Management of Early Stage Melanoma: Who Should Undergo Sentinel Lymph Node Biopsy?

18th Focus On Melanoma
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Disclosures

- I have no disclosures relevant to the content of this presentation
Background

- Growing incidence of invasive melanoma
- In 2021, an estimated 106,110 new cases will be diagnosed in the US

![Figure 3. Leading Sites of New Cancer Cases and Deaths – 2021 Estimates](image)

American Cancer Society, *Facts and Figures*, 2021
Background

- Majority of patients (~85%+) present with localized (clinical Stage I and II) disease

- Management of localized melanoma typically involves wide excision ± sentinel lymph node (SLN) biopsy

Surveillance and Epidemiology and End Results Program (SEER)
Workup

A = Asymmetry
B = Borders (irregular)
C = Color (variation)
D = Diameter
E = Evolving

Biopsy

Rigel, Russak, Friedman. The evolution of melanoma diagnosis: 25 years beyond ABCDs. CA Cancer J Clin. 2010; 60:301

Biopsy Technique

Punch Biopsy

Shave Biopsy
Management of Early Stage Melanoma (Clinical Stage I/II)
Once melanoma is diagnosed...

- Referral for surgical evaluation
- Evaluation includes a thorough history and physical
  - Suspicious exam findings include:
  - Type and extent of surgery influenced by biopsy results and exam findings

- Satellitosis
- In-transit Disease
- Swollen Lymph Nodes
Melanoma Pathology Essentials

- **Breslow thickness***
  - *most important prognostic factor*
- Clarks level
  - *Should not be confused with disease stage*
- **Ulceration status***
- Mitotic rate
- Margin status
- Microsatellitosis
- Regression
- Lymphovascular invasion
- Perineural invasion
- Tumor-infiltrating lymphocytes
- Histologic subtype

* Components involved in determining T Stage (AJCC 8th Edition)
Surgery For Melanoma

Trials Evaluating Surgical Margins for Melanoma

<table>
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<tr>
<th>Study</th>
<th>Year</th>
<th>Thickness (mm)</th>
<th>Margin (cm)</th>
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</table>

“No difference in survival with narrower margins”

Recommended Clinical Margins

- MIS 0.5 cm
- ≤ 1mm 1 cm
- 1-2mm 1-2 cm
- >2mm 2 cm
Surgery For Melanoma

Wide Excision

Primary closure

Skin graft

Keystone flap
Sentinel Lymph Node Biopsy (SLNB)

- History of the procedure
- What is it
- How is it performed
- For whom is it recommended for?
History of Sentinel Lymph Node Biopsy (SLNB)

- Mid 19\textsuperscript{th} Century
  - The relationship between the lymphatic system and cancer dissemination was first described

- 1992- SLNB first proposed by Morton and Cochran
Sentinel Lymph Node Biopsy (SLNB)

- **What is it**
  - Minimally invasive, low-morbidity staging procedure

- **How is it done**
  - Uses blue dye and radiolabeled colloids to generate a road map of which lymph nodes a tumor would travel to first

[Image: Sentinel Lymph Node Biopsy of the Skin]

www.cancer.gov
Sentinel Lymph Node Biopsy 2021

Who Should Get the Procedure?

- Consider SLNB if risk of micrometastasis is >5%
- Rate of SLN Positivity for lesions ≥ 0.8 mm – 1.0 mm: ~8%

<table>
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<th>Thickness</th>
<th>Not routinely recommended</th>
<th>Discuss and consider</th>
<th>Discuss and offer</th>
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<td>&lt;0.8 mm without ulceration*</td>
<td>✓</td>
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<tr>
<td>0.8-1.0 mm or ulcerated ≤1 mm</td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>&gt;1.0 mm</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
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</table>
But what if my SLN is positive?

- Before: Completion Lymph Node Dissection

- Now: Close monitoring of the regional nodal basin by ultrasound
Management of Regional Lymph Nodes For Localized Melanoma

Early 1900s
- Routine Therapeutic LN Dissection

1992
- SLNB Introduced

2016-2017
- DeCOG-SLT/ MSLT-II
  Observation of regional lymph nodes is safe among patients with +SLNB

Present
Future Directions

- Many patients with earlier stage disease (particularly high risk stage II) still recur after undergoing surgery alone.

- Ongoing investigation at Penn:
  - Integrating systemic therapy with surgery for early stage patients.
Future Directions For Early Stage Disease

**Standard of Care**

- Biopsy
  - Surgery +/- SLNB
    - - SLNB: Observation
    - + SLNB: Immunotherapy/Targeted therapy

**Future**

- Biopsy
  - Immunotherapy Or Targeted therapy
  - Surgery +/- SLNB
    - Immunotherapy Or Targeted therapy
Surgical management of melanoma: What it’s all about...

- Safer surgery
- More precise surgery
- Overall goal: More effective treatments => IMPROVED OUTCOMES!
Thank you

Questions? john.miura@pennmedicine.upenn.edu