55) was less than females (AAPC: 2.008; 95%CI: 1.03 to 2.99). The Northeast had the highest AAMR (4.8), followed by the Midwest (3.69), the South (3.69), and the West (3.78). All regions showed an increase in AAPC. The increase was the most pronounced for the Northeast (AAPC: 1.89, 95% CI 0.91-2.89). AAMR was highest for NH Blacks (6.21), followed by NH Whites (3.46) and Hispanics (2.92). The NH Blacks showed the greatest increase (AAPC: 1.89, 95% CI 0.91-2.89). The increase in mortality is directly correlated with age. The 65+ age group had a significantly greater number of deaths than the lower age groups. The 85+ years group had the highest CMR (28.648).

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Conclusion

There was an increase in mortality over the 23 years due to peripheral and cutaneous T cell lymphoma. Mortality burden was particularly higher among males, NH Black, the Northeast region and older people. These disparities highlight the need for targeted intervention and further research.

References

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The authors declare no conflict of interest