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**Gender differences in the risk of secondary malignancies in patients with mycosis fungoides and Sézary syndrome**

To the Editor: Cutaneous T-cell lymphoma is a group of non-Hodgkin lymphomas (NHLs) that involve T-cell infiltration of the skin. The 2 most common manifestations of cutaneous T-cell lymphoma are mycosis fungoides (MF) and Sézary syndrome (SS).<sup>1</sup> Several studies have suggested an increased risk of secondary malignancies in patients with MF and SS.<sup>2-5</sup> However, the nature of this risk has never been well characterized. Previous studies were limited by a small sample size or a short follow-up period. To address this gap, we aimed to assess the risk of developing secondary malignancies in patients with

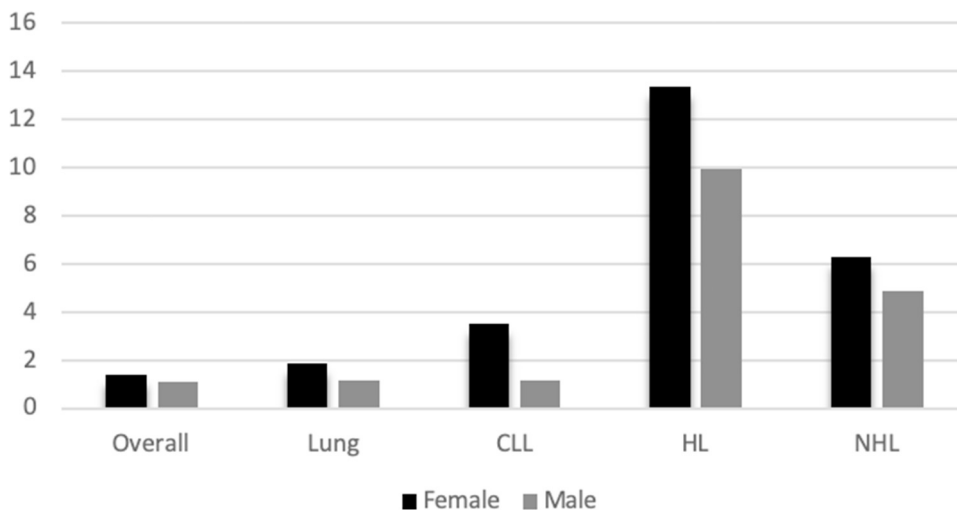
MF and SS and to characterize the risk by gender in a nationwide cohort.

The Surveillance, Epidemiology, and End Results–13 (SEER-13) cohort consists of cancer cases diagnosed between January 1994 and December 2014 from 13 SEER cancer registries. Analysis was limited to patients with a diagnosis of MF or SS as the first primary malignant neoplasm. Patients having second primary malignant cancers within 2 months of diagnosis with MF or SS were excluded. Relative risk was estimated by dividing the number of observed cancers by the expected number of cancers, yielding a standardized incident ratio (SIR). The expected number of second cancers was generated using SEER-13 data.

Of 4229 patients in our cohort, 550 patients developed a second malignancy. Based on the standard incident rates, 435 second malignancies would be expected, yielding an overall SIR of 1.26 (95% confidence interval [CI], 1.16-1.37).

There was an overall statistically significant increased incidence of lung cancer (82 cases; SIR, 1.33; 95% CI, 1.05-1.65), chronic lymphocytic leukemia (CLL; 14 cases; SIR, 2.5; 95% CI, 1.41-4.32), Hodgkin lymphoma (HL; 13 cases; SIR, 11.18; 95% CI, 5.95-19.12), and NHL (98 cases; SIR, 5.28; 95% CI, 4.29-6.44). The incidence of melanoma was increased but did not reach significance (23 cases; SIR, 1.32; 95% CI, 0.84-1.98).

The overall risk of secondary malignancy, when stratified by gender, was significantly higher for females (SIR, 1.42; 95% CI, 1.23-1.63) versus males (SIR, 1.11; 95% CI, 0.98-1.25). This difference was significant for lung cancer (SIR for females, 1.89 [95% CI, 1.33-2.6]; SIR for males, 0.97 [95% CI, 0.68-1.35]), CLL (SIR for females, 3.5 [95% CI, 1.14-8.17]; SIR for



**Fig 1.** Standardized incident ratio of developing a secondary malignancy, stratified by gender, from Surveillance, Epidemiology, and End Results–13 cohort data, 1992–2014 ( $P < .05$ ). *CLL*, Chronic lymphocytic leukemia; *HL*, Hodgkin lymphoma; *NHL*, non-Hodgkin lymphoma.

males, 1.16 [95% CI, 0.32-2.97]), HL (SIR for females, 13.34 [95% CI, 4.33-31.12]; SIR for males, 9.93 [95% CI, 3.99-20.47]), and NHL (SIR for females, 6.26 [95% CI, 4.41-8.63]; SIR for males, 4.86 [95% CI, 3.64-6.35]) (Fig 1).

Our analysis showed an overall increase of secondary malignancies in MF and SS patients by 26% compared with a matched general population. There was a significantly increased risk of HL and NHL in male patients and a significantly increased risk of melanoma, CLL, HL, NHL, and lung cancer in female patients. Our study was limited by the fact that MS and SS patients comprise a small patient population, and subdividing that population by gender makes it smaller still. Small numerical differences in small populations may over- or underestimate statistical relationships. Still, providers should be mindful of the risk disparity between male and female patients with MF and SS so they may screen and counsel patients appropriately.

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#### Comparing online engagement and academic impact of dermatology research: An Altmetric Attention Score and PlumX Metrics analysis

*To the Editor:* The Altmetric Attention Score (AAS) and PlumX Metrics are algorithms used to measure the impact of published research through online platforms. These scoring systems aggregate data on online engagement, incorporating metrics such as number of downloads and social media shares by researchers and the general public.<sup>1,2</sup> We analyzed the AAS and PlumX scores of articles published in top dermatology journals and correlated trends between an article's online engagements and the number of citations.

The top 10 general dermatology journals by impact factor were identified using the 2016 InCites Journal Citations Report. All research articles with abstracts published in these journals in 2016 were analyzed for their AAS and PlumX scores. The AAS is a weighted score calculated from the volume and source of social media mentions (Facebook, Twitter, Mendeley, etc).<sup>2,3</sup> The PlumX score expands upon AAS by further taking into account "usage" (downloads, views, etc.) and "captures" (eg, bookmarks).<sup>1</sup> Articles were categorized according to study type, design, dermatologic topic, and open access status. Correlations were determined using Spearman correlation coefficients.<sup>4</sup> A linear regression was performed between the number of citations and each metric, with both axes in logarithmic form and values adjusted by +1.

The final analysis included 1024 articles: 612 observational studies (59.8%), 288 basic science studies (21.1%), and 124 clinical trials (12.1%). The median citation, AAS, and PlumX score for all articles were 10 (interquartile range, 6-18), 1 (interquartile range, 0-5), and 73 (interquartile range, 36-141), respectively. The *Journal of the American Academy of Dermatology* and *JAMA Dermatology* had the highest number of articles in the top 5% of AAS and PlumX scores. The top 5% of articles by AAS and PlumX scores that demonstrated the greatest increase in proportional interest included dermatology topics acne and psoriasis, and articles focused on lifestyle or epidemiology (Table 1). We additionally found