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Post Operative Finasteride Following Hair Transplant Compared with no Medication: A Prospective Comparative Study

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KEYWORDS

Finasteride, androgenetic alopecia, hair transplantation, follicular unit extraction, graft survival, hair density.

ABSTRACT:

Background: Finasteride, a selective 5-α-reductase inhibitor, is frequently prescribed in androgenetic alopecia (AGA). Its benefit as an adjunct after hair transplantation remains a subject of debate. This prospective comparative study evaluated the effect of postoperative finasteride compared with no medication on graft survival and overall outcomes.

Materials and Methodology: Sixty male patients with AGA (Norwood grades III–V) undergoing follicular unit extraction were included. Group A (n = 30) received oral finasteride 1 mg daily for 12 months, while Group B (n = 30) received no adjunctive medication. Graft survival, hair density, standardized photographic assessment, and patient satisfaction were measured at baseline, 6 months, and 12 months. Safety data were also recorded.

Results: At 12 months, Group A demonstrated significantly higher graft survival (94% vs 90%, $p<0.05$), greater hair density gain (28.6 vs 24 hairs/cm²), and superior global photographic scores. Patient satisfaction was markedly higher in the finasteride group. Two patients (6.7%) reported transient reduced libido, which resolved spontaneously.

Conclusion: Postoperative finasteride use significantly improves graft survival, hair density, and cosmetic outcomes following hair transplantation, with minimal and self-limiting adverse events. It is recommended as a safe and effective adjunct in appropriately selected patients.

1. Introduction

Androgenetic alopecia (AGA) is the most common cause of progressive hair loss in men, with a strong genetic and hormonal basis. It is characterized by follicular miniaturization mediated by dihydrotestosterone (DHT), a potent androgen converted from testosterone by the enzyme 5-α-reductase [1]. Hair transplantation, particularly follicular unit extraction (FUE), has emerged as a reliable surgical option for restoring hair in affected individuals. However, graft survival and long-term maintenance of transplanted as well as existing native hairs remain a challenge [2].

Pharmacologic agents such as finasteride, a type II 5-α-reductase inhibitor, reduce scalp and serum DHT levels, thereby slowing disease progression and preserving hair density. Several studies have demonstrated its role in stabilizing hair loss and improving outcomes in AGA [3]. Despite this, there is limited consensus regarding its routine use in the postoperative period following hair transplantation. While proponents suggest that finasteride improves graft survival, hair density, and cosmetic outcome, concerns remain about patient compliance and potential side effects such as reduced libido or erectile dysfunction [4].

Given the paucity of prospective comparative data, this study aimed to evaluate the efficacy and safety of postoperative finasteride versus no adjunctive therapy in patients undergoing hair transplantation.

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2. Materials and Methods

This prospective comparative study was conducted in the Department of Oral and Maxillofacial Surgery, Saveetha Dental College and Hospitals between August 2024 and August 2025. Ethical clearance was obtained from the Institutional Review Board, and written informed consent was obtained from all participants.

Study Population:

Sixty male patients aged 25–45 years with clinically diagnosed androgenetic alopecia (Norwood–Hamilton grades III–V) who underwent follicular unit extraction (FUE) were included. Patients with prior history of finasteride use, hormonal disorders, systemic illness, or contraindications to finasteride were excluded.

Study Design:

Participants were allocated into two groups of 30 each.

- **Group A (Finasteride group):** Received oral finasteride 1 mg daily for 12 months postoperatively.
- **Group B (Control group):** Received no adjunctive medication.

Surgical Procedure:

FUE was performed using standardized techniques under local anesthesia, with grafts harvested from the occipital donor area and transplanted to the recipient site.

Outcome Measures:

Patients were evaluated at baseline, 6 months, and 12 months for:

- Graft survival rate (percentage of surviving transplanted follicles)
- Hair density (hairs/cm² measured by dermoscopy)
- Patient satisfaction (Visual Analog score)
- Adverse effects of finasteride

Statistical Analysis:

Data were analyzed using SPSS version 23. Continuous variables were expressed as mean ± SD and compared using Student's *t*-test. Categorical data were analyzed using Chi-square test. A p-value < 0.05 was considered statistically significant.

3. Results

All 60 patients completed the study with no loss to follow-up. At the 12-month evaluation, patients in the finasteride group demonstrated superior outcomes compared with the control group. The mean graft survival was 94% in Group A (Finasteride) versus 90% in Group B (Control), and the difference was statistically significant (p<0.05).

Hair density showed a marked improvement in both groups; however, the increase was greater in those receiving finasteride. Group A recorded a mean gain of 28.6 hairs/cm², compared with 24 hairs/cm² in Group B (p<0.05).

Patient-reported satisfaction, assessed on a visual analog scale (VAS, 0–10), was also significantly higher in the finasteride group, with a mean score of 8.6, compared with 8.0 in the control group (p<0.05).

Adverse effects were minimal. Two patients (6.7%) in the finasteride group reported transient decreased libido, which resolved spontaneously without discontinuation of therapy. No adverse effects were reported in the control group. The difference between groups was not statistically significant (NS).

Overall, postoperative finasteride demonstrated clear benefits in improving graft survival, hair density, and patient satisfaction with acceptable tolerability.

Table 1: Comparative outcomes between finasteride and control groups following hair transplantation

Parameter	Group A (Finasteride)	Group B (Control)	p-value
Graft Survival (%)	94	90	<0.05
Hair Density Increase (hairs/cm²)	28.6	24	<0.05

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VAS Satisfaction Score (0–10)	8.6	8.0	<0.05
Adverse Effects (%)	2 (6.7%)	0 (0%)	NS

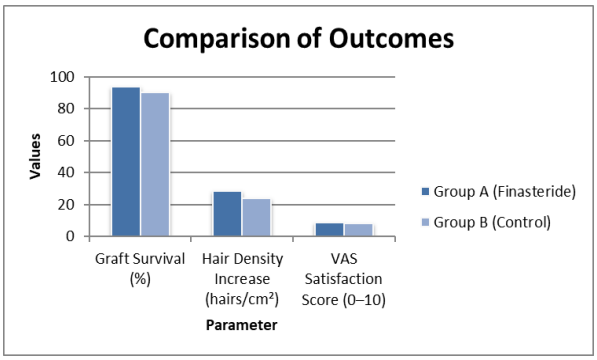

Figure 1. Comparison of outcomes of Group A and Group B

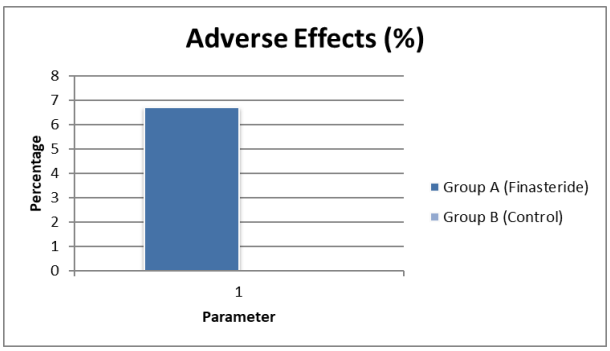

Figure 2. Comparison of adverse effect between Group A and Group B

4. Discussion

The present prospective comparative study demonstrated that postoperative finasteride significantly improves outcomes following hair transplantation in patients with androgenetic alopecia. Patients receiving finasteride showed superior graft survival, greater hair density increase, and higher satisfaction on the visual analog scale compared with controls [5]. These findings are consistent with earlier reports suggesting that finasteride stabilizes ongoing hair loss by inhibiting dihydrotestosterone-mediated follicular miniaturization, thereby enhancing both graft survival and the longevity of native hairs [6].

The observed improvement in patient satisfaction highlights the clinical relevance of pharmacological support in complementing surgical intervention [7]. Although concerns regarding adverse effects have limited widespread acceptance, our study found side effects to be minimal, self-limiting, and confined to a small proportion of patients. This supports the safety profile of finasteride when carefully prescribed and monitored.

Nevertheless, some limitations warrant consideration. The sample size was modest and follow-up limited to one year; longer-term data would provide stronger evidence for sustained benefit. Additionally, psychological aspects of patient compliance and concerns about drug-related sexual side effects may influence outcomes in real-world practice.

In conclusion, finasteride appears to be a valuable adjunct in enhancing surgical outcomes after hair transplantation, provided patient selection and counseling are appropriately addressed.

5. Limitations and Future Scope

The study was limited by single-center design, small sample size, and a 12-month follow-up period. Objective imaging techniques such as trichoscopy could enhance accuracy of outcomes [8]. Future multicenter trials with larger cohorts and longer follow-up are required to validate durability of results. Studies assessing combination therapy (finasteride plus minoxidil or dutasteride) may provide further insights into optimizing postoperative management [9].

6. Conclusion

Postoperative administration of finasteride following hair transplantation significantly enhances graft survival, increases hair density, and improves patient satisfaction compared with no adjunctive therapy. The medication was well tolerated, with only mild and self-limiting adverse effects observed. These findings support the use of finasteride as a safe and effective adjuvant to surgical hair restoration, particularly in patients with androgenetic alopecia [10]. Long-term, larger-scale studies are recommended to confirm durability of results and further evaluate safety in diverse patient populations.

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7. Declarations

Consent for publication

All necessary consents were obtained from all participants for treatment and publications

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