Thin Melanomas: When is SLN Biopsy Indicated?

New research offers additional evidence that mitotic rate may have a role in clinical decision-making.

BY JONATHAN WOLFE, MD

There has been a steady increase in the number of thin melanomas being detected, and thin melanomas (1mm or less) now account for 70 percent of all new melanomas detected in the US.1 This is somewhat welcome news, as thin lesions tend to be associated with a better prognosis. It also seems to suggest that the combination of efforts to increase patient awareness of skin cancer signs, to promote patient self-examination, and to expand screenings by a dermatologist may be having the desired impact of leading to earlier diagnosis. But with this positive development comes a challenge. Identifying thin melanomas may present questions for the dermatologist when it comes to ascertaining the need for certain diagnostic/prognostic evaluations, notably sentinel lymph node biopsy (SNLB).

AJCC staging for melanoma provides a standard for classifying melanoma, assessing prognosis, and planning management. The staging begins with determination of primary tumor status or T. T status is coupled with sentinel lymph node (SNL) status (N), and presence of metastasis (M) to determine a pathologic stage, ranging from 0 (melanoma in situ) to IV.

The important influence of SLN status on staging (and prognosis) cannot be overstated. Consider that the thickest melanomas (greater than 4mm) with ulceration (T4b), are considered Stage IIC when SLN is negative. However, a thin tumor without ulceration (T1a) in the presence of positive SLN is considered Stage IIIA.

AJCC 8th edition melanoma staging guidelines categorize the thinnest melanomas as T1a—tumors less than 0.8mm without ulceration—or T1b—tumors less than 0.8mm with ulceration.
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WHAT THE DATA FOUND
Researchers identified a cohort of patients diagnosed with malignant melanoma between 2012 to 2014 and with Breslow thickness of 1mm or less. Patients were excluded from analysis who had SLNB via nodal aspiration, if regional lymph nodes were removed but SLNB was not performed, or if no data on SLN outcome were available.

This left a sample of 9,186 patients for evaluation. Only five percent of these subjects had positive SLN specimens.

Multivariate analysis revealed that younger age was a significant predictor of SLN positivity among individuals with thin melanomas. Age less than 30 was associated with the highest risk of positive SLN, and the likelihood of positive nodes decreased with each decade of age. Male sex, Breslow thickness between 0.8-1.0mm, and Clark levels IV to V were associated with higher odds of SLN positivity. Presence of ulceration increased the odds of positivity by 63 percent. The presence of dermal mitoses increased the likelihood for SLN positivity by 95 percent.

While current staging does not require SNLB for patients with T1 tumors with ulceration, many clinicians would proceed with SNLB for these patients. It is helpful to know which patients without ulceration may be at highest risk for nodal involvement. This research team performed a subgroup analysis looking at potential predictors of SLN positivity among patients with T1 tumors without ulceration.

Of 8,207 subjects with T1 tumors without ulceration, 387 had positive SLN. Odds of positive SLN decreased with each decade over age 50. Breslow thickness between 0.8-1.0mm and Clark levels IV to V were associated with a 34 percent increased risk of positive SLN.

Previous research has suggested that mitotic rate is a strong indicator of SLN status in thin melanomas. In fact, researchers have shown that the odds of having a positive node increased by 19 percent with each 1-point increase in mitotic rate. Consistent with this finding, as well as other previous research, Conic et al show that the presence of dermal mitoses increased the odds of SLN positivity by 92 percent.

A similar study published last year looked at a cohort of patients from Sweden and Australia. It concluded that SLN metastasis was more frequent in tumors with ulceration, mitoses, and Breslow thickness greater than or equal to 0.9mm, but none of these factors were statistically significant.

IMPLICATIONS
The latest AJCC melanoma staging guidelines remove mitotic rate as a staging criterion for T1 tumors. Yet current evidence shows that mitoses may be relevant to predicting SLN status and therefore melanoma stage and prognosis.

The importance of mitotic rate has been a point of debate. In thicker tumors, Breslow thickness has been shown to be more reliable than mitotic rate for predicting the likelihood of positive SLN. In thin tumors, however, mitotic rate has been shown to be potentially beneficial, as in this analysis. Especially for those thin tumors greater than 0.8mm thick up to 1mm thick, determining the mitotic rate may be particularly beneficial, especially in the presence of other risk factors, such as younger age. This information can be used to support the decision to pursue SLN biopsy. ■

Jonathan Wolfe, MD is an Associate Professor of Dermatology at the University of Pennsylvania. He is in private practice in Plymouth Meeting, PA.