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Original Article

Post-Finasteride Syndrome: Survey of Dermatologists From the Spanish Hair and Nail Disorders Group



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ABSTRACT

Background and objective: Post-finasteride syndrome (PFS) refers to a set of persistent symptoms reported by patients after discontinuation of 5-alpha-reductase inhibitors (5-ARIs). This study aimed to explore the perception of PFS among dermatologists belonging to the Spanish Hair and Nail Disorders Group.

Materials and methods: We conducted a qualitative literature review to develop a survey. Fifty-four dermatologists participated in a questionnaire based on a Likert scale. Consensus was defined using specific statistical criteria, including a median within a predefined range and an interquartile range (IQR) ≤ 2 .

Results: A total of 83.3% of respondents had never encountered cases of PFS in their clinical practice. Most participants (98.1%) considered that PFS has a psychiatric origin, and 92.6% believed that any adverse effect of 5-ARIs is reversible after treatment discontinuation. The most widely reported symptoms, such as sexual dysfunction, were considered possibly related to the use of 5-ARIs. Symptoms such as cognitive impairment, anxiety, and depression were considered unrelated by the majority. Consensus was reached for 13 of the 15 items, with 90.7% agreeing that current scientific evidence on PFS is poor and 85.1% identifying a specific patient profile (young men with pre-existing anxiety or depression).

Conclusion: Dermatologists perceive PFS as an infrequent phenomenon with a predominantly psychiatric origin. Although awareness of the syndrome is widespread, high-quality longitudinal studies are needed to establish clear guidelines for its diagnosis and management.

Background and objective

Post-finasteride syndrome (PFS) refers to a group of signs and symptoms reported by patients who have used finasteride and whose symptoms do not resolve after discontinuation of the drug. In essence,

the disorder is defined by the presence of sexual dysfunction, physical symptoms, and psychological disturbances that persist after cessation of the medication, regardless of dose, duration of treatment, age, or medical indication.¹⁻⁵ Although finasteride has been an approved and widely used treatment for androgenetic alopecia (AGA) since 1997,⁶ PFS was not reported until 2011,¹ which has generated debate within the medical community and among patient groups.^{5,7,8} Given that the existence of PFS and its etiology remain controversial, this study aimed to explore

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the opinions of dermatologists belonging to the Spanish Hair and Nail Disorders Group (GETO) of the Spanish Academy of Dermatology and Venereology in order to obtain a clearer understanding of the clinical perception of this syndrome.

Materials and methods

We conducted a qualitative literature review in August 2024 to structure the study questions. The review was limited to articles published in English or Spanish since 1997 and indexed in the main databases: Medline (via PubMed), Embase, and The Cochrane Library. The search terms used were *finasterid**, *post-finasteride syndrome*, and *PFS*. Based on the reviewed literature, a preliminary questionnaire was developed and distributed to a panel of 54 Spanish dermatologists, all members of GETO, to assess their prior experience with PFS. After reviewing the preliminary responses, a formal anonymous survey was designed using a 7-point Likert scale, where 1 corresponded to “strongly disagree” and 7 to “strongly agree.” The aim of this survey was to evaluate the degree of consensus among experts regarding various statements related to PFS. Responses were grouped into three categories: 1–3 (disagreement), 4 (neutral), and 5–7 (agreement). For an item to be considered consensual in terms of agreement or disagreement, it had to meet the following criteria: a median response within the range 1–3 or 5–7; fewer than one-third of responses outside that range; an interquartile range (IQR) ≤ 2 . This method allowed identification of consensus points among the experts. The results were subsequently analyzed by the scientific committee, which issued recommendations based on the consensus responses.

Results

The experience of participating physicians treating AGA with 5-alpha-reductase inhibitors (5-ARIs), such as finasteride or dutasteride, was assessed by analyzing the number of AGA patients treated, monthly prescriptions of 5-ARIs, and years of clinical experience. Overall, 38.9% (21) of surveyed physicians had more than 15 years of experience treating AGA, 13% had more than 10 years, 38.9% had more than 5 years, and 9.3% had fewer than 5 years. Regarding monthly prescriptions of 5-ARIs: 44.44% prescribed more than 60 per month; 35.2% prescribed more than 30; 20.4% prescribed fewer than 30. Similarly, 44.44% of dermatologists treated more than 60 AGA patients per month, whereas 38.9% and 16.7% treated an average of 30–60 and fewer than 30 patients, respectively.

Regarding the preliminary questionnaire on PFS, 100% of respondents were aware of its existence. However, 83.3% reported that they had never encountered a patient with this syndrome during their professional career, although nine dermatologists (16.7%) had. When asked about the possible etiology of the syndrome, all dermatologists except one stated that its origin was psychiatric rather than pharmacological. In addition, 92.6% believed that any adverse effect caused by 5-ARIs is reversible after treatment discontinuation. Participants were also asked whether the signs and symptoms commonly cited by patients as part of PFS could actually be related to the use of 5-ARIs.^{1–4,8} All dermatologists (100%) considered obstructive sleep apnea, elevated rheumatoid factor, blindness, optic neuropathy, retinopathy, and lipoatrophy unlikely to be related to the use of 5-ARIs. Similarly, 98.1% considered the association unlikely for cognitive slowing, “brain fog,” difficulty solving problems, decreased comprehension, memory disturbances, decreased HDL, elevated triglycerides, hypothermia, diabetes mellitus, tinnitus, or penile shortening or curvature changes. Additionally, 90.7% considered insomnia, anxiety, depression, suicidal ideation, weight gain, melasma, dry or thin skin, myalgia, muscle atrophy, and elevated creatine phosphokinase unlikely to be related. Conversely, symptoms considered possibly related to the use of 5-ARIs included: gynecomastia (88.8%); decreased seminal volume (79.6%); decreased libido (72.2%); erectile

dysfunction (59.2%); loss of morning or spontaneous erections (55.5%); and anorgasmia (33.3%)

When asked about a possible delusional origin of the syndrome, analogous to other culture-bound syndromes⁸ such as Morgellons disease (possible delusional parasitosis⁹) or Koro (genital retraction delusion¹⁰), 81.5% agreed with this hypothesis. Furthermore, 92.5% rejected a possible relationship between the syndrome and alterations in endogenous neurosteroids induced by 5-ARIs.

Regarding the items for which consensus was sought (Table 1), consensus was reached for 13 of the 15 statements. Key findings included: 90.7% agreed that current scientific evidence regarding PFS is low quality; 85.1% agreed that a typical patient profile exists: young single men with anxiety or depression, obsessive concern about hair loss, and extensive exposure to social media information; 87% stated that most symptoms associated with PFS are highly subjective and multifactorial; and 92.5% agreed that PFS occurs independently of dose, indication, or treatment duration. Additionally, 83.3% believed that PFS is anecdotal with dutasteride compared with finasteride, despite the greater efficacy and longer half-life of dutasteride; 83.3% considered that social media influence worsens patient distress. Regarding prevention and management: 90.7% emphasized the importance of the prescribing physician in preventing PFS by informing patients that 5-ARIs may rarely cause symptoms in the sexual domain; 90.7% supported mental health screening before initiating treatment; another 90.7% agreed on the importance of providing education and screening for mental health problems before initiating treatment. Regarding the management of PFS, 90.7% considered it essential to provide emotional support so that patients feel accompanied during their process. 88.8% considered it necessary to adjust the dose of 5-ARIs or discontinue treatment in cases of PFS. No consensus was reached regarding the usefulness of pharmacologic management of sexual symptoms (e.g., sildenafil) in patients with PFS. However, 67.9% agreed on the usefulness of collaborative management with a urologist in cases of PFS. 71.9% agreed on pharmacologic treatment of mental health problems in these patients (e.g., antidepressants), as well as joint management with a psychiatrist (88.8%) and a psychologist/sexologist (92.5%). In contrast, collaborative management with an endocrinologist was not considered necessary by consensus.

Discussion

Finasteride 1 mg daily was approved in 1997 as PropeciaTM (Merck[®]) for the treatment of androgenetic alopecia (AGA) and is one of the most widely used drugs worldwide.^{6,11} However, PFS was not reported until 2011.¹ In 2010, a Cochrane review¹² showed that although finasteride 5 mg increases the risk of sexual adverse effects during the first year of treatment, these effects become comparable to placebo after 2 years of therapy. In 2012, the Post-Finasteride Syndrome Foundation (PFSF) was established to promote research on PFS and raise public awareness.³

These discrepancies in the literature prompted the need for expert medical position statements, such as the international panel in 2017, which questioned the validity of studies on PFS. This panel concluded that studies linking 5-ARIs with persistent adverse effects were of low quality and affected by selection bias, and that the only high-quality study documenting persistent sexual adverse effects found them to be more frequent in the placebo group.^{2,13}

Parallel to the publication of studies with conflicting conclusions regarding PFS, the PFSF and other groups with similar interests initiated litigation against Merck in 2011.^{11,14} Although the case against Merck was ultimately resolved without admission of wrongdoing,^{11,14} the US Food and Drug Administration (FDA) required that the prescribing information for PropeciaTM provide clearer warnings to patients not only about adverse effects occurring during treatment but also about the possibility of symptoms persisting after treatment discontinuation.¹¹ In 2017, the PFSF again requested that the FDA require Merck[®] to suspend

Table 1
Items analyzed to assess consensus.

Item	Result	Consensus
Current scientific evidence regarding PFS is of low quality.	Strong agreement. Median: 7.0. IQR: 1.0. Percentage of responses outside the range: 0%.	Achieved
A common PFS patient profile is a relatively young man (<35 years) with obsessive thoughts bordering on body dysmorphic disorder regarding his alopecia, highly informed through social media, with a history of anxiety or depression, and usually single.	Strong agreement. Median: 7.0. IQR: 1.0. Percentage of responses outside the range: 0%.	Achieved
Most PFS symptoms are highly subjective and multifactorial, such as sexual or cognitive disturbances. Signs occasionally described, such as genital shrinkage or blindness, have never been confirmed in the medical literature.	Strong agreement. Median: 7.0. IQR: 1.0. Percentage of responses outside the range: 0%.	Achieved
PFS occurs independently of dose, indication, and treatment duration. Most descriptions of PFS involve the 1-mg dose (AGA) rather than the higher 5-mg dose (benign prostatic hyperplasia).	Significant agreement. Median: 6.0. IQR: 1.0. Percentage of responses outside the range: 5.6%.	Achieved
Reports of PFS associated with dutasteride are anecdotal compared with finasteride, despite its greater effectiveness and longer half-life.	Significant agreement. Median: 6.0. IQR: 1.0. Percentage of responses outside the range: 0%.	Achieved
The distress experienced by patients with PFS is genuine but is likely triggered, worsened, or perpetuated by a particular psychopathologic background and by echo chambers present on social media (mainly Reddit, Discord, and YouTube), where negative and discouraging narratives often predominate.	Significant agreement. Median: 6.0. IQR: 1.0. Percentage of responses outside the range: 5.6%.	Achieved
The prescribing physician plays a fundamental role in preventing PFS and should adequately screen patients for mental health problems, since PFS appears more frequently in patients with prior psychopathology.	Strong agreement. Median: 7.0. IQR: 1.0. Percentage of responses outside the range: 1.8%.	Achieved
Patient support is essential for the management of PFS so that patients feel accompanied during the process.	Strong agreement. Median: 7.0. IQR: 1.0. Percentage of responses outside the range: 0%.	Achieved
Adjusting the dose of 5-ARIs or discontinuing treatment is essential in the management of PFS.	Significant agreement. Median: 6.0. IQR: 2.0. Percentage of responses outside the range: 11.3%.	Achieved
Pharmacologic management of sexual symptoms (e.g., sildenafil) is essential in the treatment of PFS.	Neutral. Median: 4.0. IQR: 1.0. Percentage of responses outside the range: 43.4%.	Not achieved
Pharmacologic treatment of mental health symptoms (e.g., antidepressants) is essential in the treatment of PFS.	Moderate agreement. Median: 5.0. IQR: 2.0. Percentage of responses outside the range: 20.7%.	Achieved
Multidisciplinary management with a sexologist or psychologist is essential in the treatment of PFS.	Significant agreement. Median: 6.0. IQR: 2.0. Percentage of responses outside the range: 7.5%.	Achieved
Multidisciplinary management with a psychiatrist is essential in the treatment of PFS.	Significant agreement. Median: 6.0. IQR: 2.0. Percentage of responses outside the range: 5.6%.	Achieved
Multidisciplinary management with an endocrinologist is essential in the treatment of PFS.	Neutral. Median: 4.0. IQR: 2.0. Percentage of responses outside the range: 33.9%.	Not achieved
Multidisciplinary management with a urologist is essential in the treatment of PFS.	Moderate agreement. Median: 5.0. IQR: 2.0. Percentage of responses outside the range: 9.4%.	Achieved

For an item to be considered consensual in terms of agreement or disagreement, it had to meet the following criteria: a median response within the range of 1–3 (disagreement) or 5–7 (agreement); fewer than one-third of responses outside that range; and an interquartile range (IQR) ≤ 2, indicating low dispersion of responses around the median.

finasteride sales or add more substantial warnings to the drug label.^{11,14} Finally, in 2022, the FDA concluded that the petition did not provide reasonable evidence of a causal relationship between Propecia™ and persistent sexual dysfunction, depression, or suicide. Nevertheless, based on patient medical reports, the FDA required that suicidal ideation and suicidal behavior be added to the list of adverse reactions in the drug label.^{14–16} Additionally, in 2024 the European Medicines Agency (EMA) initiated a review of finasteride and dutasteride, prompted by the French regulatory agency (ANSM), to clarify potential psychiatric risks.¹⁷

Currently, after more than two decades of clinical use of finasteride and increasing experience with dutasteride, the perspective of experts with extensive clinical experience is particularly valuable for critically interpreting the available evidence, distinguishing attributable from coincidental effects, and guiding the clinical approach to this controversial syndrome.

The results of this study reflect the broad experience and familiarity of participating physicians with the use of 5-ARIs for the treatment of AGA in clinical practice. Although universal awareness of PFS among the surveyed dermatologists indicates clear recognition of the phenomenon, 83.3% reported never encountering a patient with this syndrome in their practice, reinforcing the idea that its prevalence is low.

Most dermatologists (98.1%) attributed a psychiatric rather than pharmacologic etiology to PFS, suggesting that symptoms reported by patients may be more closely related to psychological factors than to direct pharmacologic effects of 5-ARIs.^{2,8} This finding is particularly relevant because it highlights the importance of evaluating psychosocial factors in these patients. Furthermore, 92.6% considered that any adverse effects are reversible after discontinuation of the medication, which contrasts with some narratives suggesting persistent effects.³

Currently, PFS can be understood as an amalgam of symptoms experienced by an extraordinarily small proportion of patients taking a 5-ARI. These symptoms may arise after exposure to the drug in two ways: either as a direct adverse effect or, more likely, as a nocebo effect. They may persist after drug discontinuation, even for months thereafter. However, the factors that could perpetuate these symptoms remain unclear.^{18,19} Moreover, there is currently no evidence that the drug causes irreversible organic changes that could explain the persistence of symptoms after discontinuation of 5-ARIs.^{2,4,5,8} In line with this, most respondents rejected a possible link between PFS and alterations in endogenous neurosteroids.¹⁸ Unfortunately, a substantial number of studies concluding that finasteride causes PFS have received promotional and/or financial support from the PFSF,² which complicates interpretation of the findings because of potential bias. Indeed, most physicians

Table 2
Recommendations for the management of post-finasteride syndrome.

Prevention	Treatment
<ol style="list-style-type: none"> 1. Prevention should be carried out by the prescribing physician. 2. Explain that 5-alpha-reductase inhibitors may rarely cause symptoms in the sexual domain; these symptoms are dose-dependent and reversible. 3. Perform appropriate patient screening, as PFS appears more frequently in patients with pre-existing psychopathology. 	<ol style="list-style-type: none"> 1. Provide emotional support so that the patient feels accompanied during the process. 2. Adjust the dose of 5-alpha-reductase inhibitors or discontinue treatment if necessary. 3. Multidisciplinary management with a sexologist, psychologist, psychiatrist, and/or urologist. 4. Consider pharmacologic treatment for psychiatric symptoms (e.g., antidepressants).

in this study agreed that the current scientific evidence regarding PFS is of low quality.

Although this entity has not been officially recognized by the medical community, individuals who report experiencing it describe similar symptoms.^{1,3} In general, these symptoms mainly involve the sexual domain but may also affect cognitive and affective functions and, occasionally, somatic features such as reduced genital size. However, surveyed physicians largely agreed that symptoms beyond the sexual domain are unlikely to be related to the use of 5-ARIs.

The emergence and persistence of this constellation of symptoms strongly suggest that it may result from an underlying psychological or psychiatric condition for several reasons:

1. Independence from dose and treatment duration. Cases of PFS have been reported after a single dose of the drug.^{1,2,4,5,8} Moreover, most reports involve the 1-mg dose used for AGA rather than the higher 5-mg dose used for benign prostatic hyperplasia.^{1,2}
2. Highly subjective and multifactorial symptoms. Most PFS symptoms involve subjective disturbances in sexual or cognitive function. The occasional somatic signs described in the literature, such as blindness,³ have not been confirmed in medical studies, showing similarities with certain culture-bound psychiatric syndromes.⁸
3. Pharmacokinetic considerations. Finasteride has a short half-life (6–8 h) and is rapidly cleared from the body. Dutasteride has a longer half-life (4–5 weeks) and greater inhibitory potency than finasteride,²⁰ yet reports of PFS associated with dutasteride are anecdotal. Many patients are unfamiliar with dutasteride and may perceive it as a different drug class, possibly without preconceived expectations or biases. Furthermore, the PFSF has focused most of its public advocacy efforts specifically against finasteride.^{3,11}
4. Typical patient profile. A frequently described PFS patient profile is a young man with obsessive concerns about hair loss bordering on body dysmorphic disorder, highly informed through social media, and with a past medical history of anxiety or depression. This profile may be more vulnerable to mental health problems.²⁰
5. Influence of social media environments. The distress experienced by these patients is genuine; however, it may be triggered, worsened, or prolonged by a particular psychopathologic background amplified by social media environments that reinforce certain ideas, particularly on platforms such as Reddit, Discord, Instagram, and YouTube. Although these spaces sometimes provide support, they are often dominated by negative and discouraging narratives that may further deteriorate patients' psychological well-being.^{14,21}

Based on the consensus opinions obtained in this study, the recommended approach to PFS is summarized in Table 2.

The absence of controlled studies and the limited quality of the current evidence hinder validation of these findings. Additionally, the exclusive participation of Spanish dermatologists represents a limitation of the present study. Further longitudinal and multicenter studies are required to achieve a more comprehensive understanding of PFS.

In conclusion, transparency is essential to create a climate of trust that reduces treatment-related anxiety, which could directly influence

treatment tolerability. Given that patients receiving 5-ARIs may encounter information about PFS, it is important to inform them about this syndrome and clarify that current evidence suggests an unlikely pharmacologic cause.

Conflict of interest

The authors declare that they have no conflict of interest.

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