Pathology of Lentigo Maligna
Normal sun-damaged skin

Lentigo maligna
Lentigo Maligna and Malignant Melanoma
In Situ, Lentigo Maligna Type

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Some authors have considered lentigo maligna to be an atypical melanocytic proliferation, whereas others have considered it to be melanoma in situ. We reviewed 50 cases of lentigo maligna. We have identified two subsets of lesions. The first has atypical melanocytic hyperplasia, which we postulate to be correctly designated lentigo maligna. The second subset has the following features in addition to the melanocytic hyperplasia: individual and nests of cells at varying layers of the epidermis, confluence of the melanocytes replacing the basilar region, uniformity of the cytological atypia, and nesting of uniformly atypical melanocytes. These lesions we designate as malignant melanoma in situ, lentigo maligna type. We are proposing that the lesions that have been termed lentigo maligna represent a spectrum of atypia and that the application of some of the traditional features for the diagnosis melanoma may permit the segregation of more and less aggressive lesions. HUM PATHOL 30:533-536. Copyright © 1999 by W.B. Saunders Company

Key words: lentigo maligna, melanoma in situ, pagetoid.

FIGURE 1. Lentigo maligna. Note the increased number of melanocytes at the dermoepidermal junction and extending down the follicular epithelium.

FIGURE 3. Malignant melanoma in situ, lentigo maligna type. Note the individual melanocytes at varying levels of the epidermis, the extension of melanocytes down follicular epithelium, and the confluence of nests at the dermoepidermal junction in the interfollicular region.
Terminology – Lentigo Maligna

• Lentigo Maligna Melanoma in situ

• Lentigo Maligna
  – Histopathologically pauci-cellular or subtle
  – “Early evolving lesion”

• “Atypical intraepidermal melanocytic proliferation”
  – Ambiguous histopathology; biopsy too small
Lentigo maligna with junctional nests
Lentigo Maligna

Multinucleated “star burst” giant cells; lichenoid inflammatory reaction
Differential Diagnosis

• **EPIDERMIS:** Melanoma in situ vs benign
  – Solar melanocyte hyperplasia
  – Solar lentigo, pigm SK, LPLK, pigm AK
  – Junctional melanocytic nevus

• **DERMIS:** Invasion or not?
  – Scar vs invasive desmoplastic melanoma
  – Invasive melanoma vs incidental melanocytic nevus
  – Invasion vs adnexal involvement by MIS
LM vs Keratosis - Pitfalls

• Melanocyte hyperplasia vs neoplasm

• Collision scenario
  – LM colliding with keratosis
  – Melanocytic nevus colliding with keratosis

• Epidermal and/or inflammatory changes simulating a keratosis
Junctional Melanocytic Nevus
Junctional Nevus of MIS?
Melanoma in Situ
MIS vs Junctional Nevus

- A new melanocytic proliferation of sun-damaged skin with features of a junctional "dysplastic nevus" is likely MIS

- Not all junctional melanocytic proliferations of sun-damaged skin are MIS
Diff. Diagnosis – Invasion or Not?

- Adnexal involvement vs dermal invasion
- Incidental nevus vs invasion
- Microinvasion
- Scar vs desmoplastic melanoma
LMM with Perifollicular Stromal Invasion
Melanoma simulating a BLK

Melan-A
Part II

Processing of Excisions for Margin Assessment
Margins for LM MIS – Often more than 5 mm needed for clearance

Surgical margins for melanoma in situ

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Background: A controversy in the treatment of melanoma in situ is the required width of surgical margin. The currently accepted 5-mm margin is based on a 1992 consensus opinion, despite data since then showing this is inadequate.

Objective: We sought to develop guidelines for predetermined surgical margins for excision of melanoma in situ.

Methods: A prospectively collected series of 1072 patients with 1120 melanoma in situ was studied. All lesions were excised by Mohs micrographic surgery with frozen-section examination of the margin. The minimal surgical margin was 6 mm, and the total margin was calculated by adding an additional 3 mm for each subsequent stage required. The minimum surgical margin that would successfully remove 97% of all tumors was calculated. Local recurrence was also tabulated.

Results: In all, 86% of melanoma in situ were successfully excised with a 6-mm margin; 9 mm removed 98.9% of melanoma in situ. The superiority of 9-mm to 6-mm margins was significant (P < .001). Gender, location, and diameter did not affect results. Recurrence rate for this set of patients treated with Mohs micrographic surgery was 0.3% (n = 3).

Limitations: Margins less than 6 mm were not studied. This is a referral center for melanoma in situ and 10% of tumors were previously treated before presentation to our clinic.

Conclusion: The frequently recommended 5-mm margin for melanoma is inadequate. Standard surgical excision of melanoma in situ should include 9 mm of normal-appearing skin, similar to that recommended for early invasive melanoma. (J Am Acad Dermatol 2012;66:438-44.)

Key words: excision; guidelines; lentigo maligna; melanoma; melanoma in situ; Mohs micrographic surgery.

Biopsy of MIS with Subsequent Invasion in Tumor Debulk

<table>
<thead>
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<th>Study</th>
<th>Percentage of tumors with invasion</th>
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<tr>
<td>Cohen et al <em>Dermatol Surg</em> 1998</td>
<td>10</td>
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<td>Agarwal-Antal et al <em>JAAD</em> 2002</td>
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<td>Zalla et al <em>Dermatol Surg</em> 2000</td>
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<td>Bub et al <em>Arch Dermatol</em> 2002</td>
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<td>MSKCC (unpublished 2016)</td>
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Management of Lentigo Maligna

Initial Shave Excision for Dx and prelimin margin assessment
THANK YOU!

Lentigo Maligna Melanoma
Challenges in Diagnosis and Management

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