SPMC JHCS

CASE IN IMAGES

Acral lentiginous melanoma treated by wide excision with split-thickness skin graft: case in images

Joanne Kate T Milana-Martinez,[1] Diandra Aurora R Zabala,[1] Kaitlin Ann T Lim,[2] Maricarr Pamela M Lacuesta-Gutierrez,[1] Lalaine R Visitacion[1]

[1]Department of Dermatology, Southern Philippines Medical Center, Bajada, Davao City, Philippines

[2]Section of Plastic, Reconstructive and Aesthetic Surgery, Department of Surgery, Southern Philippines Medical Center, Bajada, Davao City, Philippines

Correspondence
Joanne Kate T Milana-Martinez
katemartinez620@gmail.com

Article editor
Fatima May Tesoro

Received
24 August 2018

Accepted
28 August 2018

Published online
31 August 2018

Cite as
Milana-Martinez JKT, Zabala DAR, Lim KAT, Lacuesta-Gutierrez MPM, Visitacion LR. Acral lentiginous melanoma treated by wide excision with split-thickness skin graft: case in images. *SPMC J Health Care Serv.* 2018;4(1):9. http://n2t.net/ark:/76951/jhcs8wut85

Acral lentiginous melanoma (ALM) is the rarest of the four subtypes of cutaneous melanoma.[1] It accounts for only 2-8% of melanomas in Caucasians.[2] Only 52 cases of ALM have been recorded in the Philippine Dermatological Society Health Information System from 2011 to 2016.[3] Histopathologic demonstration of cytologic atypia, presence of mitoses in the deep dermis, pagetoid spread of epidermal melanocytes, and lack of maturation of nests with descent into the dermis are features diagnostic of melanoma.[2 4] ALM is primarily managed through wide surgical excision. The most common sites for ALM are the soles, palms, and subungual areas.[2] The rarity of ALM, the inconspicuousness of the locations of some lesions, and the difficulty in discerning ALM from benign lesions and traumatic changes usually delay the diagnosis and contribute to the poor prognosis of the disease.[4-6]

A 53-year-old male consulted us for an enlarging pigmented plaque on the sole of his left foot. The lesion started as a junctional nevus, which the patient had since birth. The nevus, originally measuring approximately 0.5 x 0.5 cm, started to increase in size one year prior to the consultation. One month before consultation, the patient noted a black nodule on the center of the lesion. A week before consultation, the lesion bled and became painful after manipulation by the patient.

Dermatologic examination of the plantar aspect of the left foot revealed a 1.7 x 1.6 cm, dark brown-black, asymmetric plaque with cobblestone-like surface and a black indurated nodule on the center (Figure 1A). Dermoscopic findings of bluish white veil and irregular pigmentation with variable hypopigmented blotches are suggestive of acral melanoma (Figure 1B). Skin punch biopsy and immunohistochemical stains for S100, Melan A, HMB-45, and Ki-67 confirmed the diagnosis of ALM (Figures 2 and 3). We did a wide local excision of the lesion with a 2-cm margin from the tumor edge and a depth up to the suprafascial level (Figure 4A). The excisional defect was repaired with a split-thickness skin graft taken from the patient's right thigh (Figure 6). The graft provided excellent aesthetic results. We also did a sentinel lymph node biopsy on the left inguinal area (Figures 5A and 5B). Frozen section biopsy showed solid nests of atypical melanocytes invading the surrounding fibrous stroma. Individual cells exhibit round to oval, deeply basophilic nuclei and abundant, clear to eosinophilic cytoplasm. Some areas showed prominent melanin pigmentation. Sections along lines of resection, lymphovascular channels, nerves and adipose tissues of the excised mass (Figure 4B and 4C) and lymph nodes from sentinel biopsy were all devoid of malignant tumor cells. Histopathologic findings from frozen section biopsy and permanent section biopsy were both consistent with malignant melanoma with 3 mm Breslow thickness. The patient's post-operative course, including wound healing, was uneventful (Figure 7). During the patient's 12-month follow up period, we did not observe any signs of local or distant recurrence of the tumor.

Acknowledgments
We would like to thank Dr Hector Bobby Z Nazareno, Section Head of Department of Surgery in Southern Philippines Medical Center (SPMC), for managing the patient and Dr Marlon M Maramion of the Department of Pathology and Laboratories in SPMC for providing the immunohistochemical stain results.

Patient consent
Obtained

Article source
Submitted

Peer review
External

Competing interests
None declared

REFERENCES

1. Bristow IR, Acland K. Acral lentiginous melanoma of the foot and ankle: A case series and review of the literature. J Foot Ankle Res. 2008; 1:11.

2. Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ, Wolff K. Fitzpatrick's Dermatology in General Medicine. 8th ed.New York: McGraw-Hill Professional; 2012.

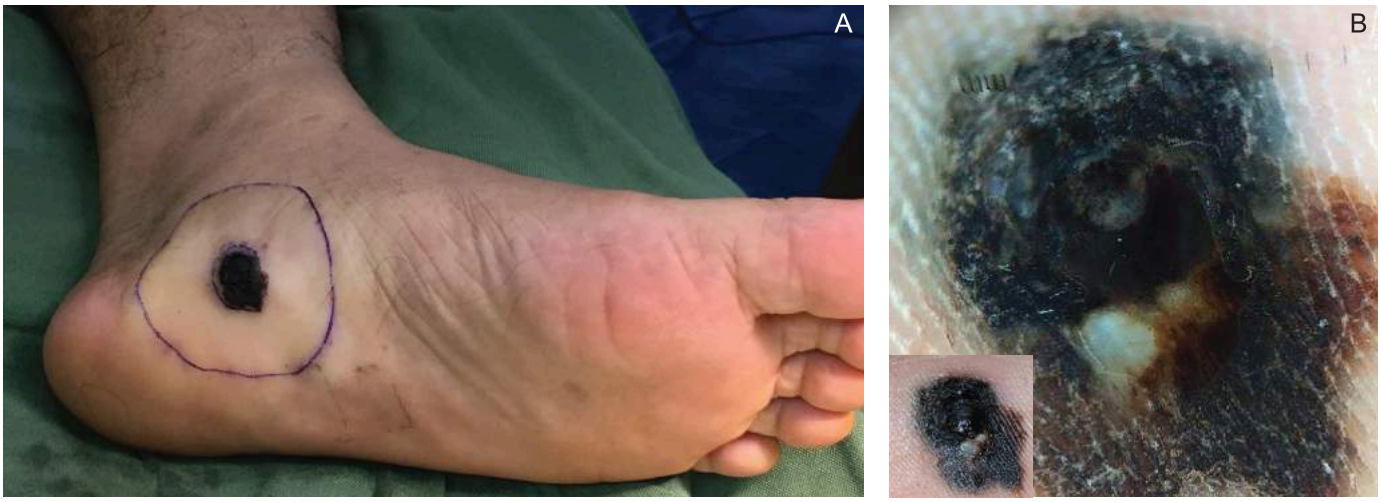


Figure 1 A 1.7 x 1.6 cm, dark brown to black, asymmetric plaque with cobblestone-like surface, variegated color, and a black indurated nodule on the center (A), located on the plantar area of the left foot. Dermoscopic (B: x10) and gross (B: inset photo) findings reveal a bluish white veil and irregular pigmentation with variable hypopigmented blotches.

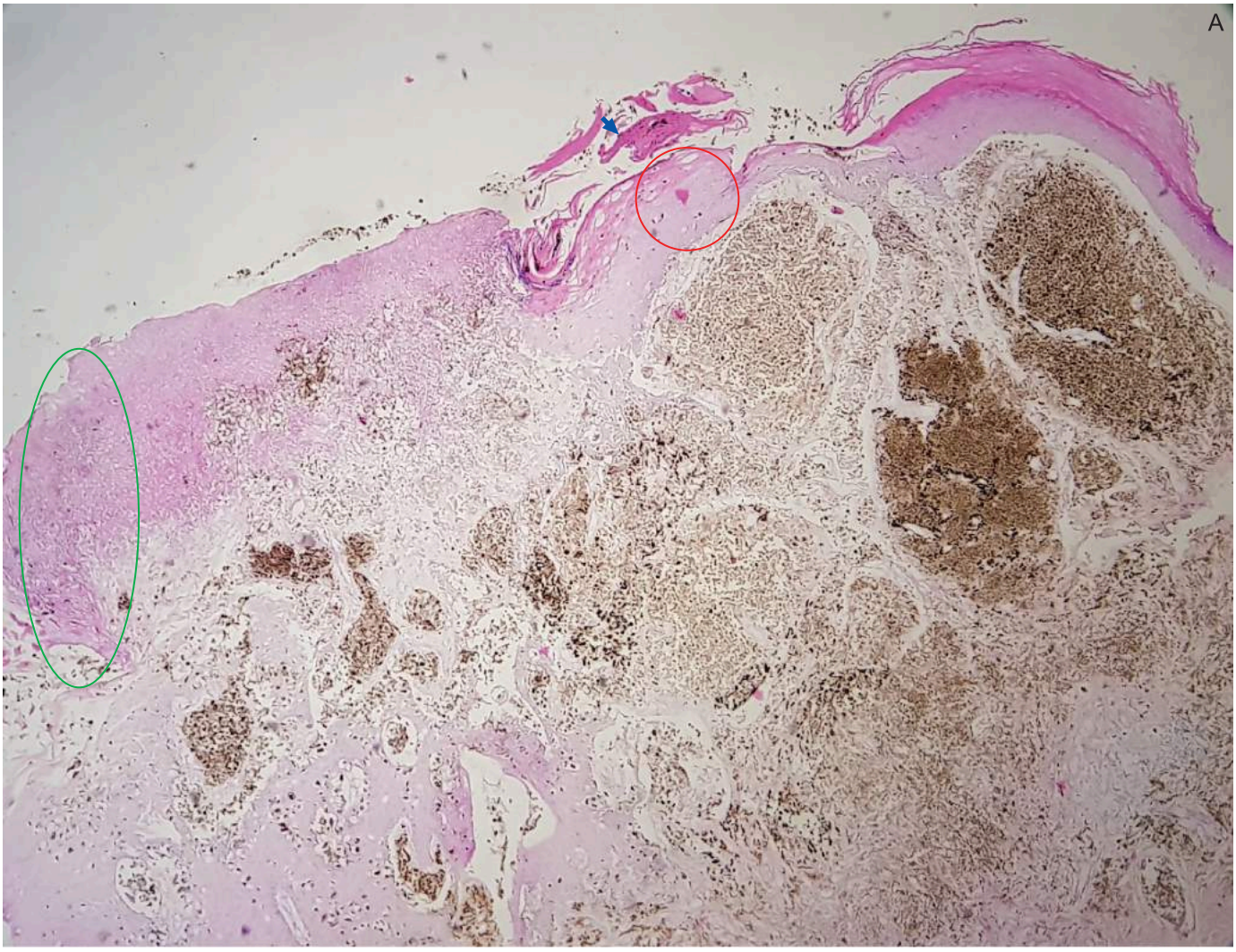
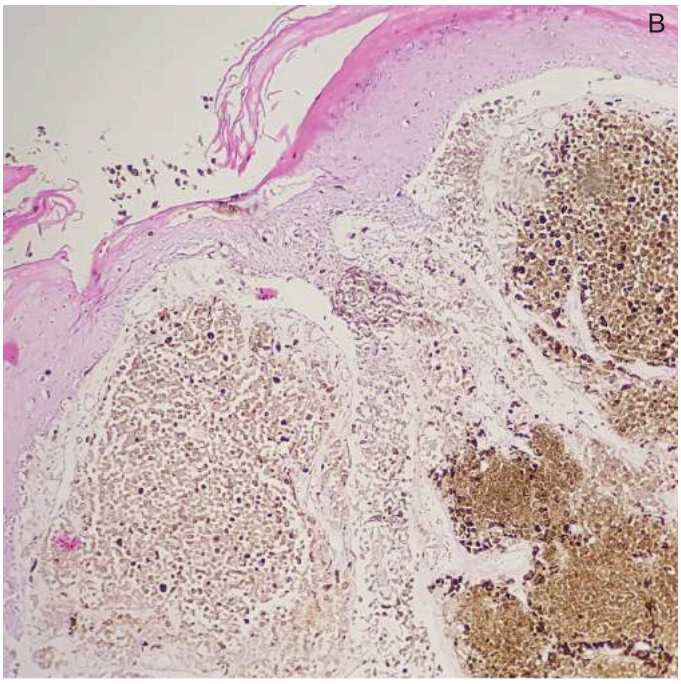
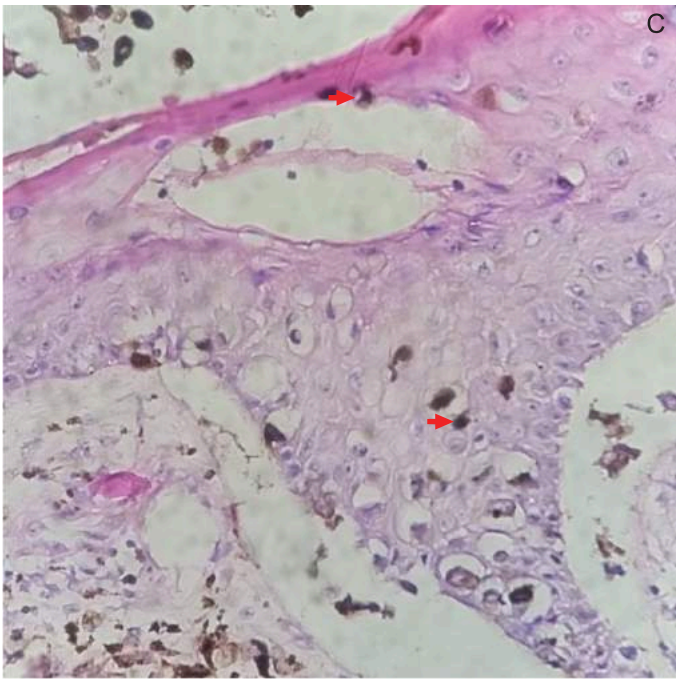


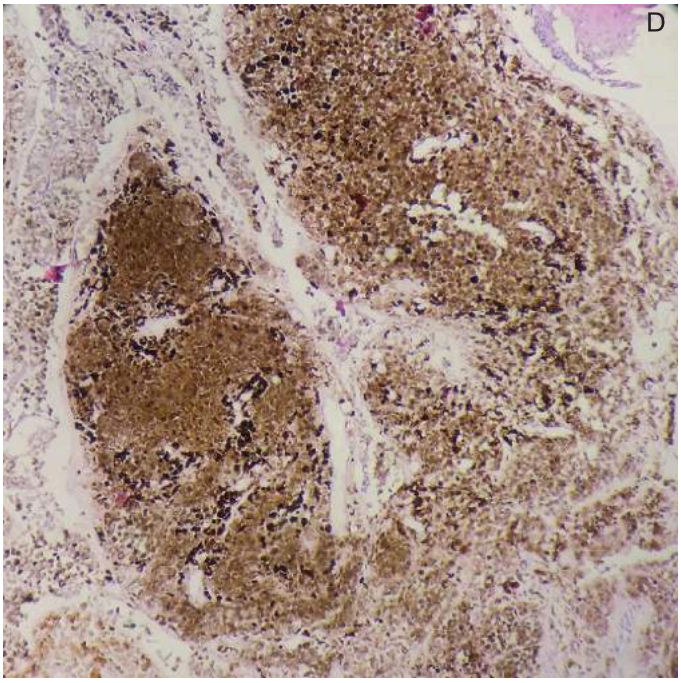
Figure 2 Skin punch biopsy of the hyperpigmented nodule of the left foot. Hematoxylin-eosin stain.

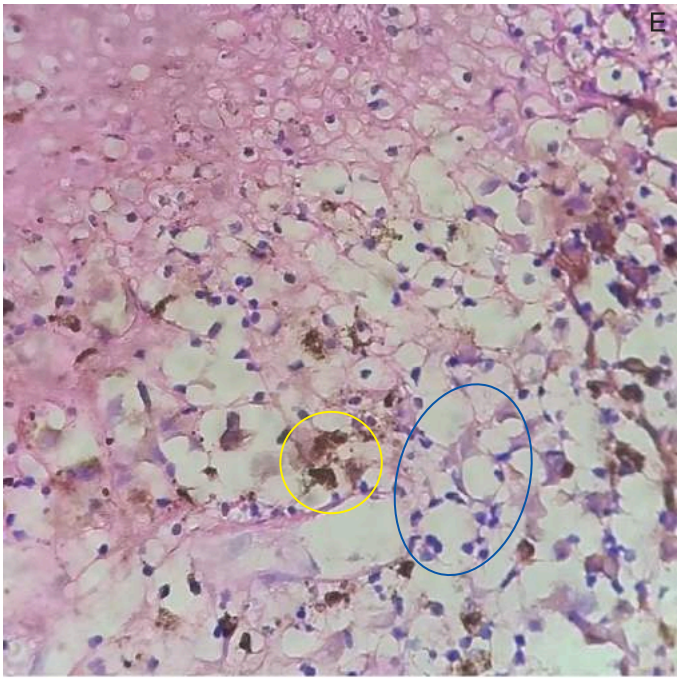
Figure 2A Scanning view (x4) showing orthokeratosis with focal pigmented parakeratosis (blue arrow) overlying an acanthotic (green ring) to focally atrophic (red ring) epidermis (x10).



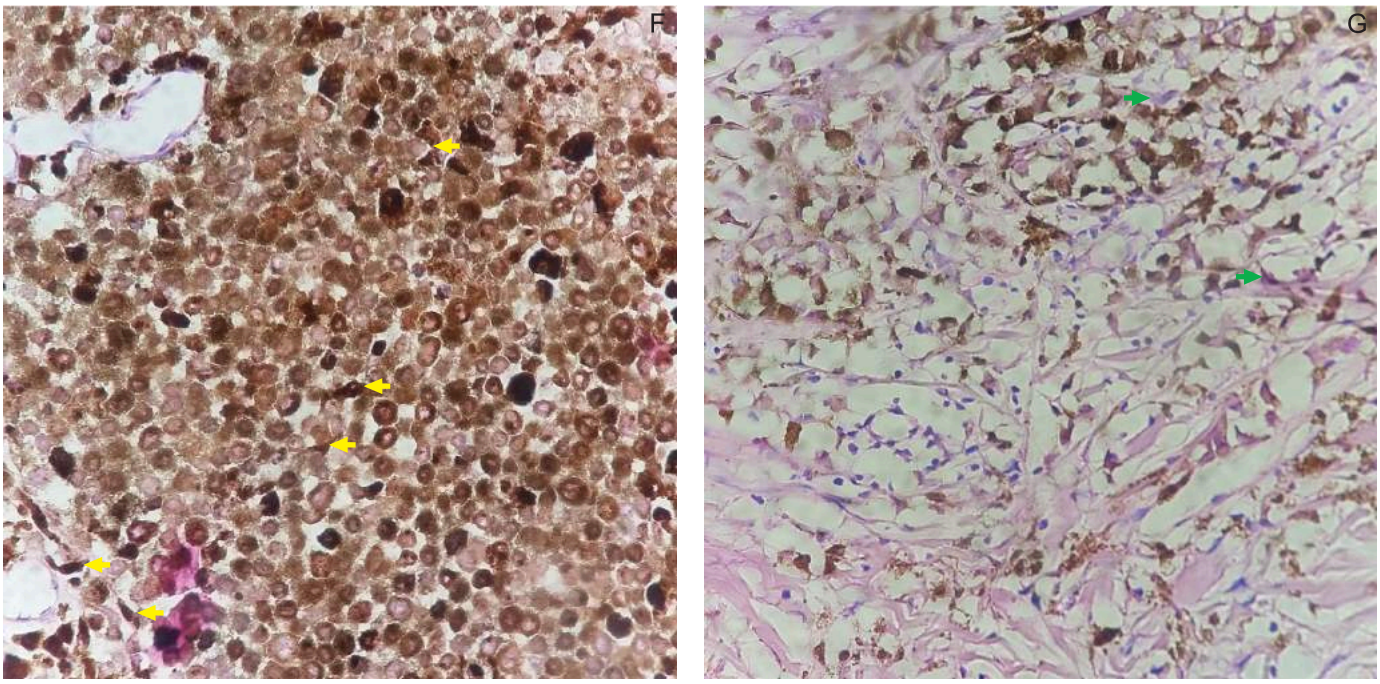


Figures 2B and 2C Low (x10) and high magnification (x40) views showing intraepidermal ascent of melanocytes (pagetoid melanocytes; C: red arrows).





Figures 2D and 2E The dermis revealing nodular collections of heavily pigmented spindle and epithelioid cells with pleomorphic nuclei (D; x10), scattered melanophages (E: yellow ring; x40) and dense, predominantly lymphocytic infiltrates (E: blue ring).



Figures 2F and 2G High power magnification (x40) of the dermis showing nodular collections of heavily pigmented spindle (F: yellow arrows) and epithelioid (G: green arrows) cells with pleomorphic nuclei.

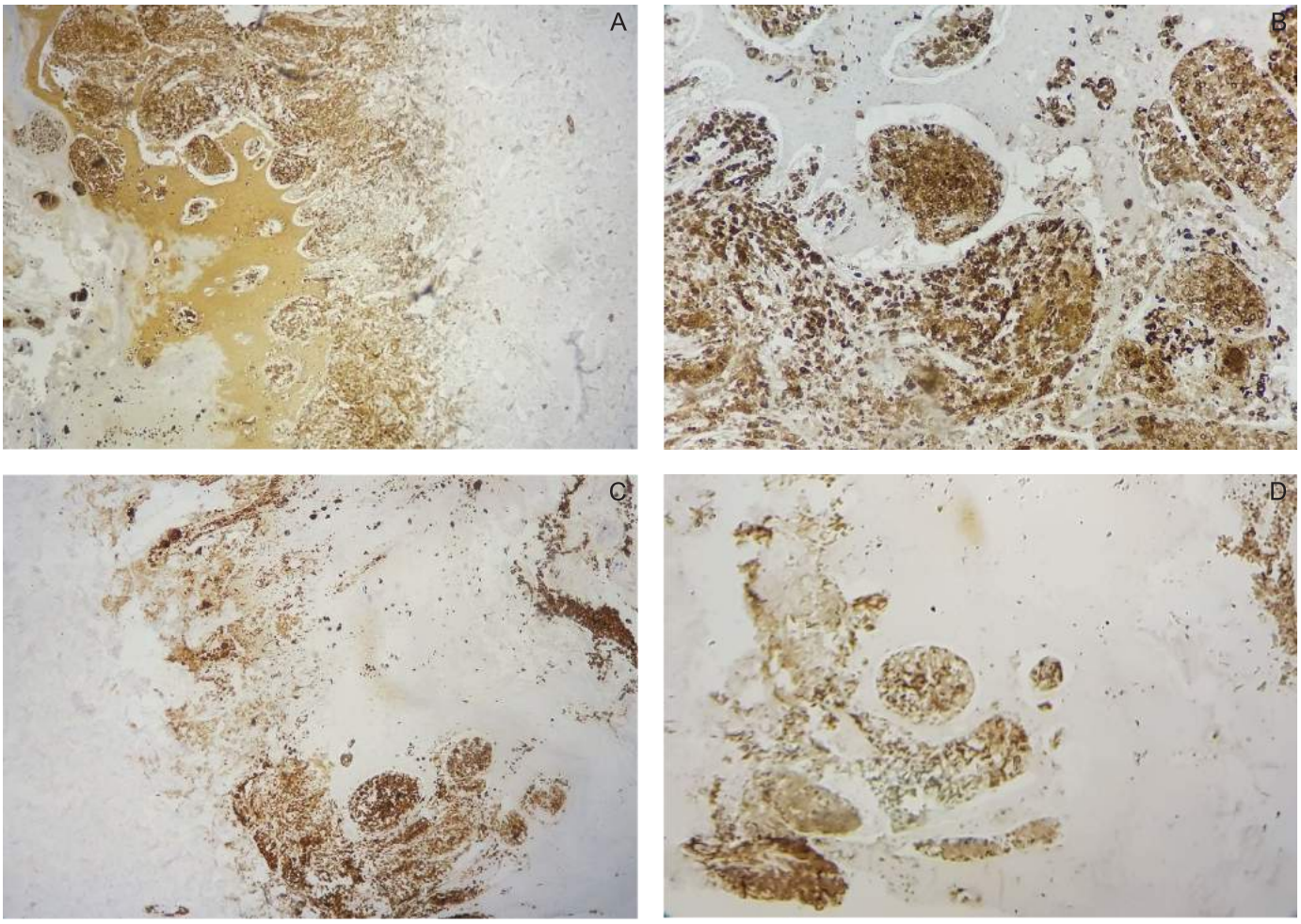


Figure 3 Atypical melanocytic proliferation highlighted by immunohistochemical stains. Positive (+3) for S100 (A). Positive (+3) for Melan A (B). Positive for HMB-45 (C). Positive (25% of tumor cells) for Ki-67 (D).

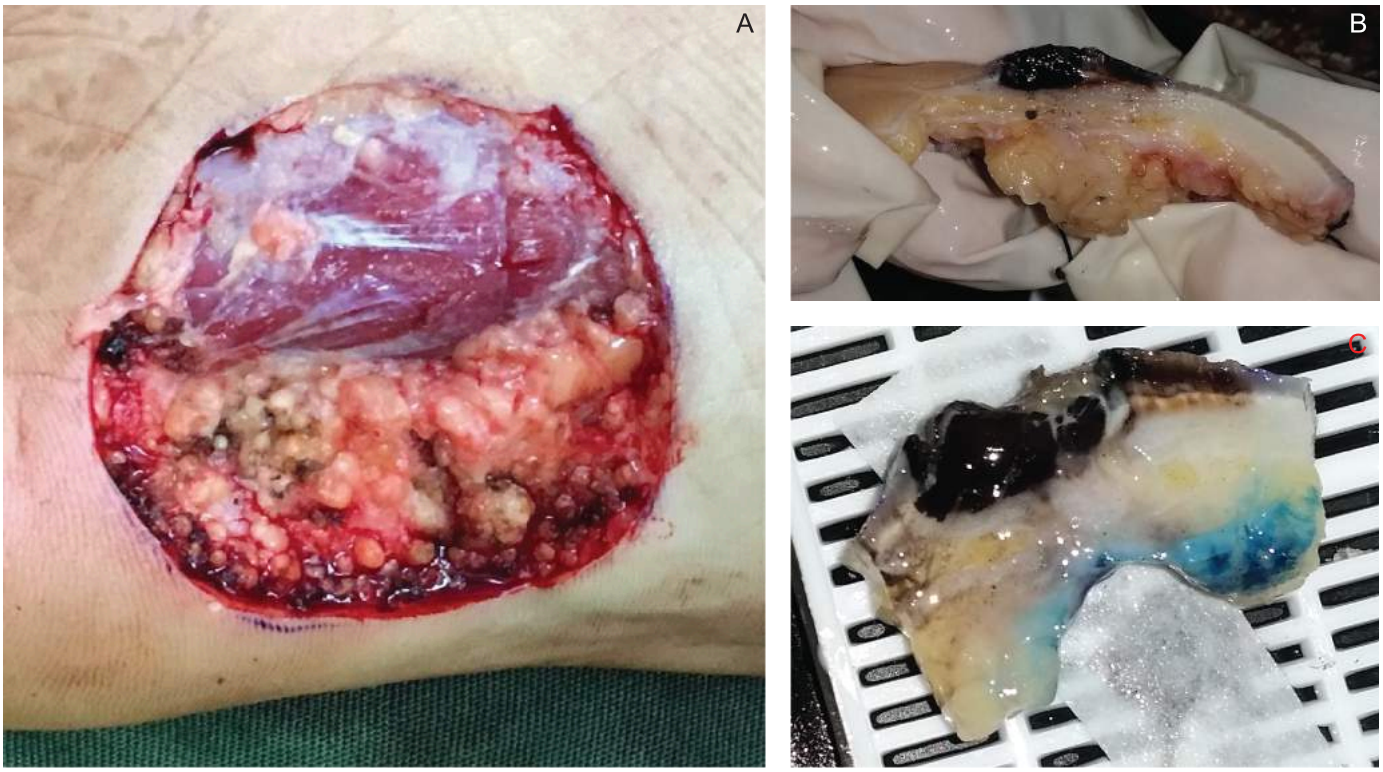


Figure 4 Wide excision with 2-cm margin from the tumor edge and depth up to the suprafascial level (A). Excised mass (B and C).

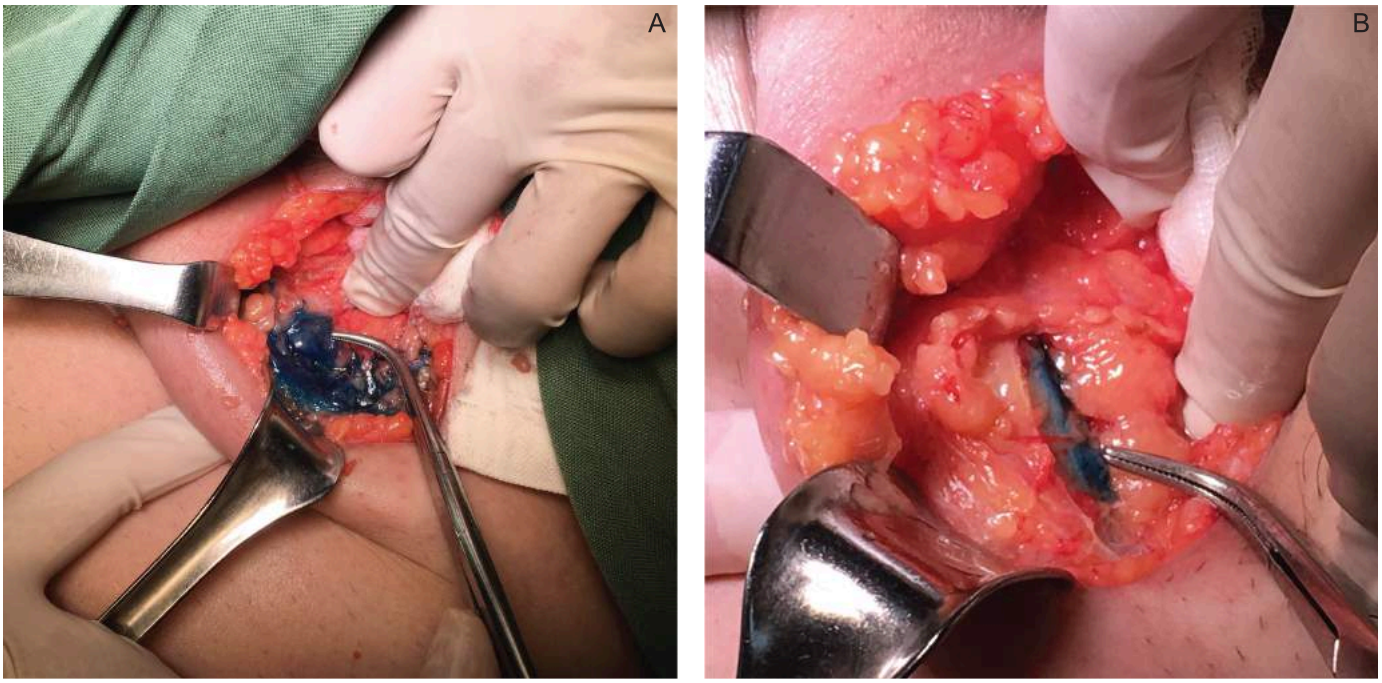


Figure 5 Sentinel lymph node biopsy, left inguinal area (A and B).

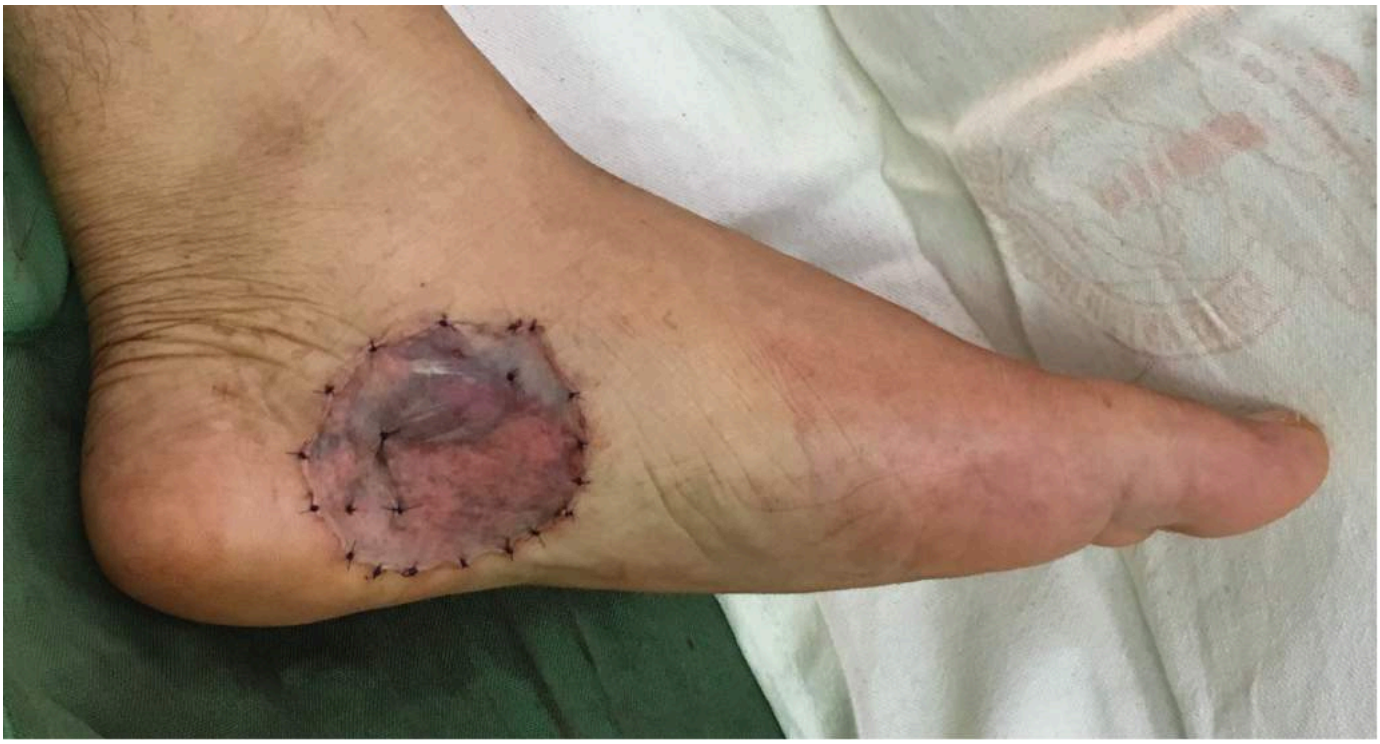


Figure 6 Post-wide excision with split-thickness skin graft harvested from the right thigh.

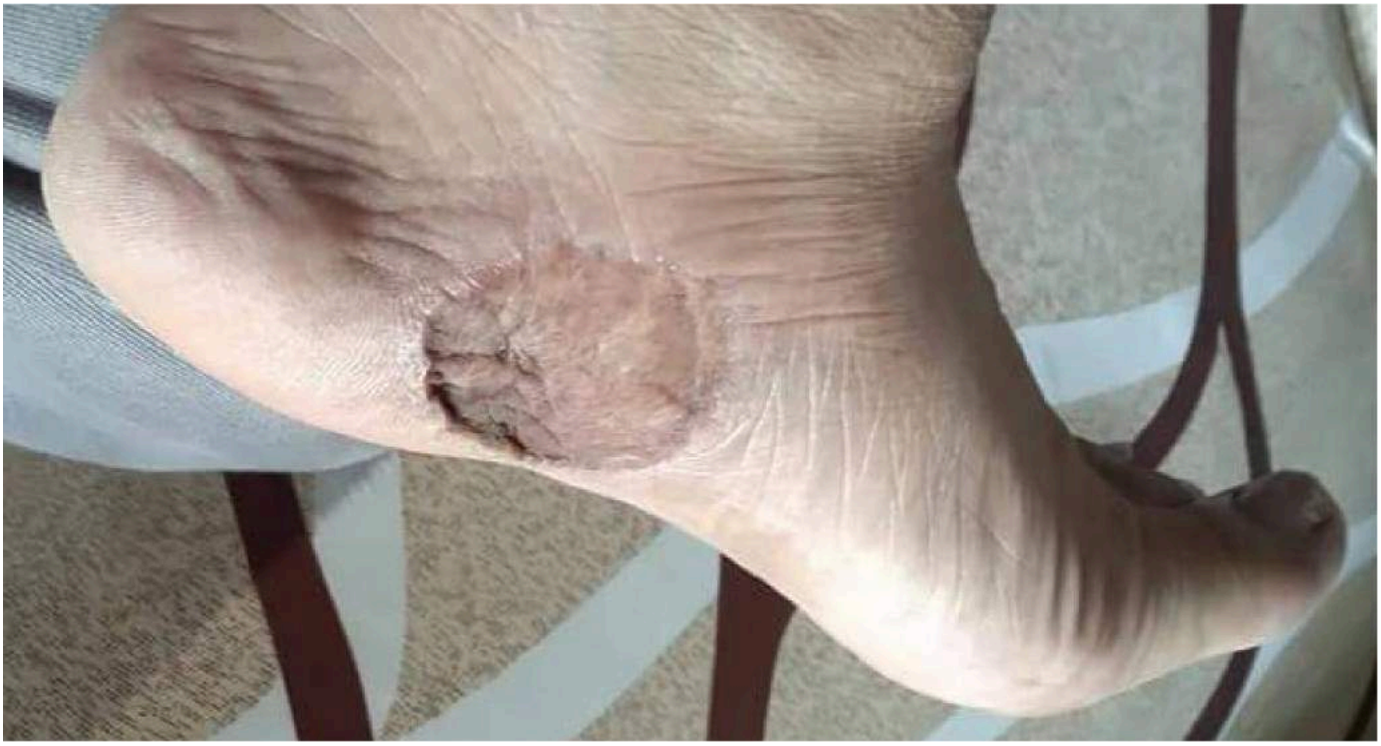


Figure 7 Photograph taken by the patient 15 months postoperatively showing thorough healing of the graft site with very minimal scar contracture.

3. Philippine Dermatological Society Health Information System [data file]. Philippine Dermatological Society. 2012 [updated 2018 April 25; cited 2018 May 5].

4. Bolognia JL, Jorizzo JL, Schaffer JV. Dermatology. 3rd ed. New York: Elsevier; 2012.

5. Phan A, Dalle S, Touzet S, Ronger-Savlé S, Balme B, Thomas L. Dermoscopic features of acral lentiginous melanoma in a large series of 110 cases in a white population. Br J Dermatol. 2010 Apr; 162(4):765-71.

6. Bradford PT, Goldstein AM, McMaster ML, Tucker MA. Acral Lentiginous Melanoma: Incidence and survival patterns in the United States, 1986-2005. Archives of Dermatology. 2009; 145(4):427–434.