Letter To The Editor

Prevalence of Primary Cutaneous Lymphomas: A Cross-Sectional Study Using SEER Database up to 2018

Abstract

Cutaneous lymphomas (CL) are a group of rare subtypes of lymphomas that affect the skin and require timely diagnosis and treatment. The study aimed to assess the prevalence of CL in the United States population sing the Surveillance, Epidemiology, and End Results (SEER) database. The results showed that the highest prevalence of CL was observed in the 65-69 age group and 75-79 age group for males and females respectively with an overall prevalence rate of .000007%. These findings highlight the need for further research to better understand the underlying factors contributing to the prevalence of CL in the United States population, and the importance of early diagnosis and treatment for improving outcomes.

To the Editor: Cutaneous lymphomas (CL) are a rare group of cancers whose reported incidence has risen sharply over the past years. However, the epidemiology is not well established. Cutaneous lymphoma is a type of non-Hodgkin lymphoma that affects the skin [1]. It is caused by abnormal proliferation of B or T lymphocytes, which are key cells of the immune system [1]. It can present as various skin lesions and can be difficult to diagnose due to its similarity to other skin conditions [1]. Single-center studies within the U.S. have estimated the prevalence of CL to be 0.64–0.87 out of every 100,000 [2], yet there are no published studies depicting nationwide primary CL prevalence of the U.S. population and previous national estimates were outdated for over a decade [3]. We aimed to estimate the prevalence of primary CL using the Surveillance, Epidemiology, and End Results (SEER) database, an initiative launched in 1973 as part of the National Cancer Act by the National Cancer Institute and of the U.S. population [1]. SEER provides information on cancer statistics to reduce the cancer burden among the U.S. population [5].

We performed a cross-sectional analysis of the SEER database2018 by identifying patients with a diagnosis of primary CL. Electronic medical records of each patient with CL were then analyzed to collect data on sex, race, and age. The SEER database in 2018 included data from a population of 43,926,825 individuals. This figure represents the total population under surveillance by SEER registries, not just individuals diagnosed with lymphoma or cutaneous lymphoma. From this population, we identified 224 patients diagnosed with primary cutaneous lymphoma (CL), representing an overall prevalence of .000007%[2]. The overall prevalence was recalculated to provide clarity and based on our analysis, the prevalence is estimated at approximately 0.51 cases per 100,000 individuals.The prevalence was highest in the 65-69 age

group and 75-79 age group for males and females respectively, increasing with age. We observed a higher male-to-female predominance of CL. Prevalence in specific racial groups included 0.0018% in White, 0.0014% in Black, 0.0014% in American Indian/Alaska Native, and 0.0012% in Asian or Pacific Islander patients.

Our analysis has several limitations. The SEER database contains a higher proportion of foreign-born people due to the geographic distribution of SEER cancer registries, leading to potential genetic or infectious associations that were not accounted for through data analysis alone. The SEER database from 2018 comprises 71% White, 12% Black, 2% American-Indian, and 15% Asian-Pacific Islanders [2], whereas the population of the United States is composed of 76% White, 14% Black, and 6% Asian [3]. The demographic discrepancies between the SEER database and the U.S. population may lead to a difference between the calculated and actual prevalence rates. There are also other limitations in this data; some patients may not be accounted for due to residency status, healthcare availability, and census limitations. There might also be racial bias in diagnosing skin disorders. Often, minority groups and patients with skin of color are inaccurately diagnosed or there is a failure to identify diseases accurately [8].

Altogether, our data suggests primary CL is a rare diagnosis with higher prevalence in male, White, and elderly patients as compared to other population groups. More insight into why these populations are especially at risk is necessary.The treatment of primary cutaneous lymphomas (CL) depends on the disease subtype, stage, and extent of involvement [9,10,11]. Early-stage disease is typically managed with skin-directed therapies, including topical corticosteroids, topical chemotherapy, phototherapy, and radiotherapy, which are effective in

controlling localized lesions while minimizing systemic toxicity[9,10,11].For advanced or refractory disease, systemic therapies become necessary, such as immunotherapy, systemic chemotherapy, and targeted therapies that address specific cellular pathways[9,10,11].In aggressive or resistant cases, advanced options such as hematopoietic stem cell transplantation (HSCT) and biologic therapies may offer additional therapeutic benefits[9,10,11].Treatment decisions are guided by the patient's overall health, disease burden, and therapeutic goals, balancing effective disease control with preserving the patient's quality of life[9,10,11].Although there was an overall lower prevalence of primary CL in minority groups based on our dataset, this could be due to racial bias when diagnosing skin disorders leading to possible missed diagnosis of primary CL in non-white patients.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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