

# Lymphovascular invasion of malignant melanoma presenting as gray streaks on dermoscopy

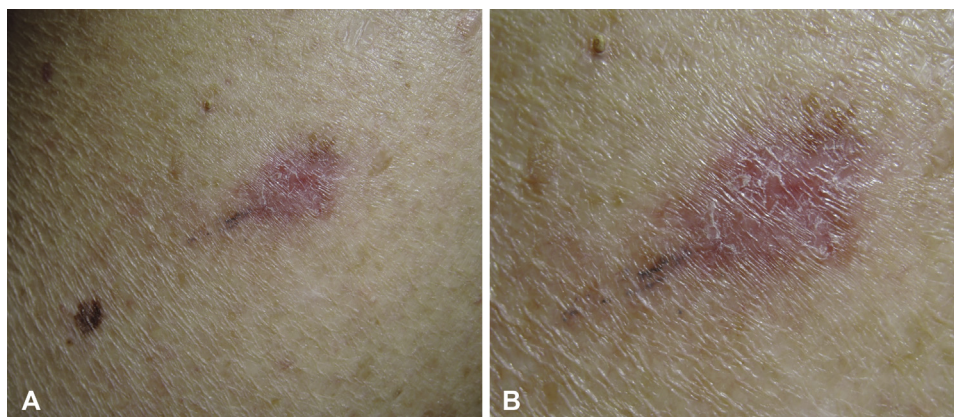


Lauren G. Yi, BS, Gabriella Melson, MD, Katherine Belote, MD, and Richard Flowers, MD  
*Charlottesville, Virginia*

**Key words:** dermoscopy; general dermatology; lymphovascular invasion; melanoma.

## CLINICAL PRESENTATION

A 90-year-old man presented to the surgical oncology department as a referral for newly diagnosed melanoma on the left side of the upper back. Initial biopsy found superficial spreading melanoma with a Breslow depth of at least 2.3 mm without ulceration and 8 mitoses/mm<sup>2</sup>; prominent intravascular invasion was noted. Examination found gray streaks extending laterally from the biopsy site and a brown macule lateral to the site (Fig 1).



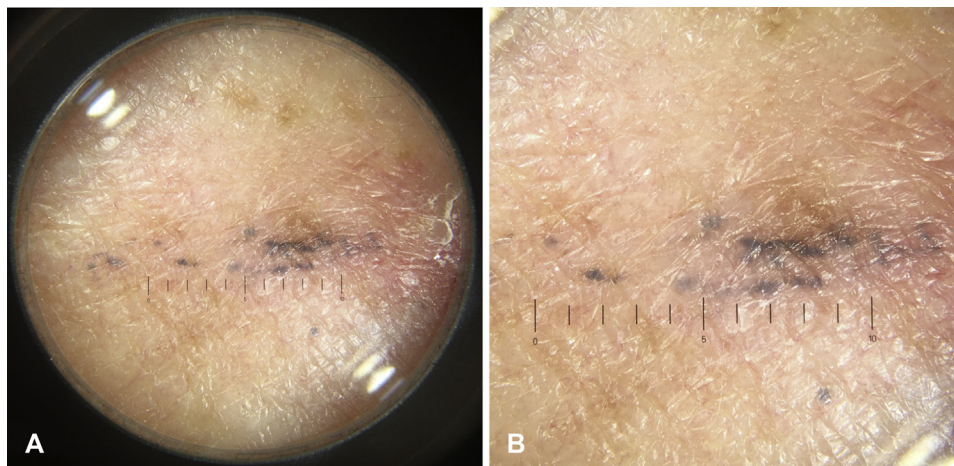
**Fig 1.** **A**, Biopsy site with 0.6-cm irregular brown macule noted 3 cm lateral to it. **B**, Close-up of biopsy site with gray streaks radiating from the 8 o'clock position.

From the Department of Dermatology, University of Virginia.  
Funding sources: None.  
Conflicts of interest: None disclosed.  
Correspondence to: Lauren G. Yi, BS, 1215 Lee St, Charlottesville,  
VA 22908. E-mail: [lgy8qu@virginia.edu](mailto:lgy8qu@virginia.edu).  
JAAD Case Reports 2020;6:1258-60.

2352-5126  
© 2020 by the American Academy of Dermatology, Inc. Published  
by Elsevier, Inc. This is an open access article under the CC  
BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).  
<https://doi.org/10.1016/j.jidcr.2020.05.021>

### DERMOSCOPIC APPEARANCE

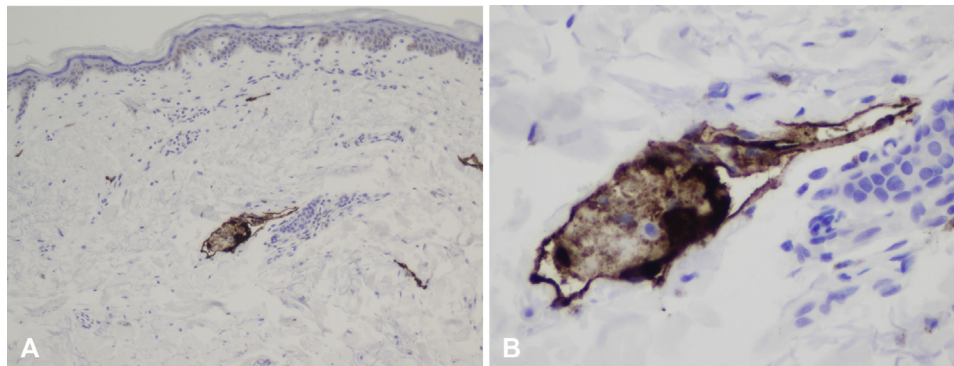
Dermoscopy showed linear gray streaks extending laterally from the shave biopsy scar (Fig 2).



**Fig 2.** A and B, Dermoscopy highlights linear gray streaks extending laterally from shave biopsy scar.

### HISTOLOGIC DIAGNOSIS

Pathology findings from wide local excision showed residual melanoma in situ with large deposits of intralymphatic malignant melanoma and a separate focus of melanoma in situ, corresponding to the irregular brown macule lateral to the prior biopsy site (Fig 3).



**Fig 3.** A and B, Biopsy of gray streak shows foci of atypical melanocytes within the lumens of multiple lymphatic channels, which show strong positive staining for D2-40 on immunohistochemistry. (Original magnifications: A,  $\times 100$ ; B,  $\times 400$ .)

**KEY MESSAGE**

To our knowledge, our case is the first report of gray streaks corresponding to intralymphatic melanoma at a primary malignant melanoma site. Gray streaks representing lymphovascular melanoma were reported once in the literature, which corresponded to cutaneous melanoma metastases.<sup>1</sup>

The presence of a blue-gray veil in malignant melanoma is associated with an increased Breslow depth, so areas of blue-gray discoloration should always be included in biopsy for histology assessment.<sup>2,3</sup> Histologic involvement of lymphatic or vascular channels by malignant melanoma indicates aggressive disease and is associated with lower recurrence-free and disease-free survival.<sup>4</sup> If peripheral gray streaks are noted clinically, biopsy of this area is important, as these can represent lymphovascular invasion and have relevance for staging and prognosis.

**REFERENCES**

1. Schulz H. Epiluminescence microscopy features of cutaneous malignant melanoma metastases. *Melanoma Res.* 2000;10(3):273-280.
2. De Girogi V, Carli P. Dermoscopy and preoperative evaluation of melanoma thickness. *Clin Dermatol.* 2002;20(3):305-308.
3. Yélamos O, Le MD, Braun RP, French KK, Marghoob AA. Dermoscopy for dermatopathologists. In: Busam KJ, Gerami P, Scolyer RA, eds. *Pathology of Melanocytic Tumors.* 1st ed. Philadelphia, PA: Elsevier; 2019.
4. Namikawa K, Aung PP, Gershenwald JE, Milton DR, Prieto VG. Clinical impact of ulceration width, lymphovascular invasion, microscopic satellitosis, perineural invasion, and mitotic rate in patients undergoing sentinel lymph node biopsy for cutaneous melanoma: a retrospective observational study at a comprehensive cancer center. *Cancer Med.* 2018;7(3):583-593.