

Balloon Cell Primary Nodular Melanoma: Dermoscopy Evidence

Fernanda S. Seabra Resende¹, Claudio Conforti³, Roberta Giuffrida², Paola Corneli³, Serena Fagotti³, Ana Custrin⁴, Venus Shaffiei⁴, Iris Zalaudek³, Nicola Di Meo³

1 Department of Dermatology and Venereology, University of Brasilia, Brasilia, Brazil

2 Department of Clinical and Experimental Medicine, Section of Dermatology, University of Messina, Messina, Italy

3 Dermatology Clinic, Hospital Maggiore, University of Trieste, Trieste, Italy

4 Clinical Unit of Pathological Anatomy and Histology, University of Trieste, Trieste, Italy

Key words: balloon cell, dermoscopy, histology, melanoma, oncology, dermato-oncology

Citation: Resende FSS, Conforti C, Giuffrida R, Corneli P, Fagotti S, Custrin A, Shaffiei V, Zalaudek I, Di Meo N. Balloon cell primary nodular melanoma: dermoscopy evidence. *Dermatol Pract Concept*. 2019;9(2):155-156. DOI: <https://doi.org/10.5826/dpc.0902a15>

Accepted: October 31, 2018; **Published:** April 30, 2019

Copyright: ©2019 Resende et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Funding: None.

Competing interests: The authors have no conflicts of interest to disclose.

Authorship: All authors have contributed significantly to this publication.

Corresponding author: Claudio Conforti, MD, Dermatology Clinic, Hospital Maggiore, Trieste, Italy. Email: claudioconforti@yahoo.com

Introduction

There are only 4 previously published dermoscopic images of balloon cell melanoma (BCM) in the literature, 3 of primary tumors and 1 of BCM satellite metastasis. Currently, data are restricted by a low number of reports and a definitive dermoscopic pattern of BCM is still not documented. We suggest some dermoscopic features to correctly diagnose this tumor.

Case Presentation

Recently, an 84-year-old Caucasian woman was referred to our skin cancer unit because of an asymptomatic nodule on the right leg for the preceding 4 months, with no personal or family history of melanoma or nonmelanoma skin cancer. Physical examination showed a well-defined, reddish nodule measuring 1 cm in diameter (Figure 1A).

Dermoscopy revealed yellowish structureless areas, white lines, and irregular, hairpin-shaped and curved vessels (Figure 1B). Due to suspicions of melanoma, an excisional biopsy was performed for histopathological examination.

Hematoxylin and eosin (H&E) staining showed an atypical melanocytic proliferation, with an architecturally disorganized, predominantly intradermal component composed of cells containing hyperchromatic pleomorphic nuclei and a ballooned appearance with vacuolated cytoplasm, mitotic figures, and discrete areas of intradermal pagetoid spread (Figure 2, A and B). No ulceration, lymphovascular and perineural invasion, satellitosis, or regression was noted. Breslow thickness was 4.1 mm with moderate mitotic activity with 4 mitotic figures seen per square millimeter. Immunohistochemical staining showed positive results for melanocytic markers S100 (Figure 2C), HMB45 in the dermal component, and MELAN-A, confirming the diagnosis of BCM. Ki67 Ki67 staining was positive in balloon cells.

Conclusions

In 2013, the first dermoscopy report described an amelanotic nodule with a structureless yellow lesion, central ulceration, presence of terminal hairs, and curved and dotted vessels in an elderly man with a history of local trauma [1].

In 2014, a satellite metastasis of BCM was described as having a milky red structureless background, yellowish structureless areas, and a few irregular, linear, hairpin-shaped, and curved vessels. As balloon cells generally lack melanin, this study proposed the association of milky red and yellowish structureless areas as a considerable clue for the diagnosis of BCM [2]. We also reported the presence of yellowish structureless areas in our case.

The dermatopathological diagnosis of BCM is reportedly challenging both careful clinical-pathological correlation as well as correctly interpreted immunohistochemical stains. Clinically, BCM could be presented as a nodular, ulcerated, polypoid, or papillomatous lesion with the absence of pigmentation.

Dermoscopic evidence showed numerous aggregated white globular structures, which correspond to nests of pigmented melanocytes in the lower epidermis, papillary, and/or lower dermis in histology. In this case the presence

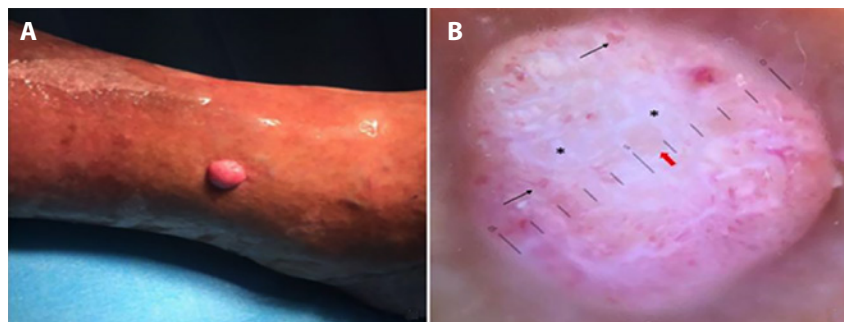


Figure 1. Balloon cell melanoma, clinical and dermoscopic presentation. (A) Erythematous nodule, 1 cm in diameter. (B) Yellowish structureless areas (red thick arrow), white lines (black asterisks), hairpin-shaped, and curved vessels (black arrows). [Copyright: ©2019 Resende et al.]

of a recent raised amelanotic nodular lesion with white lines and polymorphous vessels in dermoscopy suggested malignancy, although the diagnosis of BCM was histologically defined.

We therefore suggest focusing on 4 dermoscopic criteria during the assessment of a nodular lesion to rule out BCM: (1) yellowish structureless areas, (2) white lines, (3) irregular hairpin-shaped and (4) curved vessels.

References

1. Inskip M, Magee J, Barksdale S, Weedon D, Rosendahl C. Balloon cell melanoma in primary care practice: a case report. *Dermatol Pract Concept.* 2013;3(3):25-29.
2. Duman N, Sahin S, Özyaygen GE, Gököz Ö. Dermoscopy of satellite metastasis of balloon cell melanoma. *J Am Acad Dermatol.* 2014;71(1):e11-e12.

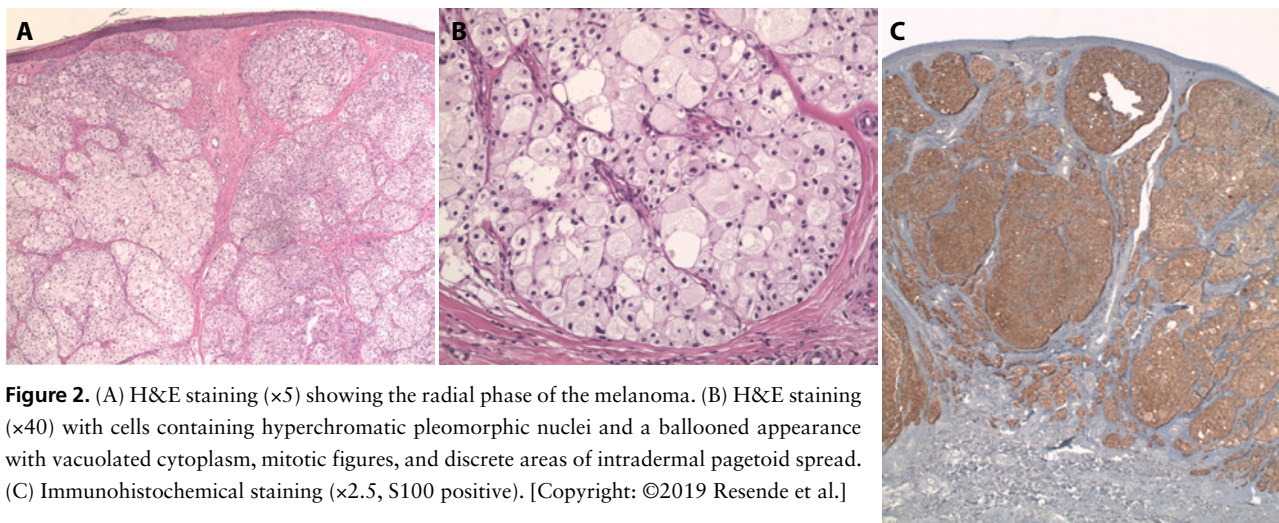


Figure 2. (A) H&E staining (×5) showing the radial phase of the melanoma. (B) H&E staining (×40) with cells containing hyperchromatic pleomorphic nuclei and a ballooned appearance with vacuolated cytoplasm, mitotic figures, and discrete areas of intradermal pagetoid spread. (C) Immunohistochemical staining (×2.5, S100 positive). [Copyright: ©2019 Resende et al.]