Recurrent halo nevus: Dermoscopy and confocal microscopy features

Ana Carolina Porto, MD,[a] Tatiana Pinto Blumetti, MD,[a] Raquel de Paula Ramos Castro, MD,[a] Clovis Antônio Lopes Pinto, MD, PhD,[b] Adriana Silveira Pessoa Mendes, MD,[a] João Pedreira Duprat Neto, MD, PhD,[a] Gisele Gargantini Rezze, MD, PhD,[c] and Juliana Casagrande Tavoloni Braga, MD, PhD[a]
São Paulo, Brazil

Key words: confocal microscopy; dermoscopy; halo nevus; melanoma; nevus; skin cancer.

INTRODUCTION

Melanocytic nevi change throughout a person's life. Most melanocytic nevi are acquired during childhood and early adulthood; in later life, the prevalence of melanocytic nevi falls.[1] Nevi frequently form, but the exact mechanisms involved in their generation remain unknown. Nevi usually progressively fade or, less commonly, transition through targetoid presentations (halo, cockade, or Meyerson nevi).[2]

In halo nevi (HN), a symmetrical hypopigmented rim can be observed surrounding a central nevus. The progressive involution of the central part of this variety of nevus might be seen over the course of months to years, disappearing completely in 50% of cases.[3]

HN are more commonly associated with benign melanocytic nevi, but rarely occur in nevi with various degrees of atypia, in nonmelanocytic tumors, in inflammatory lesions, and in melanoma.[4] The risk for malignancy often leads to the clinical investigation and follow-up of doubtful lesions. Dermoscopic examination of HN typically shows a globular or homogeneous pattern.[5] Reflectance confocal microscopy (RCM) of HN has been previously described in 2 studies and some atypical features, also seen in atypical melanocytic lesions and malignant melanoma, were observed in most patients evaluated. These features included pagetoid cells, non-edged papilla, junctional thickening, nucleated cells in the dermal papillae, and plump bright cells.[6,7] These atypical findings might be due to local inflammation.[7]

Abbreviations used:

HN: halo nevi
RN: recurrent nevi
RCM: reflectance confocal microscopy

Recurrent nevi (RN) are benign and melanocytic, and they usually develop after incomplete surgical excision or trauma. RN are frequently referred to as pseudomelanomas because of their often challenging appearance on clinical and dermoscopy evaluation.[8] RN and HN concomitantly affecting a single lesion has never been described before.

CASE

We present the case of a 9-year-old boy, with 2 years follow-up in our Cutaneous Oncology Department for a changing nevus on the back. Dermoscopy revealed a regular globular reticular pattern surrounded by a hypopigmented rim. The lesion was showing progressive regression, and at the last evaluation, it presented with a sudden and abrupt central repigmentation. On this occasion, a change in the dermoscopy pattern was observed, with an atypic network in the center and asymmetric and irregular globules in the periphery.

RCM of the pigmented area indicated a typical honeycomb pattern and dendritic cells in the epidermis, non-edged papillae, an atypical meshwork pattern of dendritic cells and homogeneous nests (dense nests) at the dermo-epidermal

From the Cutaneous Oncology Department[a] and Pathology Department[b] AC Camargo Cancer Center, São Paulo; and DermaImage, São Paulo.[c]
Funding sources: None.
Conflicts of interest: None declared.
Correspondence to: Ana Carolina Porto, MD, Rua Professor Antônio Prudente, 211, São Paulo, SP, 01509-010, Brazil. E-mail: carolsporto1@hotmail.com.

JAAD Case Reports 2017;3:256-8.
2352-5126

http://dx.doi.org/10.1016/j.jdcr.2017.02.020

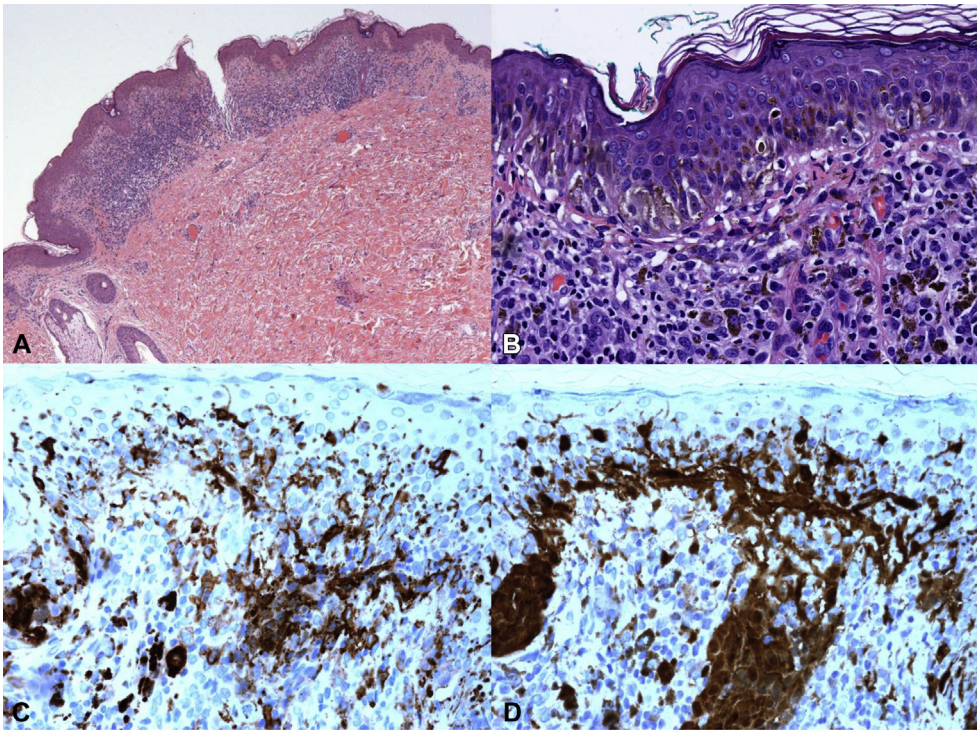

Fig 1. Histopathologic analysis and immunohistochemical stainings of the recurrent halo nevus. **A**, Panoramic view of the lesion. Lesion is characterized by a dense inflammatory infiltrate obscuring the dermal-epidermal junction of the skin. **B**, Moderate atypical melanocytic proliferation in the dermal-epidermal junction with nest formation and without pagetoid migration; in the dermis, an intense lymphocytic infiltration with melanocytes nests and numerous melanophages. **C**, Immunohistochemistry study revealing the intraepidermal Langerhans cells, confirming that some of the dendritic cells seen on confocal microscopy are Langerhans cells. **D**, S100 staining highlighting the melanocytic nests in the dermis confirming the compound nature of the lesion, and an increased number of Langerhans cells in the epidermis. (**A** and **B**, Hematoxylin-eosin stain; **C**, CD1a staining; **D**, S100 stain; original magnifications: **A**, ×40; **B**-**D**, ×400.)

junction, thick collagen bundles, and bright cells within the dermis (Fig 1). In the surrounding hypopigmented area, a typical honeycomb pattern within the epidermis was observed, as well as faint bright-edged papillae at the dermo-epidermal junction and normal collagen in the papillary dermis (Fig 2). An excisional biopsy was carried out and histopathologic analysis revealed a compound melanocytic nevus with severe atypia (Fig 1).

DISCUSSION

Even though RN are benign lesions, they often are challenging to diagnose because they might have clinical, dermoscopic, and histopathologic features that resemble melanoma.[9]

One crucial feature that has been reported to help differentiate RN from local recurrence of a primary cutaneous melanoma is the scar pigmentation. In melanoma, the pigmentation intersects the scar limits, but in RN, pigmentation is limited to the scar.[8,10] In our case, the lesion was confined to the scar but worrisome dermoscopic features and doubtful RCM findings lead us to investigate histopathology further.

In conclusion, we presented the first report in the literature of recurrent halo nevus, a combination of 2 relatively rare phenomena (HN and RN) occurring in a single lesion. The sequential use of digital dermoscopy enabled us to register the natural course of a HN involution followed by a recurrence. In addition, RCM revealed findings from both phenomena in agreement with the subsequent histopathologic analysis, ensuring the reliability of this tool to evaluate challenging melanocytic lesions.

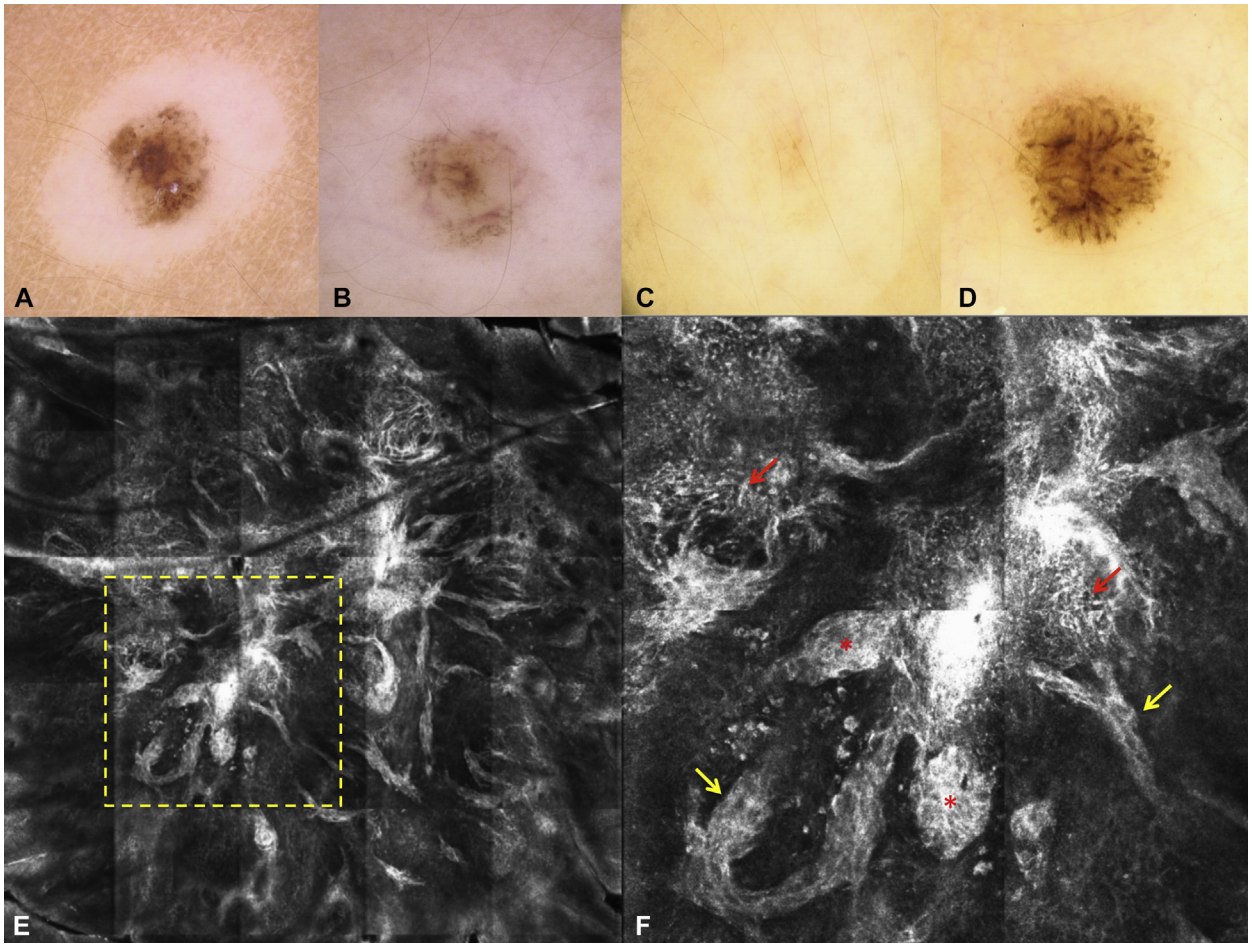

Fig 2. Dermoscopic images of recurrent halo nevus. **A**-**C**, Gradual regression of the halo nevus. **A**, Dermoscopy shows a regular reticular and globular nevus surrounded by a symmetric halo. **B**, After 6 months, a partial disappearance of the nevus was observed. **C**, After 1 year, an almost complete regression of the nevus occurred. **D** and **E**, recurrent halo nevus. **D**, After a 2-year follow-up, repigmentation in the center of the lesion occurred. Dermoscopy of the recurrent halo nevus showed an atypical network in the center and asymmetric and irregular globules in the periphery. **E**, Reflectance confocal microscopy (RCM) mosaic image (2.5 × 2.5 mm) of the recurrent nevus shows an atypical meshwork pattern at the level of the dermo-epidermal junction. **F**, RCM mosaic image (zoom in of the dashed square in E, 1 × 1 mm) shows homogeneous dense nests (*red asterisks*), atypical meshwork patterns (*yellow arrows*), and dendritic cells (*red arrows*).

REFERENCES

1. Vyas R, Rademaker M, Oakley A. An observational case series on dermatoscopic patterns of fading melanocytic naevi. *Australas J Dermatol*. 2016. http://dx.doi.org/10.1111/ajd.12464, published online March 1, 2016.
2. Terushkin V, Scope A, Halpern AC, Marghoob AA. Pathways to involution of nevi: insights from dermoscopic follow-up. *Arch Dermatol*. 2010;146(4):459-460.
3. Aouthmany M, Weinstein M, Zirwas MJ, Brodell RT. The natural history of halo nevi: a retrospective case series. *J Am Acad Dermatol*. 2012;67(4):582-586.
4. Mooney MA, Barr RJ, Buxton MG. Halo nevus or halo phenomenon? A study of 142 cases. *J Cutan Pathol*. 1995; 22(4):342-348.
5. Kolm I, Di Stefani A, Hofmann-Wellenhof R, et al. Dermoscopy patterns of halo nevi. *Arch Dermatol*. 2006;142(12):1627-1632.
6. Larre Borges A, Zalaudek I, Longo C, et al. Melanocytic nevi with special features: clinical-dermoscopic and reflectance confocal microscopic-findings. *J Eur Acad Dermatol Venereol*. 2014;28(7):833-845.
7. Schwartz RJ, Vera K, Navarrete N, Lobos P. In vivo reflectance confocal microscopy of halo nevus. *J Cutan Med Surg*. 2013; 17(1):33-38.
8. Longo C, Moscarella E, Pepe P, et al. Confocal microscopy of recurrent naevi and recurrent melanomas: a retrospective morphological study. *Br J Dermatol*. 2011;165(1): 61-68.
9. Ludzik J, Witkowski AM, Pellacani G. Pseudomelanoma follow-up of a recurrent naevus with dermoscopy and reflectance confocal microscopy. *J Eur Acad Dermatol Venereol*. 2016;30(4):718-719.
10. Blum A, Hofmann-Wellenhof R, Marghoob AA, et al. Recurrent melanocytic nevi and melanomas in dermoscopy: results of a multicenter study of the International Dermoscopy Society. *JAMA Dermatol*. 2014;150(2): 138-145.