

Co-Localization of Alopecia Areata and Discoid Lupus Erythematosus

Sir,

Alopecia areata is a common T-cell mediated autoimmune disorder affecting the hair bulb, leading to non-scarring alopecia of varying degrees involving the hair bearing areas. The autoimmune nature of the disorder is supported by the fact that it may be coexistent with other cutaneous and systemic autoimmune disorders such as lichen planus, vitiligo, myasthenia gravis, and autoimmune thyroiditis.^[1] While the coexistence of different autoimmune dermatoses is a relatively well known entity, co-localization of different autoimmune disorders is rare and only a handful of instances are reported in the literature. Herein, we describe a rare instance of anatomic co-localization of discoid lupus erythematosus (DLE) and alopecia areata.

A 30-year-old female presented with asymptomatic patchy hair loss on the scalp of 8 months' duration over which an occasionally itchy pigmented lesion had developed over the past 3 months. Examination revealed a well defined patch of non-scarring alopecia over the left parietal area measuring about 4 cm × 4 cm having a hyperpigmented plaque at the center with a cribriform surface and central depression measuring about 1 cm × 1 cm [Figures 1 and 2]. Non-contact polarized dermoscopy of both the alopecic area and the central pigmented plaque was performed using DermLite™ DL3 (3Gen, San Juan Capistrano, CA, USA). Dermoscopy of the alopecic area revealed black dots, short vellus hairs, yellow-brown dots, broken hairs, and tapering (exclamatory mark) hair [Figure 3]. Dermoscopy of the hyperpigmented plaque showed a dusky violaceous background, multiple follicular plugs, white rosettes, yellow-white streaks and globules, and shiny white lines [Figure 4]. The dermoscopic features

of the alopecic area were quite specific of alopecia areata,^[2,3] and the dermoscopic diagnosis of DLE^[4,5] for the pigmented plaque was confirmed by histopathology which revealed epidermal atrophy, follicular plugs with perifollicular fibrosis, an interface reaction composed of band-like and aggregated infiltrate of mononuclear cells in the upper dermis, and upper dermal melanin incontinence [Figure 5].

Coexistent of two or more autoimmune disorders is attributable to a common underlying immunopathology. Anatomic co-localization of such disorders is only sporadically documented. Co-localization of alopecia areata and lichen planus has been reported and has been attributed to a common underlying T-cell mediated autoimmune pathology.^[6] Alopecia areata co-localized with vitiligo has also been described with a hypothesis that the CD4⁺ T-cell immune response mediating the former also targets the epidermal melanocytes, leading to the development of latter.^[7-9] We could not find any documentation of co-localized DLE and alopecia areata in literature, which makes this report a novel one. This association can be explained as above by the similarity in the immunopathogenesis of DLE and alopecia areata. Both the disorders are mediated by T-cell immune response evidenced by the predominance of CD4⁺ T-cell population in the lesional infiltrate of both the disorders observed on immunohistochemistry.^[10,11]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The



Figure 1: A well-circumscribed patch of nonscarring alopecia with a pigmented plaque at the center

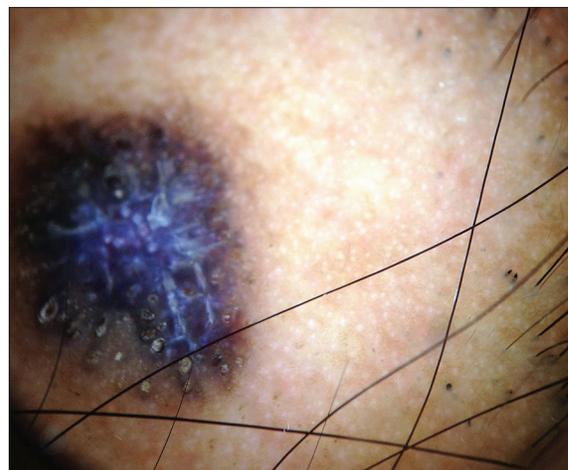


Figure 2: Dermoscopic view showing alopecia areata with T-cell mediated discoid lupus erythematosus [Figures 3 and 4 for details]

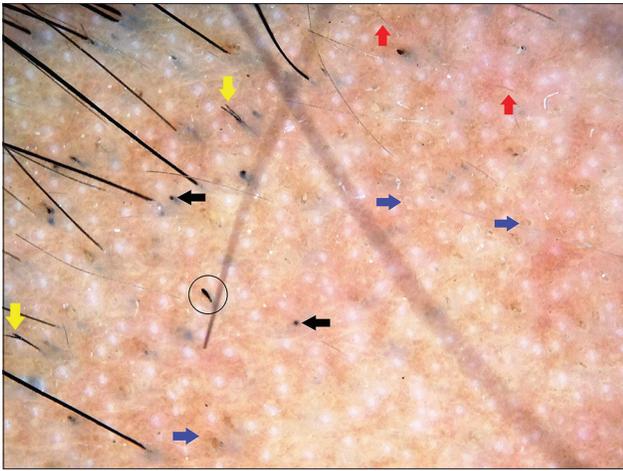


Figure 3: Noncontact dermoscopy under polarized mode from the alopecic area showing black dots (black arrows), short vellus hairs (red arrows), broken hairs (yellow arrows), exclamation mark hair (black circle), and yellow-brown dots (blue arrows) (x10)



Figure 4: Noncontact dermoscopy under polarized mode from the pigmented plaque showing multiple follicular plugs (yellow arrows), white rosettes (white arrows), yellow-white linear streaks (black arrows) and globules (black stars), and shiny white lines on a dusky violaceous background (x10)



Figure 5: Photomicrograph showing epidermal atrophy (black arrow), interface reaction with degeneration of the basal layer (blue arrow), aggregated (red star) and band-like (red arrow) mononuclear infiltrate in the upper dermis, follicular plug (yellow arrow) with perifollicular fibrosis (yellow stars), and upper dermal melanin incontinence (brown arrows) (H and E, x10)

patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

**Keshavmurthy A Adya,
Arun C Inamadar, Aparna Palit¹**

Department of Dermatology, Venereology and Leprosy, Shri B M Patil Medical College, Hospital and Research Center, BLDE (Deemed to be University), Vijayapur, Karnataka, ¹Department of Dermatology and Venereology All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

Address for correspondence:

Prof. Arun C Inamadar,
Department of Dermatology, Venereology and Leprosy, Shri B M Patil Medical College, Hospital and Research Center, BLDE (Deemed to be University), Vijayapur - 586 103, Karnataka, India.
E-mail: aruninamadar@gmail.com

Submitted: 13-Dec-2019

Revised: 15-Apr-2020

Accepted: 10-May-2020

Published: 18-Aug-2020

References

1. James WD, Elston DM, Treat JR, Rosenbach MA, Neuhaus IM. Diseases of the skin appendages. In: James WD, Berger TG, Elston DM, Neuhaus IM editors. *Andrews' Diseases of the Skin Clinical Dermatology*. 13th ed. Philadelphia: Elsevier; 2020. p. 750-93.
2. Inui S, Nakajima T, Nakagawa K, Itami S. Clinical significance of dermoscopy in alopecia areata: Analysis of 300 cases. *Int J Dermatol* 2008;47:688-93.
3. Lima CDS, Lemes LR, Melo DF. Yellow dots in trichoscopy: Relevance, clinical significance and peculiarities. *An Bras Dermatol* 2017;92:724-6.
4. Lallas A, Apalla Z, Lefaki I, Sotiriou E, Lazaridou E, Ioannides D, *et al*. Dermoscopy of discoid lupus erythematosus. *Br J Dermatol* 2013;168:284-8.
5. Ankad BS, Shah SD, Adya KA. White rosettes in discoid lupus erythematosus: A new dermoscopic observation. *Dermatol Pract Concept* 2017;7:9-11.
6. Kar BR, Ebenezer G, Job CK. Colocalisation of alopecia areata and lichen planus. *Indian J Dermatol Venereol Leprol* 2004;70:242-3.
7. Krishnaram AS, Saigal A, Adityan B. Alopecia areata-Vitiligo overlap syndrome: An emerging clinical variant. *Indian J Dermatol Venereol Leprol* 2013;79:535-7.
8. Kumar S, Mittal J, Mahajan B. Colocalization of vitiligo and alopecia areata: Coincidence or consequence? *Int J Trichology* 2013;5:50-2.
9. Rodríguez-Martín M, Merino N, Contreras P, Santana GG,

Letter to Editor

- Martín BR, Martín-Herrera A, *et al.* Anatomical Colocalization of Vitiligo and Alopecia Areata. *Open Autoimmunity J* 2010;2:193-6.
10. Messenger AG, de Berker DAR, Sinclair RD. Disorders of hair. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. *Rook's Textbook of Dermatology*. 8th ed. Oxford: Wiley-Blackwell; 2010. p. 66.1-100.
 11. Goodfield MJ, Jones SK, Veale DJ. The connective tissue diseases. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. *Rook's Textbook of Dermatology*. 8th ed. Oxford: Wiley-Blackwell; 2010. p. 51.1-51.138.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 license, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code: 	Website: www.cdriadvlkn.org
	DOI: 10.4103/CDR.CDR_48_19

How to cite this article: Adya KA, Inamadar AC, Palit A. Co-localization of alopecia areata and discoid lupus erythematosus. *Clin Dermatol Rev* 2020;4:186-8.

© 2020 Clinical Dermatology Review | Published by Wolters Kluwer - Medknow