

Vitiligo Successfully Treated With Roflumilast Cream 0.3%

Maninder Longowal MD,^a Sofia O. Maruschak-Love^b

^aDivision of Dermatology, University of Alberta, Edmonton, AB, Canada

^bUniversity of Alberta, Edmonton, AB, Canada

ABSTRACT

Vitiligo is an autoimmune cutaneous depigmenting disorder that can have significant psychological impacts on affected patients, posing a burden to daily life, which can be even more apparent in patients with deeper Fitzpatrick skin tones. Here we report the case of an adult patient with skin of color treated with roflumilast cream 0.3% following an unsatisfactory response to typical treatments. Treatment resulted in almost full repigmentation on the forehead and cheeks. This case suggests that roflumilast cream 0.3% may have a positive therapeutic effect for patients with vitiligo who are unresponsive to other conventional therapies.

J Drugs Dermatol. 2026;25(7):662-663. doi:10.36849/JDD.9990

INTRODUCTION

Vitiligo is an autoimmune cutaneous depigmenting disorder whereby melanocytes are damaged or destroyed, leading to white macules that typically present on the face, forearms, hands, and feet.¹⁻⁶ A diagnosis of vitiligo can have significant psychological impacts on affected patients and poses a burden to daily life.² Furthermore, for patients with deeper Fitzpatrick skin tones, the vitiligo can be more apparent and pose a more significant psychological challenge.² Therefore, it is essential to encourage early treatment and explore a variety of treatment options to limit the psychological effects of the disease.

Research investigating vitiligo pathogenesis is ongoing and has afforded more knowledge on treatment options for patients.³⁻⁷ Topical treatments currently available for adult vitiligo include phototherapy, topical corticosteroids, vitamin D, calcineurin inhibitors, as well as therapies that have more targeted mechanisms of action, such as topical ruxolitinib, the first Janus kinase (JAK) inhibitor approved for non-segmental vitiligo.³⁻⁷ However, some patients experience recalcitrant vitiligo and require additional treatment options.⁷

Topical roflumilast is a phosphodiesterase 4 (PDE4) inhibitor that is approved to treat atopic dermatitis, plaque psoriasis, and seborrheic dermatitis. Roflumilast cream 0.3% is currently approved in Canada (12 years of age and up) and in the United States (6 years of age and up) for the topical treatment of plaque psoriasis, including intertriginous areas, and at a lower strength of 0.15% for patients 6 years of age and older with atopic dermatitis. Topical roflumilast foam 0.3% is approved for seborrheic dermatitis in patients aged nine and above. Roflumilast has been shown to promote increased melanocyte

proliferation and an increase in melanogenic gene and protein expression in cultured melanocytes.⁸ It has also been shown to protect melanocytes from apoptosis.⁹ This promising evidence suggests there is potential for therapeutic use in vitiligo patients. Recent research with pediatric patients also demonstrated successful treatment of recalcitrant facial vitiligo with roflumilast cream 0.3% applied once daily.¹⁰ Here we report the case of an adult patient with skin of colour treated with roflumilast cream 0.3% following an unsatisfactory response to typical treatments. Treatment resulted in almost full repigmentation on the forehead and cheeks. Proper informed consent was obtained for photography, including for their use in publications that will be distributed.

CASE REPORT

A 37-year-old male presented with a history of vitiligo from the age of 13 years with recent spread affecting his forehead, cheeks, forearm, and hands. The patient was not treated for his condition in the past, and recently immigrated to Canada. Upon initial presentation, the patient was initiated on a trial regimen of twice-daily application of tacrolimus ointment 0.1% Monday through Friday, twice-daily application of betamethasone valerate 0.1% on weekends, and narrowband ultraviolet B therapy. He returned after two weeks and showed limited improvement, complaining of skin irritation and burning upon application (Figure 1A). The patient was switched to roflumilast cream 0.3% daily application combined with narrow ultraviolet B phototherapy. Patient returned 4 months later and demonstrated marked improvement (Figure 1B) and again returned for follow-up 7 months post initiation (Figure 1C). Patient will continue treatment with once daily application with regular follow up. No adverse reactions were noted.

FIGURE 1. Recalcitrant 37-year-old male patient with vitiligo: Before initiation of roflumilast cream 0.3% (1A), after once daily application for 4 months (1B), then once daily application for 7 months (1C).



DISCUSSION

This case suggests that roflumilast cream 0.3% may have a positive therapeutic effect for patients with vitiligo who are unresponsive to other conventional therapies. Roflumilast cream is an appealing treatment option due to the safety profile and limited side effects among other patient populations treated for AD, plaque psoriasis, including intertriginous sites, atopic dermatitis, and seborrheic dermatitis. Additional trials are necessary to continue to evaluate the safety and efficacy of roflumilast cream 0.3% in the treatment of vitiligo on the face and other anatomic locations.

DISCLOSURES

MR has been a consultant for Sanofi-Genzyme, Pfizer, AbbVie, and Leo. Pharma has a registry study with Sanofi. SM-L has no conflict of interest to declare. Statement of Funding: This article has no funding source.

ACKNOWLEDGMENTS

Writing support was provided by Arcutis Biotherapeutics, Inc. Patient Consent Statement: The author obtained written consent from patients for their photographs and medical information to be published in print and online, and with the understanding that this information may be publicly available. Patient consent forms were not provided to the journal but are retained by the authors.

REFERENCES

- Bergqvist C, Ezzedine K. Vitiligo: a review. *Dermatology*. 2020;236(6):571-592.
- Akl J, Lee S, Ju HJ, et al. Estimating the burden of vitiligo: a systematic review and modelling study. *Lancet Public Health*. 2024;9(6):e386-e396.
- Frisoli ML, Essien K, Harris JE. Vitiligo: mechanisms of pathogenesis and treatment. *Annu Rev Immunol*. 2020;38:621-648.
- Perez-Bootello J, Cova-Martin R, Naharro-Rodriguez J, et al. Vitiligo: pathogenesis and new and emerging treatments. *Int J Mol Sci*. 2023;24(24):17306.
- Feng Y, Lu Y. Advances in vitiligo: update on therapeutic targets. *Front Immunol*. 2022;13:986918.
- Rodrigues M, Ezzedine K, Hamzavi I, et al. New discoveries in the pathogenesis and classification of vitiligo. *J Am Acad Dermatol*. 2017;77(1):1-13.
- Wang X, Wu W, Chen J, Li C, Li S. Management of the refractory vitiligo patient: current therapeutic strategies and future options. *Front Immunol*. 2024;14:1294919.
- Chen Z, Li Y, Xie Y, et al. Roflumilast enhances the melanogenesis and attenuates oxidative stress-triggered damage in melanocytes. *J Dermatol Sci*. 2023;110(2):44-52.
- Goldstein NB, Berk ZBK, Tomb LC, et al. Phosphodiesterase-4 Inhibitors Increase pigment cell proliferation and melanization in cultured melanocytes and within a 3-dimensional skin equivalent model. *J Invest Dermatol*. 2024:S0022-202X(24)02055-4.
- Warren K, Sanchez S. Recalcitrant pediatric facial vitiligo successfully treated with roflumilast cream 0.3% once daily. *J Clin Aesthet Dermatol*. 2025;18(1):52-54.

AUTHOR CORRESPONDENCE

Maninder Longowal MD

E-mail: Dr.Longowal@rejuv.ca