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Exploring the efficacy of Oral Finasteride in Treating Androgenetic Alopecia in Men: A Scoping Study

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Summary

Background

AGA is the most prevalent form of progressive hair loss that impacts a substantial number of men on a global scale. AGA not only manifests with physical changes but also exerts negative psychological effects and has certain somatic implications. Multiple treatment modalities are accessible for AGA including topical minoxidil and oral finasteride. These treatments have been recognized as effective approaches in managing AGA.

Objective

Is to explore and consolidate the existing research related to the efficacy of oral finasteride 1mg/daily in treating AGA.

Method

The study employed a scoping review methodology to identify and evaluate the relevant literature. The search strategy involved querying two databases, PubMed and Scopus. Only studies that exclusively focus on the efficacy of oral finasteride with a dosage of 1 mg/daily, in treatment for AGA have been included, while those addressing other aspects of hair loss treatment have been excluded.

Results

The search query generated a total of 200 articles. A total of 5 articles remained after further examination of the search query. These studies consistently reported that treatment with finasteride halted or slowed down disease progression in the majority of participants.

Conclusion

In conclusion, the available evidence suggests the potential efficacy of finasteride 1 mg/daily in the treatment of AGA.

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Background

Androgenetic alopecia (AGA), also known as male pattern baldness (MPB) or male pattern hair loss (MPHL), is the most prevalent type of hair loss in adult men.

Pathophysiology

In androgenic alopecia, large terminal hair follicles regress into brittle, so-called vellus hair. This usually occurs in defined areas on the scalp, where certain areas are particularly affected and show a so-called male pattern (1).
To assess the severity and extent of hair loss, the Norwood Hamilton-Norwood classification is the primary tool used today (2).

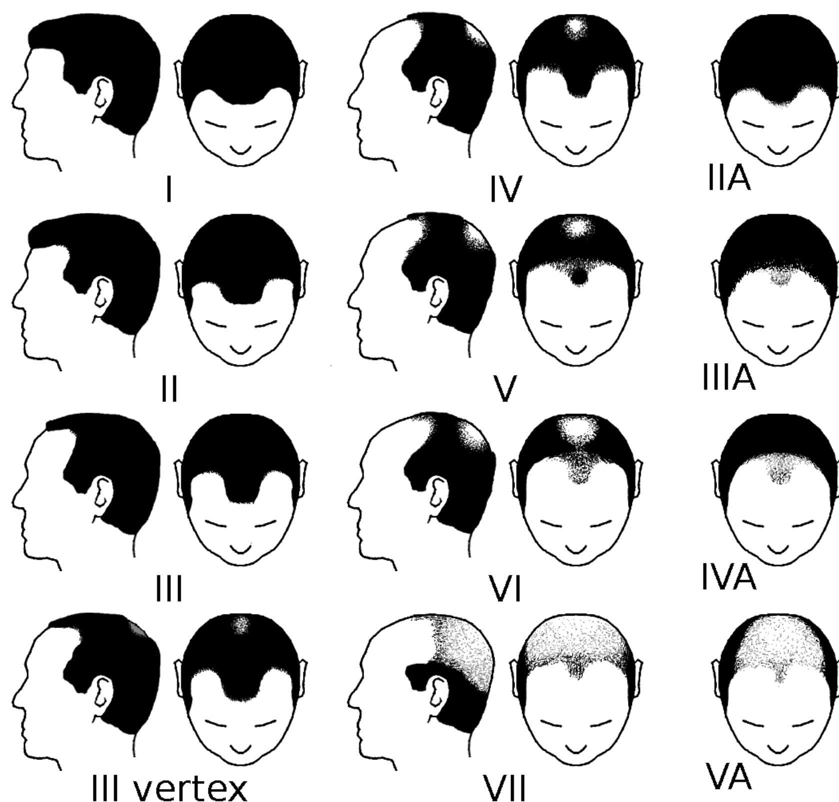

Figure 1. *The Hamilton-Norwood classification is a well-established system used to describe the different phases and patterns of AGA in males.*

The natural hair loss process is characterized by cycles of hair shedding and regrowth. These cycles involve three distinct phases, starting with the anagen phase, a period of active hair growth lasting 3-5 years with 1 cm per month of growth. This is followed by the catagen phase, a transitional stage that lasts for approximately 10 days and marks the end of hair growth for the current cycle. The final phase is the

telogen phase, a dormant period lasting about 3 months, during which the hair follicle remains inactive before initiating a new anagen phase (3).

In AGA, there is a reduction in the duration of the anagen phase and an increase in the length of the telogen phase after each hair cycle. As hair growth occurs during the anagen phase, this decrease in anagen duration leads to a decline in hair growth, eventually resulting in hair strands that are too short to emerge above the skin surface. Additionally, the prolonged period between the telogen and anagen phases contributes to a decrease in the number of hair strands on the scalp. These findings highlight the role of altered hair cycle dynamics in the development of hormonal factors, particularly androgens, play a central role in the pathogenesis of AGA. Among these factors, dihydrotestosterone (DHT) is considered the most critical hormone in AGA development, as it is produced through partial conversion of testosterone by the enzyme 5α-reductase (5AR). 5AR has a crucial role in AGA, as it mediates intrafollicular conversion of testosterone to DHT, which binds to the androgen receptor with five times higher affinity than testosterone. This mechanism underlies the pathogenesis and progression of AGA (4).

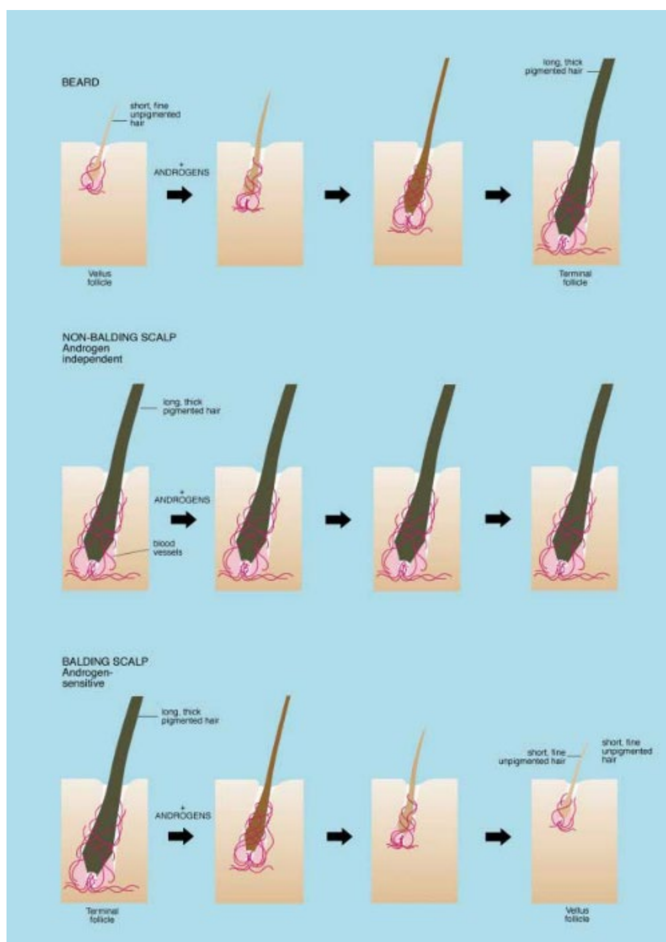

Figure 2. *The figure illustrates the different phases of the hair follicle. Note that the lower image shows how androgens have a negative impact on the hair follicle (4).*

Epidemiology and genetics

The incidence and pattern of AGA exhibit population-specific differences. Studies indicate that Caucasians have a higher prevalence of AGA than other populations. Moreover, the age of onset and the pattern of hair loss may vary significantly between populations, with Caucasians experiencing earlier onset of hair loss compared to Mongolian and Japanese men. Additionally, certain ethnic groups appear to retain more hair in the frontal area and maintain their hairline compared to Caucasians, indicating the presence of potential population-specific genetic and environmental factors contributing to the phenotypic differences (5). Therefore, AGA is a predominantly genetic condition, with an estimated 80% of hair loss cases occurring in individuals with a genetic predisposition to AGA. Moreover, studies have shown that fathers of affected individuals have male pattern baldness (MPB) in 81.5% of cases,

indicating a strong genetic component. The risk of developing MPB appears to increase with the number of affected family members, indicating that AGA is inherited in a familial pattern. These findings suggest that genetic factors play a major role in the development of AGA, and family history should be considered when evaluating individuals with hair loss (1).

The genetic factors linked to AGA amplify the effect of circulating androgens on the hair follicle. Individuals with a high genetic predisposition to AGA are at an increased risk of developing the condition during adolescence, whereas those with a weaker genetic predisposition may develop AGA later in life, between the ages of 60 and 70 (6).

Implications from AGA

Psychological implications

The morbidity of AGA is mainly psychological and varies in severity. Men without AGA and women generally have an unfavourable perception of men with AGA. This negative perception also affects men with AGA. A study found that individuals with AGA, regardless of gender, experience high levels of psychological distress related to hair loss. Women with AGA experience greater distress than men. People with AGA have less adaptive functioning and a more negative body image compared to those without AGA. Another study on men aged 18-50 found a positive correlation between hair loss severity and negative self-perception. More severe hair loss led to increased negative self-perception and negative attention from others, particularly among younger participants (8, 9).

Somatic implications

AGA has somatic implications, particularly for cardiovascular health. A 1972 study comparing men with coronary heart disease to healthy controls found that AGA was a significant predictor of cardiovascular disease. Baldness was observed to be a good discriminator between patients and controls. This indicates that AGA can be a clinical indicator for identifying individuals at higher risk for cardiovascular disease (10).

In a recent study, asymptomatic young men with AGA were found to have increased arterial stiffness, an indicator of cardiovascular aging, compared to a control group without AGA. This suggests that AGA may be an independent risk factor for arterial stiffness and could contribute to the development of cardiovascular disease (11).

AGA, specifically the vertex pattern type, has been correlated with an increased risk of prostate cancer. Other categories of AGA did not show the same association. Certain subtypes of AGA could potentially serve as clinical indicators for identifying individuals at higher risk for prostate cancer (12).
AGA has also been linked to COVID-19 infection rates and severity in men. A study found a significant association between AGA and higher hospitalization rates in men with COVID-19. Young men with severe AGA had worse outcomes, even without comorbidities, suggesting AGA as a potential risk factor for severe COVID-19 outcomes in men (13).

Treatment of AGA

Several treatment options are available for AGA, including topical and oral interventions. Minoxidil solution, originally used for hypertension, has been approved topically for AGA treatment. It functions as a vasodilator and promotes hair growth by increasing the anagen phase of the hair cycle. Studies have demonstrated its effectiveness, showing a significant increase in hair count compared to placebo. Side effects may include contact dermatitis, scalp irritation, and facial hypertrichosis (14, 15).
Research is underway on other topical treatments such as finasteride and dutasteride.

Finasteride, an FDA-approved oral treatment for AGA since 1997, inhibits the conversion of testosterone to DHT. It has shown effectiveness in slowing hair loss and promoting hair growth. Side effects may include orthostatic hypotension, erectile dysfunction, and decreased libido. A study in Japan found positive effects on hair loss in 87% of men treated with 1 mg of finasteride daily, with various levels of regrowth experienced (16).
Dutasteride, also a 5AR inhibitor like finasteride, has shown promising results in preliminary studies but is not yet approved for AGA treatment. It blocks both types 1 and 2 of 5AR and has demonstrated superiority to finasteride in slowing hair loss and promoting regrowth (14)

Treatment of AGA in Swedish healthcare

In Sweden, minoxidil topical solution and oral finasteride 1 mg/daily have been approved for AGA treatment. However, in primary care settings, minoxidil is commonly recommended over-the-counter, while finasteride is not clearly recommended. Different Swedish healthcare websites such as “internetmedicin.se” and “praktiskmedicin.se” have conflicting information regarding finasteride as a treatment option. Minoxidil is frequently mentioned as an alternative, while finasteride is seldom considered when consulting with colleagues.

There is a lack of clear guidelines and recommendations for AGA management in Swedish healthcare. This scoping review aims to explore relevant studies to determine if finasteride should be more widely recommended in Swedish healthcare as a treatment option.

Objective

The objective of this review of literature is to explore and consolidate the existing research related to the efficacy of oral finasteride 1mg/daily in treating AGA.

Research inquiry

Is finasteride 1 mg/daily effective in the treatment of AGA?

Method

Study design

The study employed a scoping review methodology to identify and evaluate the relevant literature (17). As outlined by Arksey et al. (17), the methodology encompasses distinct stages, including the identification of the research question, identification of relevant studies, study selection, data charting, and the collation, summarization, and reporting of the findings. The rationale for selecting a scoping review design was to provide a broader understanding of the utilization of finasteride 1 mg/daily in the treatment of AGA. Given the nature of this scoping study, emphasis was placed on obtaining a broad overview rather than a comprehensive examination.

Selection

With the objective set, relevant studies where sought. To find said studies, a thorough search of relevant articles has been conducted on both PubMed and Scopus. Only studies that exclusively focus on the efficacy of oral finasteride with a dosage of 1 mg/daily, in treatment for AGA have been included, while those addressing other aspects of hair loss treatment have been excluded. Furthermore, studies involving female participants and other treatment modalities such as surgical interventions, topical formulations, and other therapies have been excluded. While there were no specific exclusion criteria based on study design, this review primarily focused on evaluating clinical studies.

Data acquisition and evaluation

The search strategy involved querying two databases, namely PubMed and Scopus.

The following search string was conducted in PubMed 9th of April 2023:

” (((alopecia) AND "Alopecia"[Mesh]) AND (male pattern baldness OR androgenetic*) AND ((male[Filter]) AND (2017:2023[pdat]))) AND (finasteride)”

And in Scopus the following was search string was conducted 9th of April 2023:

” TITLE-ABS-KEY (alopecia AND male AND pattern AND baldness OR androgenetic* AND finasteride) AND (LIMIT-TO (EXACTKEYWORD , "Male") OR LIMIT-TO (EXACTKEYWORD , "Finasteride")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SUBJAREA , "MEDI"))”

Ethical considerations

Given that this scoping review primarily synthesizes data from previously conducted studies, no approval from ethics committee was required.

Results

The results of the search query

The search query generated a total of 200 articles. Two duplicates were removed prior to further screening. Of the remaining 198 articles, 175 were excluded after reviewing their titles, as they did not meet the inclusion criteria. Of the remaining 23 articles, 16 were further excluded after a thorough reading of their abstract. Ultimately, a total of seven articles was to be examined in greater detail. However, two relevant studies were sought after but could not be acquired. In figure 3, an overview of the data acquisition can be followed.

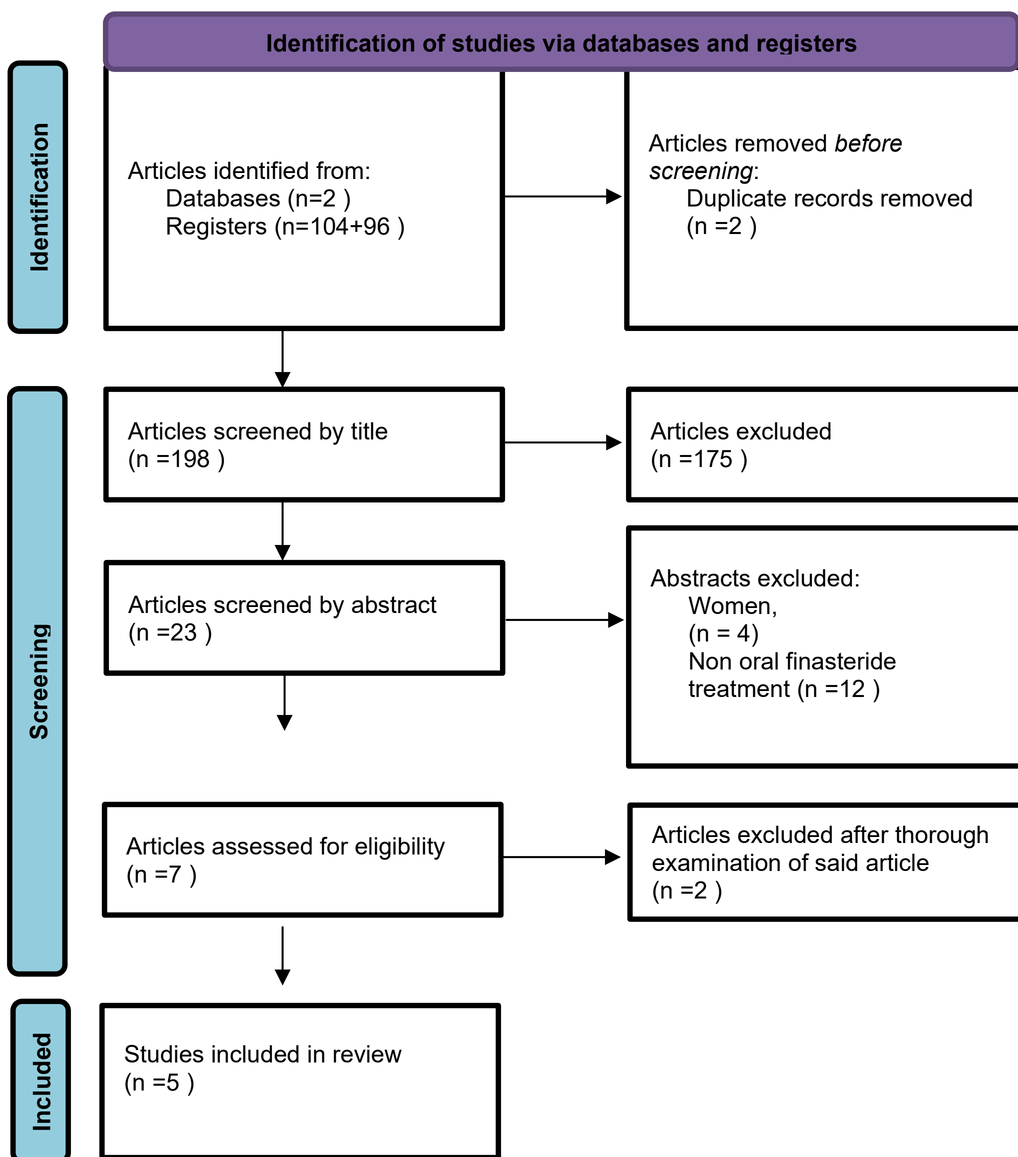

Figure 3. *Presentation of data acquisition*

Overview of the studies analyzed

Studies evaluated	Study design	Objective	Population	Results
Finasteride, 1 mg daily administration on male androgenetic alopecia in different age groups: 10-year follow-up. **Rossi et al. 2011 (18).**	Uncontrolled study	Evaluate the efficacy of finasteride over 10 years period	Men aged 20-61 years representing diverse ethnic background (n=118)	Assuming a Chi-squared value of 338.6 and an associated p-value of less than 0.05, out of 113 patients, 21% showed improvement, 65% showed no change, and 14% showed worsening.
Evaluation of long-term efficacy of finasteride in Korean men with androgenetic alopecia using the basic and specific classification system. **Shin et al. 2019 (19).**	Retrospective review	Evaluate the efficacy of finasteride in Korean men at two university hospital for a period of 5 years	Korean men aged 21-40 years (n=126)	98.4% showed either improvement or no disease progression with a mean of 0.60 ± 0.59 (3 months), 1.24 ± 0.72 (6 months), 1.46 ± 0.83 (1 year), 1.55± 0.83 (2 year), 1.51 ± 0.87 (3 years) and 1.48 ± 0.98 (5 years).
Global photographic assessment of men aged 18 to 60 years with male pattern hair loss receiving finasteride 1 mg or placebo. **Elise et al. 2012 (20).**	Multicenter, double-blinded study	To evaluate the efficacy of finasteride in hair growth in 4 scalp regions over a 24-month period	Men aged 18-41 (n=1553) and 41-60 years representing diverse ethnic (n=424)	At the 24-month follow-up, there was a statistically significant reduction in hair loss (p>0.05) observed in all treatment groups as compared to the placebo group. Moreover, the degree of improvement was found to be greater among the younger participants.
Male androgenetic alopecia treated with finasteride. **Kapadia et al. 2008 (21).**	Observational study	To evaluate the efficacy of finasteride in men with AGA over a 2-year period	Asian men aged 18-42 years (n=16)	The study yielded significant results regarding the effectiveness of the treatment in reducing hair loss. However, given the small sample size, lack of statistical tests such as p-values and confidence intervals, it is advisable to interpret additional conclusions with caution.
Finasteride in the treatment of men with androgenetic alopecia. **Kaufman et al. 1998 (22).**	Multicenter, double-blinded study	To determine if finasteride 1 mg/daily leads to clinical improvement in AGA	Men aged 18-41 representing diverse ethnic (n=1553)	Study showed that finasteride treatment improved hair quality in all aspects and sections of the study (p<0.001 vs placebo) and there was a clinically significant increase in hair count (p<0.001 vs placebo).

A more detailed examination of the studies

Rossi et al. (18) conducted a study to assess the impact of finasteride on mild to moderate hair loss, specifically on individuals with Norwood scale grades 2-5. The study included 118 men ranging in age from 20 to 61 years, all of whom were in good physical health. Physical examination was performed among other diagnostic methods to establish the diagnosis. Participants were excluded if they had a history of prior surgical correction, had used drugs such as minoxidil or finasteride for at least 1 year, or had hair loss from other causes.

All participants received 1 mg of finasteride, and their hair was evaluated using image sampling before treatment and at 1, 2, 5, and 10 years by two experienced dermatologists and one junior dermatologist who scored the images on a -3 to +3 scale, where -3 indicated a significant decrease in hair compared to baseline and +3 indicated a significant increase from baseline. The value 0 indicated no change from baseline.

Five participants discontinued the treatment early due to side effects. The groups were divided into different age classes, namely, 20-30 years, 31-40 years, and >41 years. The study identified the year of the first improvement for each age group. Moreover, the improvement observed after the first year was compared with the subsequent follow-ups (years 2, 5, and 10), and at the 10-year follow-up, patients were categorized as improved, unchanged, or worsened.

The study found a direct correlation between the initial age group and the severity of AGA with the improvement observed after the first year. Patients between 31 and 40 years had the highest improvement rate at the first follow-up, with 53.6% showing hair growth improvement, while 40.5% of patients between 20-30 years and 47.4% of patients >40 years showed improvement after 1 year of treatment. However, the improvement rate decreased with time, with only 14.3% of patients between 31 and 40 years, 16.7% of patients between 20-30 years, and 15.8% of patients >40 years showing continued improvement at the 2-year follow-up. At year 5, there was a further reduction in hair growth improvement, with only 10.7% of patients between 31 and 40 years, 0% of patients between 20-30 years, and 5.2% of patients >40 years showing improvement.

Furthermore, the study found that 42.8% of participants between 20-30 years, 21.4% of participants between 31-40 years, and 31.6% of participants >40 years showed no improvement. At the 10-year

follow-up, the groups were combined, and it was found that 74 participants (65%) had unchanged hair growth, 15 participants (14%) had worsened, and 24 participants (21%) had improved. Furthermore, the study found that 50% of patients who showed improvement after 10 years had an initial Norwood grade of IV.

The results of the study suggest that younger participants, aged 20-30 years, respond less effectively to finasteride treatment compared to older participants. The improvement rate in younger patients also decreased over time, stopping entirely at year 5. The authors mention that the results observed after 1 year can provide valuable information regarding the efficacy of continuing finasteride treatment. Additionally, patients with early-onset hair loss may have a higher genetic component that is more challenging to treat.

Shin et al. (19) retrospectively identified patients with a diagnosis of AGA through an electronic medical record system who had been treated with 1 mg finasteride for at least 5 years and had scalp images taken during the treatment period. Inclusion criteria were as follows: (i) patients who started finasteride treatment when they were between 18-40 years old; (ii) only those treated with 1 mg finasteride; (iii) those who frequently came for follow-up evaluation of treatment (at month 3, 6, year 1, 2, 3, and year 5); and (iv) those who had good drug compliance (<10% drug off period of total treatment period). Evaluation was performed by four dermatologists using clinical images. Initially, 166 patients were identified, but 126 patients were included in the final analysis. 40 patients were excluded due to low compliance (n=21) or incomplete medical record information (n=19).

To assess treatment outcomes, scalp images taken during treatment were evaluated using the Investigator's Global Assessment (IGA), a 7-point scale that signifies if hair loss has improved, remained unchanged, or worsened. +3 indicates greatly improved, +2 moderately improved, +1 slightly improved, 0 unchanged, -1 slightly aggravated, -2 moderately aggravated, and -3 greatly aggravated.

In this study, 85.7% (n=108) of participants had an improvement with IGA≥1. Interestingly, IGA scores improved with time of treatment with IGA 0.6 (3 month), IGA 1.24 (6 month), IGA 1.46 (1 year), IGA 1.55 (2 year), IGA 1.51 (3 year), and IGA 1.48 (5 year). 19,4% of patients (n=26) had IGA≤0, indicating progression of hair loss during treatment.

The authors conclude that treatment with finasteride can at least prevent the progression of hair loss for most, improve hair loss for some, and be ineffective for a few.

In Elise et al. (20) study the objective was to examine the efficacy of finasteride 1 mg/day in the treatment of AGA. Inclusion criteria were men aged 18-41 years with a diagnosis of AGA with a severity grade of II-V according to Norwood. Exclusion criteria included previous surgical intervention, treatment with minoxidil, use of drugs with androgen/antiandrogen properties, use of finasteride or other 5AR inhibitors, or alopecia of other types. Two identical studies were conducted, each lasting for 1 year, with double-blind, placebo-controlled, multicenter design. Those who met the inclusion criteria (n=1553) were randomized to treatment with finasteride 1 mg (n=779) or placebo (n=774). Both groups underwent scalp imaging and blood tests at months 3, 6, and 12.

After 1 year, participants who completed the first study were eligible to continue with an extension study. However, both groups were reduced in size (control n=658 and placebo n=646) due to voluntary withdrawal from the study (control n=40, placebo n=35), adverse effects (control n=16, placebo n=19), relocation (control n=8, placebo n=9), other reasons (control n=56, placebo n=65), and laboratory adverse events (control n=1). In the extension group (control n=612, placebo n=603), the groups were randomized within their own groups in a 9:1 ratio. The original control group now consisted of both finasteride-treated participants (n=547) and a new placebo group (n=65). The original placebo group now consisted of a new treatment group (n=543) and a new placebo group (n=60). These groups were evaluated in the same manner as the first study at months 3, 6, and 24. Results from these groups who completed the entire study showed that finasteride treatment improved hair quality in all aspects and sections of the study ($p<0.001$ vs placebo) and there was a clinically significant increase in hair count ($p<0.001$ vs placebo). Hair loss progressed in all placebo groups in subsections in the whole study.

Kaufman et al. (22) conducted a 24-month double-blind randomized trial, which served as a follow-up to their previous study (20). The objective was to assess whether the effects of finasteride on hair loss may vary according to the scalp area due to the differential extent of the hair loss before treatment. A set of pictures is taken both before and after treatment to monitor the progress of the study. The study targeted male participants aged between 18 and 60 years with Norwood II-V hair loss on the scale. Males aged 18-41 years were included in the first trial, while an additional study was conducted to encompass males aged 41-60 years.

Participants were excluded if they displayed significant physical examination abnormalities or laboratory tests, previously underwent hair transplantation, used topical minoxidil within the last year, used anti-androgenic/androgenic preparations, or previously used finasteride. Additionally, alopecia of other types apart from androgenetic alopecia was grounds for exclusion. Two parallel studies were conducted: study

A for individuals aged between 18 and 40 years and study B for those aged 41 to 60 years. In year one, participants received either finasteride or placebo in a 50:50 ratio in study A. Following this, the treatment group (n=779) was reassigned after one year, with 45% (n=547) receiving finasteride and 5% (n=65) placebo. Similarly, the placebo group (n=779) was reassigned after one year, with 45% (n=543) receiving finasteride and 5% (n=60) placebo. In study B, 67% (n=286) received finasteride while the remainder (n=138) received placebo.

The findings indicated that all age groups and scalp areas under investigation displayed significant hair growth improvements. Individuals aged between 18 and 41 years displayed a considerable improvement in the vertex and anterior/mid scalp. On the contrary, the placebo group experienced either no improvement in hair loss or progress in hair loss. A similar trend was observed in males aged 41 to 60 years, with a slightly lower improvement rate than the younger age group. Notably, this group also displayed significant improvement in frontal hairline and temporal hairline areas compared to the placebo group. It is noteworthy that the younger participants demonstrated better outcomes compared to their older counterparts, which is contrary to one of the previously discussed studies. The reason for this result and its underlying factors will be discussed in the forthcoming discussion segment.

Kapadia et al. (21) conducted a smaller study involving 16 male participants aged 18-42 years who exhibited hair loss specifically in the vertex region of the scalp. They were observed during a 2-year period and all the participants received finasteride 1mg/daily. The exclusion criteria for this study were individuals who had received other therapeutic treatment, used finasteride for reasons other than hair loss, undergone hair transplantation or other cosmetic procedures.

This study differentiated from the others in that it included a questionnaire that participants completed every six months with five questions. These questions related to the reduction in bald area, changes in hair appearance after treatment, new hair growth, slowing down hair loss, and satisfaction with hair appearance in the frontal and vertex regions of the scalp. Each question had a response scale, with higher scores indicating a positive treatment outcome. The scores were then combined to provide a total score.

Additionally, the researchers evaluated hair loss in participants every six months by taking pictures of the scalp and assessing them using a scale ranging from -3 to +3. The scale evaluated hair growth, with -3 indicating greatly decreased growth, and +3 indicating greatly increased growth. The pictures were evaluated by two dermatologists and one physician.

The study results revealed a substantial degree of variability in the outcomes of the self-administered questionnaire. Furthermore, the authors did not provide any commentary on this observation, and as a result, it is not possible to draw any definitive conclusions on this aspect of the study.
The evaluation of the images yielded positive outcomes, with two participants scoring +1, eleven scoring +2, and three scoring +3. The authors conclude finally that the results in this study provide evidence of the efficacy of Finasteride in hair growth.

Discussion

To further investigate the efficacy of finasteride in AGA, a scoping review of the relevant literature was conducted. Five clinical studies on the treatment of AGA with finasteride were analysed (18, 19, 20, 21, 22), and all of them demonstrated significant positive effects on hair growth. The studies showed that finasteride not only slows down the progression of AGA but also promotes hair growth.

In the study by Kaufman et al. (22) the authors established a significant increase in hair in all control groups. A follow-up study by Elise et al. (20) further confirmed the efficacy of the treatment. In the study by Shin et al. (19), an improvement in hair loss was noted. In the study by Rossi et al. (18), most of the participants had a slowing down or an improvement in hair growth.

Two double-blinded, multicenter studies were conducted with a substantial number of participants (20, 22). The studies encompassed diverse populations as they did not specifically target a particular demographic. Kaufman et al. (22) observed consistent developments in hair quality and hair growth across all phases of the study compared to placebo ($p<0.001$). Notably, Elise et al. (20) performed a follow-up study to assess the long-term effects, which further demonstrated a significant hair regrowth and improved hair quality ($p<0.005$). These studies are considered robust due to their rigorous double-blind design and utilization of placebo as the control group. In the study by Rossi et al. (18), it was determined that 86% of the participants exhibited either a slowing of hair loss or hair regrowth. The strength of this study lies in its notable 10-year duration, providing some evidence of treatment effectiveness over an extended timeframe.

However, two studies exhibited limitations. The study conducted by Kapadia et al. (21) suffered from restricted generalizability due to a small sample size, participant selection bias, and limited methodological description. Additionally, the study featured a limited participant count of only 16 individuals and employed a self-assessment questionnaire of questionable reliability without additional clarification from the authors. As a result, caution should be exercised when interpreting the findings of

this study. Although the study by Shin et al. (19) presented favourable outcomes, the study population was limited to a specific demographic comprising solely of Korean men, thereby raising concerns about the generalizability of the results to other populations.

AGA is the most prevalent form of progressive hair loss that impacts a substantial number of men on a global scale. AGA not only manifests with physical changes but also exerts negative psychological effects on affected individuals, contributing to negative self-perception, heightened stress levels, and varying degrees of emotional distress ranging from moderate to severe (8, 9). Additionally, individuals with AGA are more susceptible to certain somatic conditions (6, 10, 11), although further research is needed to further explain the relationship between AGA and these conditions.

It is noteworthy that the cost of AGA treatment is taken directly by the patient, with the medication expenses amounting to approximately 700-800 kr every 98-100 days. Moreover, treatment options such as finasteride are generally well-tolerated by patients. Despite the established effectiveness of treatments like finasteride for AGA, the acceptance and adoption of such treatments in Swedish healthcare remain limited. The reasons for this disparity are not clearly understood, as numerous studies have demonstrated the efficacy of finasteride for AGA.

Therefore, additional research is warranted to explore the perspective and opinions of Swedish healthcare providers regarding finasteride treatment in AGA. Furthermore, there is a need to investigate underlying factors that may be contributing to the 10-15% of AGA cases that do not respond to finasteride treatment, including whether there are other factors beyond 5AR that are involved in AGA.

Conclusion

In summary, based on the existing body of evidence, finasteride 1 mg/day demonstrates potential efficacy in addressing AGA. The reviewed studies consistently indicate that finasteride treatment effectively halts or slows down disease progression in the majority of participants, with some cases even promoting hair regrowth. Nevertheless, it is noteworthy that a small subset of participants did not exhibit any positive response to the treatment. Therefore, further investigations in this domain are necessary to gain a deeper understanding of the lack of efficacy exhibited by finasteride in certain individuals.

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