DOI: 10.1002/jvc2.518

JEADV CLINICAL PRACTICE
OPEN ACCESS JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

LETTER TO THE EDITOR

A clinical trial on the efficacy of mesotherapy with dutasteride for frontal fibrosing alopecia

Dear Editor,

Frontal fibrosing alopecia (FFA) is a lymphocytic cicatricial alopecia characterised by a progressive alopecic band, that affects the hairline, typically in the frontal region of the scalp, responsible for around 40% of all cicatricial alopecias.[1] It predominantly affects postmenopausal women aged 55–70 years.[2] Different treatments have been proposed, though oral dutasteride is considered the most effective therapeutic option.

However, adverse effects (AE) such as libido alterations, depression, and teratogenicity, warrant consideration. Consequently, intralesional dutasteride has emerged as an alternative without systemic AE.

We performed a clinical trial involving 16 adult women with FFA, diagnosed according to IFFACG criteria.[3] This study was approved by our Institutional Review Board (code DE22-00002) and adheres to the Code of Ethics of the World Medical Association, following the Declaration of Helsinki.

After meticulous antiseptic procedures,1 mL of local anaesthesia of 2% lidocaine solution was applied (ring block). Subsequently, multiple 0.1 mL injections of 0.01% dutasteride were administered 1 cm apart into the frontal scalp region using 30 G × 4 mm needles to 1 mL. This monthly procedure was repeated for a total of four sessions.

Statistical analysis was performed with SPSS v. 22.0 (IBM Corp.). Wilcoxon test was conducted to compare density, vellus hair, terminal hair, vellus/terminal hair ratio, thickness and Dermatology Life Quality Index (DLQI) between Visit 1 (V1) and Visit 5 (V5). A p-value < 0.05 was significant.

Trichoscopic findings indicated significant improvements in hair density and vellus hair count between V1 and V5, as detailed in Table 1. Additionally, there was a notable improvement in perifollicular erythema and scaling, enhancing overall patient satisfaction.

Hair density, hair thickness, vellus hairs and vellus/terminal hair ratio (VTHR) were evaluated using Fotofinder Trichoscale (Bad Birnbach). General characteristics are summarised in Table 1.

GPA showed important improvement in 9 (56.3%) with a Kappa index of 0.81. There was a decrease in perifollicular erythema and perifollicular scale between V1 and V5 ($p = 0.020$) and ($p = 0.01$), respectively (Table 1).

Regarding the comparison of trichoscopic findings, patients had a density of 71.43 in V1 versus 95.58 hairs/cm^2 in V5 ($p = 0.036$). They presented 12.50 vellus hairs in V1 compared with 29.63 in V5, respectively ($p = 0.008$). The VTHR was 0.253 in V1 versus 0.548 in V5 ($p = 0.016$) (Figure 1). Concerning the DLQI, patients had a mean score of 3.43 ± 2.58 at V1 compared with 1.56 ± 1.26 at V5 ($p = 0.004$).

Our findings suggest significant improvements in hair density and patient satisfaction. This aligns with previous studies that have highlighted the potential of dutasteride in treating androgenetic alopecia. However, our study provides novel insights specifically for FFA, a condition with limited effective treatment options. These results are significant as they offer a new therapeutic approach for a condition that predominantly affects postmenopausal women, improving their quality of life.

Dutasteride is effective in alopecia treatment by inhibiting 5-alpha-reductase, thereby reducing the conversion of testosterone to dihydrotestosterone, a critical factor in hair follicle miniaturisation. Our study validates these effects in mesotherapy, providing a minimally invasive effective option for frontal fibrosing alopecia patients.

This study has several limitations that should be considered when interpreting the results. The small sample size and short follow-up duration. Future studies with larger sample sizes and longer follow-up periods are needed to confirm our results.

In conclusion, mesotherapy with dutasteride seems to be an effective therapeutic option in FFA. An increase in hair density, a decrease in scaling and perifollicular erythema, regrowth of vellus hairs, and significant improvement in quality of life were observed. Further controlled clinical trials are needed to confirm our findings.

TABLE 1 General characteristics, erythema, scale, and trichoscopy changes of 16 women with frontal fibrosing alopecia.

Variables			
Age, median (range)	62 (42–79) years		
Median of disease progression	3–5 (1–23) years		
Global Staging Score			
Recession of the establishment line			
Slight (1- <3 cm)	10 (62.5%)		
Moderade (3- <5 cm)	6 (37%–5%)		
Eyebrow involvement			
Partial loss	11 (68.8%)		
Total loss	5 (31.3%)		
Facial papules			
Present	10 (62.5%)		
Absent	6 (37.5%)		
Prominent facial veins			
Present	5 (31.3%)		
Absent	11 (68.8%)		
Facial hyperpigmentation			
Present	12 (87.5%)		
Absent	2 (12.5%)		
FFA patterns			
Linear	3 (18.8%)		
Pseudo-fringe	2 (12.5%)		
Diffuse	11 (68.8%)		
Global photographic scale			
Worsening	2 (12.5%)		
Stable	3 (18.8%)		
Mild improvement	2(12.5%)		
Marked improvement	9 (56.3%)		
Adverse effects			
Pruritus	8 (50%)		
Pain	5 (31.25%)		
Trichoscopy features	**Visit 1**	**Visit 5**	***p***
Frontal area			
Hair density (per cm^2)	71.43	95.58	**0.036**
Hair thickness	56.62	52.375	0.211
Vellus hairs	12.506	29.63	**0.036**
Vellus/terminal hair ratio	0.253	0.548	**0.016**
Frontotemporal left side			
Hair density (per cm^2)	60.069	91.744	0.134
Hair thickness	53.688	48.125	**0.007**
Vellus hairs	53.688	31.281	**0.014**

(Continues)

TABLE 1 (Continued)

Trichoscopy features	Visit 1	Visit 5	*p*
Vellus/terminal hair ratio	0.458	0.583	0.103
Frontotemporal right side			
Hair density (per cm^2)	62.28	76.15	0.179
Hair thickness	52.125	46.625	0.109
Vellus hairs	14.944	28.056	0.100
Vellus/terminal hair ratio	0.407	0.557	0.393
Erythema			
None	2 (12.5%)	8 (50%)	**0.020**
Slight	7 (43.8%)	5 (31.3%)	
Moderate	6 (37.5%)	2 (12.5%)	
Severe	1 (6.3%)	1 (6.3%)	
Scale			
None	1 (6.3%)	8 (50%)	**0.010**
Slight	6 (37.5%)	5 (31.3%)	
Moderate	8 (50%)	2 (12.5%)	
Severe	1 (6.3%)	1 (6.3%)	

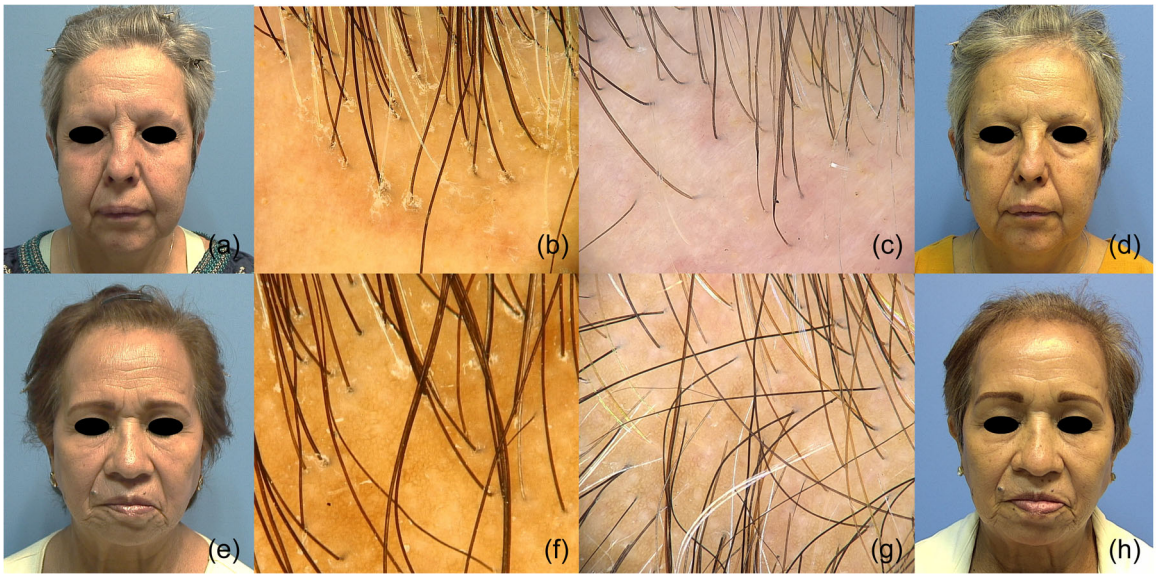

FIGURE 1 Patient 1, clinical and trichoscopic features before (a, b) and after treatment (c, d). Patient 2, clinical and trichoscopic features before (e, f) and after treatment (g, h).

AUTHOR CONTRIBUTIONS

Conceptualization: Patrizia Elva Aguilar-Calderón, Minerva Gómez-Flores, and Maira Herz-Ruelas. *Data collection*: Patrizia Elva Aguilar-Calderón, Sonia Sofia Ocampo-Garza, Maira Herz-Ruelas, Adrian Cuellar-Barboza, Emmanuel Sánchez-Meza, and Andrea Guerra-Garza. *Data analysis*: Patrizia Elva Aguilar-Calderón and Jorge Ocampo-Candiani. *Writing—original draft preparation*: Patrizia Elva Aguilar-Calderón and Sonia Sofia Ocampo-Garza. *Writing—review & editing*: Patrizia Elva Aguilar-Calderón,

Minerva Gómez-Flores, Sonia Sofia Ocampo-Garza, and Jorge Ocampo-Candiani. *Supervision*: Minerva Gómez-Flores and Jorge Ocampo-Candiani.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data is available on request from the authors. The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Institutional review board approval, code DE22-00002. All patients in this manuscript have given written informed consent for participation in the study and the use of their deidentified, anonymized, aggregated data and their case details (including photographs) for publication.

Patrizia Elva Aguilar-Calderón
Sonia Sofia Ocampo-Garza
Maira Herz-Ruelas
Jorge Ocampo-Candiani
Adrian Cuellar-Barboza
Emmanuel Sánchez-Meza
Andrea Guerra-Garza
Minerva Gómez-Flores

Department of Dermatology, Hospital Universitario Dr. José E. González, Monterrey, Nuevo León, Mexico

Correspondence
Minerva Gómez-Flores, Dermatology Department, Hospital Universitario Dr. José E. González, Av. Francisco y Madero s/n, Mitras Centro, 64460, Monterrey, N.L., Mexico.
Email: minervagomezmx@yahoo.com.mx

Funding information
None

ORCID

Patrizia Elva Aguilar-Calderón http://orcid.org/0000-0003-3307-5503
Sonia Sofia Ocampo-Garza http://orcid.org/0000-0002-0508-5117
Jorge Ocampo-Candiani http://orcid.org/0000-0002-0213-0031
Adrian Cuellar-Barboza http://orcid.org/0000-0003-2405-5201
Emmanuel Sánchez-Meza http://orcid.org/0000-0003-1326-0154

REFERENCES

1. Vañó-Galván S, Saceda-Corralo D, Blume-Peytavi U, Cucchía J, Dlova NC, Gavazzoni Dias MFR, et al. Frequency of the types of alopecia at twenty-two specialist hair clinics: a multicenter study. Ski Appendage Disord. 2019; 5(5):309–15.
2. Vañó-Galván S, Molina-Ruiz AM, Serrano-Falcón C, Arias-Santiago S, Rodrigues-Barata AR, Garnacho-Saucedo G, et al. Frontal fibrosing alopecia: a multicenter review of 355 patients. J Am Acad Dermatol. 2014;70(4):670–8.
3. Olsen EA, Harries M, Tosti A, Bergfeld W, Blume-Peytavi U, Callender V, et al. Guidelines for clinical trials of frontal fibrosing alopecia: consensus recommendations from the International FFA Cooperative Group (IFFACG). Br J Dermatol. 2021;185:1221–31.