Do not forget to check the scalp in systemic light-chain amyloidosis

Jorge Larrondo, MD, MSc,[a,b] Marianne Gosch, MD, MSc,[b] Camila Peña, MD,[c] Raúl Cabrera, MD,[a] Cecilia Jeraldo, MD,[d] Alex Castro, MD,[e] and Amy J. McMichael, MD[f]
Santiago, Chile and Winston-Salem, North Carolina

Key words: alopecia; amyloid; dermoscopy-guided biopsy; light-chain systemic amyloidosis; trichoscopy.

Abbreviation used:
AL: amyloidosis

CLINICAL CHALLENGE

Systemic light chain amyloidosis (AL) is a nonproliferative plasma cell disorder in which fragments of immunoglobulin deposit in tissues. Clinical manifestations are often nonspecific, making diagnosis challenging. Biopsy of involved organs is the gold standard to confirm the diagnosis; however, internal organ biopsy may be unsafe because of a significant risk of bleeding.[1] New techniques to improve diagnosis are needed.

SOLUTION

We have noticed that some patients with suspected AL but no other typical cutaneous findings of systemic amyloidosis might have subtle areas of alopecia. Our first patient showed only a focal area of alopecia. Trichoscopy exhibited black dots and broken hairs. Under dermoscopy-guided scalp biopsy, histopathologic analysis revealed the diagnosis, demonstrating mild perifollicular hyaline deposits that stained with Congo red

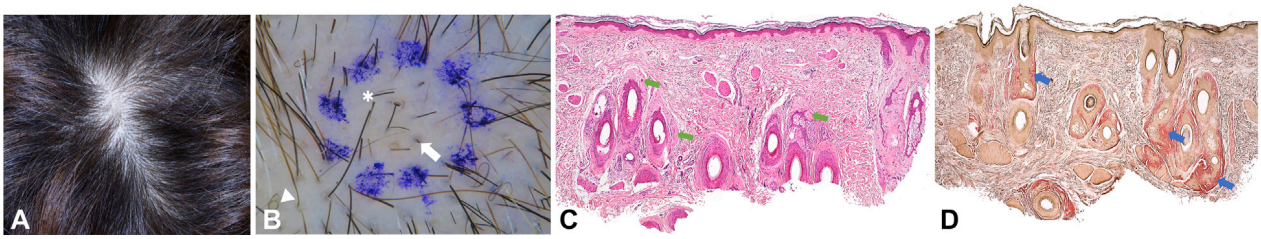

Fig 1. Clinical, dermoscopic, and histopathologic features of the first patient. (**A**) Subtle patch of alopecia. (**B**) Trichoscopy shows black dots (*white arrow*), broken hairs (*white asterisk*), and circle hairs (*white triangle*). (**C**) Mild homogenous hyaline eosinophilic deposits are visible around pilosebaceous units (*green arrows*). Hematoxylin and eosin staining (original magnification ×40). (**D**) Deposits are Congo red positive (original magnification ×40; *blue arrows*).

From the Department of Dermatology, Clínica Alemana-Universidad del Desarrollo,[a] Department of Dermatology, Hospital del Salvador,[b] Department of Hematology, Hospital del Salvador,[c] Department of Pathology, Hospital del Salvador,[d] and Department of Pathology, Clínica Alemana-Universidad del Desarrollo, Santiago, Chile,[e] and Department of Dermatology, Wake Forest School of Medicine, Winston-Salem, North Carolina.[f]

Funding sources: None.
Conflicts of interest: None disclosed.
IRB approval status: Approved.
Reprints not available from the authors.

Correspondence to: Jorge Larrondo, MD, MSc, Av. Manquehue 1410, piso 12, Vitacura Santiago, Chile. E-mail: jlarrondo@alemana.cl.

J Am Acad Dermatol 2021;84:e121-2.
0190-9622/$36.00

https://doi.org/10.1016/j.jaad.2020.06.053

(Fig 1). Our second patient exhibited patchy alopecia and a few reddish papules resembling folliculitis. Trichoscopy showed pink-orange perifollicular structures. On guided biopsies, histopathologic analysis demonstrated massive hyaline deposits around hair follicles and sebaceous glands. Hyaline deposits were stained with Congo red (Fig 2).

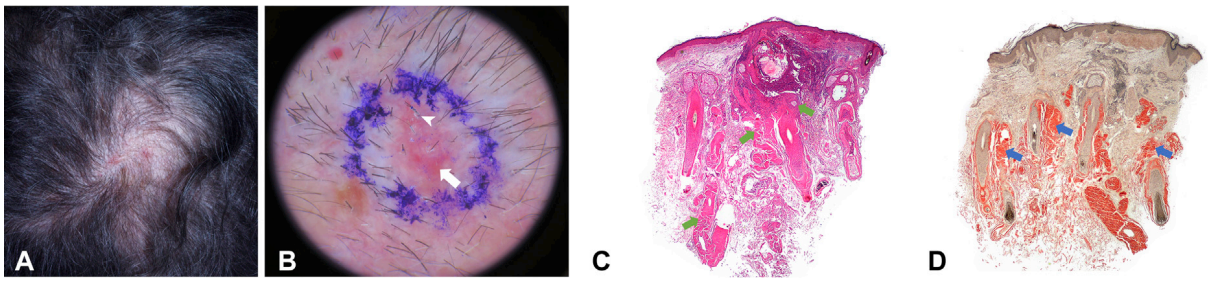

Fig 2. Clinical, dermoscopic, and histopathologic features of the second patient. (**A**) Vertex patch of alopecia with few reddish papules inside. (**B**) Trichoscopy shows peripilar casts (*white arrowhead*) and pink-orange perifollicular structures (*white arrow*). (**C**) Massive hyaline deposits around hair follicles and sebaceous glands (*green arrows*). Hematoxylin and eosin staining (original magnification ×20). (**D**) Deposits are Congo red positive (original magnification ×20; *blue arrows*).

Alopecia can represent an initial manifestation of systemic amyloidosis. On trichoscopy, mild forms show nonspecific findings such as black dots or broken hairs, also seen in other types of alopecia.[2] These features correlate with mild perifollicular amyloid deposits. On the other hand, in more severe forms, we can find specific signs such as salmon-colored halos[2] and pink-orange perifollicular structures that correlate with intense amyloid deposits around hair follicles. Dermoscopy-guided scalp biopsy is a simple way of contributing to the diagnosis of patients with AL and alopecia.

REFERENCES

1. D'Aguanno V, Ralli M, Artico M, et al. Systemic amyloidosis: a contemporary overview [e-pub ahead of print]. *Clin Rev Allergy Immunol*; 2019. https://doi.org/10.1007/s12016-019-08759-4. Accessed August 2, 2019.
2. Miteva M, Wei E, Milikowski C, Tosti A. Alopecia in systemic amyloidosis: trichoscopic-pathologic correlation. *Int J Trichology*. 2015;7:176-178.