

Cyclosporine-induced hair repigmentation

Repigmentação capilar induzida pela ciclosporina

Ana L. Matos^{a*}, Joana Calvão^b, and Inês Coutinho^c

Department of Dermatology, Coimbra University Hospital Center, Coimbra, Portugal
ORCID: ^a0000-0003-1441-0601; ^b0000-0002-1161-269X; ^c0000-0002-5371-7465

Hair graying is a sign of aging that results from complex melanogenesis regulation, determined by multiple intrinsic and extrinsic factors. Treatment options for canities are currently under investigation. Drug-induced hair repigmentation is infrequently reported in the literature. Available reports document hair repigmentation following treatment with psoralen or vitamin supplementation, but also with anti-inflammatory medications (such as thalidomide, adalimumab, acitretin, prednisone, or cyclosporin), stimulators of melanogenesis (latanoprost, erlotinib, imatinib, tamoxifen, and levodopa), clofazimine, or captopril¹.

A 76-year-old male was diagnosed with urticarial dermatitis, following complete clinical, analytic, and histological work-up. His chronic medication included bisoprolol, furosemide, *Serenoa repens*, and rosuvastatin. Treatment was initiated with a 4-week tapering course of oral prednisolone. Then, cyclosporine was introduced (3.5 mg/kg/day). Three months later, there was significant clinical response. At that same time, the patient reported hair repigmentation following several years of canities. There was no other identifiable cause, other than cyclosporine treatment, for this atypical complaint. Therapy was maintained for 9 months. Hair whitening resumed 2 months after its cessation and there was canities at 11-months follow-up.

Case reports of hair repigmentation attributed to drugs known to inhibit pro-inflammatory cytokine activity



Figure 1. Complete hair repigmentation after several years of canities.

are relatively scarce and treatment duration ranges from 2 to 24 months¹. To the best of our knowledge, only two other cases of hair repigmentation induced by cyclosporine have been reported^{2,3}. The mechanism supporting this association is relatively unknown. Pro-inflammatory cytokines seem to inhibit melanogenesis and aging melanocytes may induce an inflammatory environment

***Correspondence:**

Ana L. Matos

E-mail: ana.luisa.rodrigues.matos@gmail.com

2795-501X / © 2023 Portuguese Society of Dermatology and Venereology. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Received: 22-05-2023

Accepted: 14-07-2023

DOI: 10.24875/PJDV.23000044

Available online: 30-08-2023

Port J Dermatol and Venereol. 2023;81(4):297-298

www.portuguesejournalofdermatology.com

around the hair follicle bulb. The inhibition of these cytokines may resume melanogenesis¹. Even though only a limited number of patients treated with such drugs develop hair repigmentation, these reports show that hair graying might not be an irreversible process.

Funding

None.

Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

Use of artificial intelligence for generating text. The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

References

1. Yale K, Juhasz M, Mesinkovska NA. Medication-induced repigmentation of gray hair: a systematic review. *Skin Appendage Disord.* 2020;6:1-10
2. Sadighha A, Zahed GM. Hair darkening after treatment with cyclosporin in a patient with psoriasis. *J Eur Acad Dermatol Venereol.* 2008;22:1239-41.
3. Rebora A, Delmonte S, Parodi A. Cyclosporin A-induced hair darkening. *Int J Dermatol.* 1999;38:229-30.