UC Irvine
UC Irvine Previously Published Works

Title
Occipital hairline changes in women with frontal fibrosing alopecia receiving low-dose oral minoxidil

Permalink
https://escholarship.org/uc/item/65w9962m

Journal
JAAD International, 29

ISSN
2666-3287

Authors
Baker, Gabrielle
Nguyen, Megan Thuy Han
Greene, Rachel K
et al.

Publication Date
2026-12-01

DOI
10.1016/j.jdin.2026.08.013

Copyright Information
This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

Peer reviewed

eScholarship.org Powered by the California Digital Library
University of California

Occipital hairline changes in women with frontal fibrosing alopecia receiving low-dose oral minoxidil

To the Editor: Frontal fibrosing alopecia (FFA) is a scarring alopecia that can involve the occipital scalp, yet evidence-based treatment recommendations remain limited.[1] Although low-dose oral minoxidil (LDOM) can improve eyebrow and scalp hair density in FFA, its role in occipital hairline improvement remains understudied.[2,3] To quantify this association, we retrospectively compared occipital hairline changes in women with FFA who received LDOM to those who did not.

We identified 186 patients with FFA in a university alopecia registry (January 2022 to May 2025). Inclusion required standardized occipital hairline photographs at baseline and ≥5-month follow-up. Patients were divided into LDOM-treated and non-LDOM cohorts (Fig S1, available via Mendeley at https://data.mendeley.com/datasets/7jxm8dyfh8/2). Concomitant therapies were permitted if unchanged from baseline through follow-up; patients with medication changes were excluded. Three independent graders (NAM, MH, CP) blinded to treatment assignment and image chronology used the posterior hairline component of FFA Severity Index (FFASI), a validated 5-point FFA severity scale, to evaluate occipital margin hair loss.[4] Interrater reliability was assessed using a 2-way random-effects intraclass correlation coefficient (ICC) for exact FFASI score agreement. Descriptive statistics and independent *t* tests were performed. To adjust for baseline FFASI severity differences, follow-up FFASI scores were assessed using analysis of covariance.

Thirty women met the inclusion criteria, 20 LDOM-treated (mean age: 64.6 ± 10.2 years) and 10 non-LDOM (mean age: 67.9 ± 10.4 years), with comparable disease duration (LDOM: 27.8 ± 29.5 months; non-LDOM: 33.9 ± 27.6 months; $P = .59$) and photographic follow-up (10.1 ± 4.4 months; non-LDOM: 9.6 ± 2.0 months; $P = .73$). Interrater reliability was excellent (ICC = 0.92; 95% CI [0.84, 0.97]). Baseline occipital FFASI severity differed between LDOM-treated and non-LDOM (2.7 ± 1.1 vs 1.8 ± 0.9; $P = .034$). The LDOM cohort received a mean dose of 2.3 ± 0.7 mg/day for 9.8 ± 4.3 months. Concomitant therapies were common (≥3 treatments in 50% LDOM vs 40% non-LDOM; Tables S1 and S2, available via Mendeley at https://data.mendeley.com/datasets/7jxm8dyfh8/2).

After adjusting for baseline severity, LDOM was associated with a 0.87-point lower follow-up occipital FFASI score ($\beta = -0.87$; 95% CI [−1.40, −0.34]; $P = .002$). Score decreases <1 reflect measurable differences in FFA severity as grades are defined by centimeter ranges of hairline recession (Fig 1).[4] Improvement occurred in 75% of LDOM ($n = 15$) and 20% of non-LDOM ($n = 2$) patients.

The biological basis for occipital FFASI score improvement remains uncertain. Prior studies suggest that the occipital FFA may retain vellus hair loss, perifollicular lymphocytes, lamellar fibrosis, and occasional terminal follicle preservation, which could partially explain the observed association.[1] Additionally, oral minoxidil has previously demonstrated anti-inflammatory and antifibrotic effects.[5] Although our study did not assess these mechanisms, they may offer biologic contextualization for the observed LDOM-associated occipital FFASI improvement and warrants further investigation.

Limitations included a small cohort, limiting generalizability. Although baseline FFASI differences were adjusted using analysis of covariance, concomitant therapy use, potential overlapping androgenic alopecia, and photographic variability may attenuate the observed treatment effects. Given our real-world retrospective study design, occipital FFASI improvement cannot be attributed to LDOM alone, nor can response predictors be inferred. Nonetheless, these exploratory findings suggest that adjunctive LDOM may be associated with occipital FFASI improvement in women. Prospective controlled monotherapy trials are needed to validate these observations.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used ChatGPT in order to check spelling and grammar. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Gabrielle Baker, BS,[a] *Megan Thuy Han Nguyen, BA,*[a] *Rachel K. Greene, MD,*[a] *Milan Hirpara, BA,*[b] *Celine H. Phong, MD,*[a] *and Natasha Mesinkovska, MD, PhD*[a]

From the Department of Dermatology, University of California, Irvine, California[a]*; and School of Medicine, California University of Science and Medicine, Colton, California.*[b]

© 2026 The Author(s). Published by Elsevier Inc. on behalf of the American Academy of Dermatology, Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).



Fig 1. FFA patient demonstrating occipital hairline improvement with adjunctive LDOM 1.25 mg daily. FFASI 3-point decrease from baseline **(A)** to follow-up 6.6 months **(B)**. Concomitant therapies were maintained throughout follow-up: hydroxychloroquine 200 mg orally twice a day, intralesional triamcinolone 2.5 mg/mL, platelet-rich plasma (2 sessions), and topical minoxidil 5%, and was maintained throughout the study interval.

Funding sources: None.

Patient consent: The authors attest that they have obtained written consent from patient/s, their legal guardian/s or person/s with legal authority, 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 to be made available upon request.

IRB approval status: Reviewed and approved by the University of California, Irvine IRB #5764.

Key words: frontal fibrosing alopecia; lichen planopilaris; minoxidil; scarring alopecia.

Correspondence to: Natasha Mesinkovska, MD, PhD, Vice Chair of Clinical Research, Department of Dermatology, University of California, Irvine 118 Medical Surge, Irvine, CA 92697-2400

E-mail: natashadermpublications@gmail.com

Conflicts of interest

None disclosed.

REFERENCES

1. Mesonero RP, Pulido ELP, Zubiaur AG, Molina-Ruiz AM, Fernández-Crehuet P, Arias-Santiago S. Occipital involvement in classic frontal fibrosing alopecia: clinical and trichoscopic cross-sectional study in 17 patients. *J Am Acad Dermatol*. 2023;89(5):889-891. https://doi.org/10.1016/j.jaad.2023.05.064
2. Pirmez R, Spagnol Abraham L. Eyebrow regrowth in patients with frontal fibrosing alopecia treated with low-dose oral minoxidil. *Skin Appendage Disord*. 2021;7(2):112-114. https://doi.org/10.1159/000511744
3. Gallo G, Burzi L, Torrelli F, Quaglino P, Ribero S. Low-dose oral minoxidil in female patients with lichen planopilaris: real-life experience. *J Eur Acad Dermatol Venereol*. 2023;37(1):e98-e100. https://doi.org/10.1111/jdv.18489
4. Holmes S, Ryan T, Young D, Harries M, British Hair and Nail Society. Frontal Fibrosing Alopecia Severity Index (FFASI): a validated scoring system for assessing frontal fibrosing alopecia. *Br J Dermatol*. 2016;175(1):203-207. https://doi.org/10.1111/bjd.14445
5. Ramírez-Marín HA, Tosti A. Role of oral minoxidil in patterned hair loss. *Indian Dermatol Online J*. 2022;13(6):729-733. https://doi.org/10.4103/idoj.idoj_246_22

https://doi.org/10.1016/j.jdin.2026.08.013