

# Journal Pre-proof

Impact of finasteride and dutasteride in beard thickness in men with androgenetic alopecia: a 453-patient retrospective trial

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PII: S0001-7310(24)00591-X

DOI: <https://doi.org/doi:10.1016/j.ad.2023.05.046>

Reference: AD 4035

To appear in: *Actas dermosifiliograficas*

Received Date: 23 May 2023

Accepted Date: 24 May 2023

Please cite this article as: Moreno-Arrones OM, Saceda-Corralo D, Ortega-Quijano D, Hermosa-Gelbard A, Vañó-Galván S, Impact of finasteride and dutasteride in beard thickness in men with androgenetic alopecia: a 453-patient retrospective trial, *Actas dermosifiliograficas* (2024), doi: <https://doi.org/10.1016/j.ad.2023.05.046>

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## Sección: Carta científico clínica

**TITLE: Impact of finasteride and dutasteride in beard thickness in men with androgenetic alopecia: a 453-patient retrospective trial**

**TÍTULO: "Impacto del uso de finasterida y dutasterida en el grosor de la barba de hombres con alopecia androgenética: un estudio retrospectivo de 453 pacientes".**

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### To the Editor,

A common inquiry from the ever-increasing informed patient is whether 5-alpha-reductase inhibitors (5ARIs) (i.e., finasteride and dutasteride) in the context of managing male androgenetic alopecia (AGA) can hinder beard growth. The development of the beard is included by the acquisition of secondary sexual characteristics in boys, fundamentally determined by the sex steroids testosterone, dihydrotestosterone (DHT), other adrenal androgens and estradiol. It is not uncommon that complete growth of the adult male beard can be delayed until he is 25 years of age, despite the fact that adult testosterone concentrations in blood are reached by the age of 15<sup>1</sup>. It is precisely within the second decade of life when patients with incipient alopecia go to their dermatologist and are usually prescribed 5ARIs. Both finasteride and dutasteride can partially reverse the miniaturization process characteristic of AGA by limiting the transformation of testosterone into its higher potency metabolite DHT blocking the action of the 5-alpha-reductase enzyme<sup>2,3</sup>. The objective of this study was to see whether the use of 5ARI was associated with a decrease in beard thickness in male patients.

We retrospectively compared the clinical pictures of male patients younger than 35 years who received 5ARI monotherapy for, at least, 12 months. Patients were asked to trim their beards similar to their first visit at their follow-up visits. Inclusion criterion was the presence of a stablished beard within the first visit defined as having a beard developed similarly to the patient's father. Beard

thickness was evaluated as increased, stable or decreased vs the basal visit based on clinical pictures.

A total of 453 patients with a mean age of 24.6 years (range, 16 – 35) were included. Finasteride 1 mg was prescribed daily to total of 100 patients (22.1%) while the remaining patients (353, 77.9%) were prescribed dutasteride 0.5 mg, also daily. Most patients (439, 96.9%) experienced no changes, in 5 patients (1.1%) beard thickness decreased, while in 9 patients (1.9%) it increased (Table 1).

These results support the clinical suspicion that 5ARIs do not seem to decrease beard thickness. Studies in transgender (male to female) patients have found that beard growth is extremely resistant to estrogen and antiandrogen (e.g. cyproterone acetate) treatment<sup>4</sup>. Additionally, it has been hypothesized that circulating androgens are not completely needed to sustain male hair growth once it has been established as some authors have described that beard tends to persist years after complete orchiectomy in male to female individuals<sup>4</sup>. Furthermore, 5ARIs are not considered pure antiandrogenic drugs as they do not decrease testosterone serum levels<sup>5</sup> which can interact with the intracellular androgen receptors (AR) present in hair follicles and promote beard growth even with low levels of DHT. The main limitation of this study is that only clinical beard thickness was evaluated but no trichoscopic hair measurements were taken due to the study retrospective design.

In conclusion, the use of 5ARIs in men with established beard does not seem to have detrimental effects on beard thickness.

## Ética de la publicación

1. ¿Su trabajo ha comportado experimentación en animales?:

**No**

2. ¿En su trabajo intervienen pacientes o sujetos humanos?:

**Sí**

Si la respuesta es afirmativa, por favor, mencione el comité ético que aprobó la investigación y

el número de registro.:

**Estudio retrospectivo de revisión de archivo fotográfico**

Si la respuesta es afirmativa, por favor, confirme que los autores han cumplido las normas éticas relevantes para la publicación. :

**Sí**

Si la respuesta es afirmativa, por favor, confirme que los autores cuentan con el consentimiento informado de los pacientes. :

**Sí**

3. ¿Su trabajo incluye un ensayo clínico?:

**No**

4. ¿Todos los datos mostrados en las figuras y tablas incluidas en el manuscrito se recogen en el

apartado de resultados y las conclusiones?:

**Sí**

**Table 1:** Beard thickness progression after 1 year on therapy

	Beard thickness progression		
	Improvement	Worsening	Stability
<b>Finasteride 1 mg daily</b>	3 (3%)	3 (3%)	94 (94%)
<b>Dutasteride 0.5 mg daily</b>	6 (1.7%)	2 (0.6%)	345 (97.7%)

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