



Analysis of Time Between Skin Lesion and Lymph Node Biopsies and Lymph Node Metastasis in Patients with Melanoma

Emma Lamping¹, BS, Elliot Le¹, MD, Laura Helmkamp¹, MS, Janice Bone, BS, CTR², Nicole Kounalakis², MD, Martin McCarter¹, MD, Ana Gleisner¹, MD, PhD, Camille Stewart¹, MD

¹University of Colorado School of Medicine, Aurora, CO, ²Melanoma & Sarcoma Specialists of Georgia, Northside Hospital, Atlanta, GA

Background

- Standard of care for T1b+ without evidence of metastases is wide local excision and sentinel lymph node biopsy¹
- Unclear how long patients can wait between diagnosis and surgery before affecting stage

Methods

- Queried melanoma databases from UCH and Northside Hospitals for patients with T1b+ N0M0 melanoma who underwent wide local excision and sentinel lymph node biopsy 1/2018 - 6/2021.
- Multivariable logistic regression with significance threshold $P < .05$ was used to determine odds of node positivity with time to surgery adjusted for covariates. Locally estimated scatterplot smoothing (LOESS) was used to visualize the association between time to surgical treatment and node positivity.

Results

N=642	Median (IQR) or %(N)
Age	60.0 (49.0-70.0)
Sex - Female	42.8% (275)
Sex - Male	57.2% (367)
Race- White	97.2% (624)
Race - Other	2.8% (18)

Table 1: Demographics

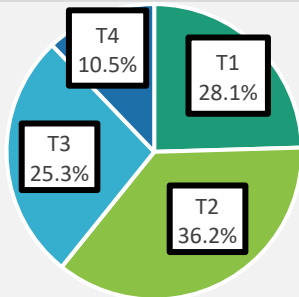


Figure 1: Percent of patients by initial T-stage

Diagnosis to Surgery Time

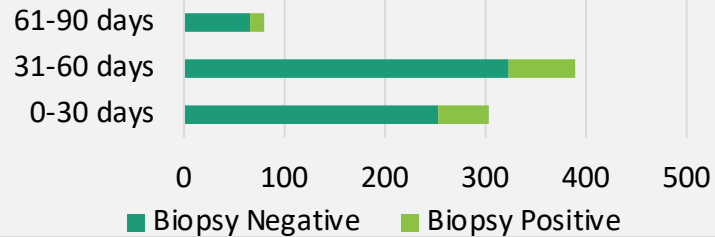


Figure 2: Number of patients who underwent surgery in each time category. Sentinel lymph node biopsy results represented by bar color (Dark green = negative for metastasis; light green = positive for metastasis).

Associations with Lymph Node Positivity

Characteristic	(Adjusted) OR (95%CI)
31-60 days vs 0-30 days	0.79 (0.50, 1.23)
61-90 days vs 0-30 days	0.77 (0.37, 1.63)
T2 vs T1	3.55 (1.69, 7.48)
T3 vs T1	6.72 (3.12, 14.45)
T4 vs T1	14.57 (5.97, 35.58)
Mitoses absent vs present	0.47 (0.13, 1.68)
Ulceration present vs absent	1.44 (0.89, 2.33)
UCH vs Northside	2.15 (1.37, 3.37)

Table 2. Multivariable analysis. T stage was significantly associated with lymph node positivity, but **surgery time up to 90 days after biopsy was not associated with lymph node positivity**. Significant values bolded.

Relationship Between Node Positivity and Time

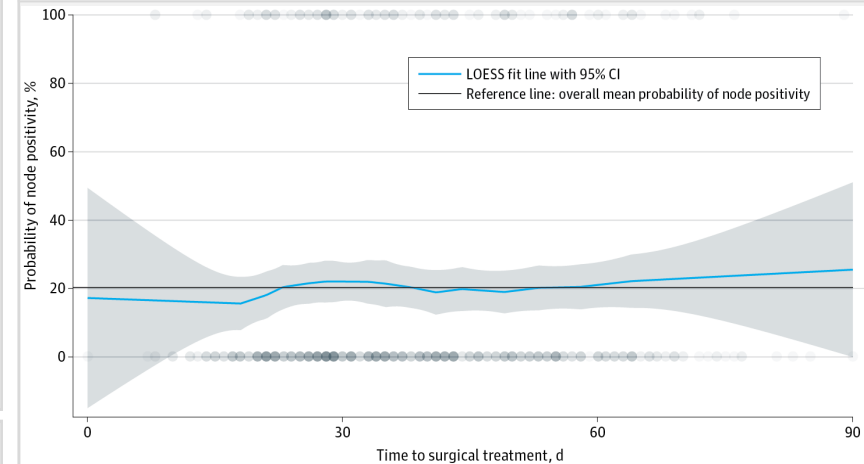


Figure 3. Shows smoothed curve LOESS of sentinel lymph node positivity compared with time from diagnosis to surgical treatment. **There is near constant probability of node positivity by time to surgical treatment.** The reference line of 20.2% shows the mean rate of node positivity in this sample.

Conclusions

- Results suggest that time is not associated with a change in the risk of upstaging disease within 90 days of diagnosis.
- Further study needed given limitations of this study's retrospective nature and number of treatment sites.

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