

CR

CASE REPORT

E. P. C. M. S.

Current Treatment Options for Male Pattern Hair Loss

Francisco J. Agullo, M.D.
Pablo L. Padilla

Various causes of alopecia are evident in society, which afflict numerous individuals across the world. Hereditary androgenic alopecia¹, or male pattern hair loss (MPHL), is the most common type of hair loss that can even afflict women. There are many methods of treatment, both pharmacological and surgical. The pharmacological therapies approved by the U.S. Food and Drug Administration are topical minoxidil and oral finasteride³. Hair transplantation remains the gold standard for restoring lost hair, although in the past, scalp reductions and hair-bearing flaps were used. This paper will discuss advances and the details of treatment, with efficacy of any route decided upon by the patient.²

A variety of genetic (and possibly environmental) factors apparently play a role in androgenic alopecia. Male pattern baldness is caused by a genetic sensitivity of hair follicles to dihydrotestosterone (DHT). This hormone causes follicles to shrink or "miniaturize". In turn, this shortens their lifespan and prevents them from producing hair normally². Recent research suggests that elevated levels of the enzyme prostaglandin D2 synthase and its product prostaglandin D2 (PGD2) in hair follicles causes androgenic alopecia.

PHARMACOLOGICAL TREATMENTS

The pharmacological modalities available are topical minoxidil (Rogaine) and oral finasteride (Propecia)³. Both drugs are long term treatments and their effect disappears on cessation. They are highly efficient in halting hair loss and mildly effective in promoting growth.

Minoxidil was implemented in the 1970's as an oral medication to combat hypertension, which in turn caused hypertrichosis in patients. It was transformed to a topical agent that has proven results. Several theories have been proposed on minoxidil's mechanism of action. It is believed that its vasodilatation properties increase blood flow, which in turn increases hair growth. It is an important treatment for

signs of thinning of after hair transplantation surgery. The possible side effects are unwanted or unruly hair growth in areas in non-desirable areas and erythema.⁴

Finasteride, better known as Propecia, has shown to inhibit the conversion of DHT and increase levels of testosterone, which in turn halts hair loss and promotes growth. It has been proven to work in numerous studies, but also causes some hair growth in unwanted areas like minoxidil. A small number of men (1.8%), have experienced sexual side effects such as decreased libido, erectile dysfunction, and decreased sperm count. Most of these men returned to normal after cessation.⁴

SURGICAL TREATMENTS

Modern surgical techniques have been able to restore hair loss and reshape hairlines to a natural growth that requires little to no specialized maintenance¹. The gold standard for hair restoration is the transplantation of single follicular units which are obtained by either harvesting a strip or through individual

Continued on page 9



Figure 1. Pre and post-operative photos of 56 year old male with male pattern hair loss after 2,500 follicular unit hair transplantation.



Current Treatment Options for Male Pattern Hair Loss (Continued)

punches (follicular unit extraction or FUE)¹ from the occipital which is not prone to male pattern hair loss (Figure 1). The follicular units (FU), which usually contain 1-3 follicles are then used and micrografted into place in the hair loss area individually. Graft densities of 20-60 per square centimeter are the most common ones used which causes adequate coverage and distribution of the hair.

The postoperative care is critical after any form of transplantation. Avoiding crust formation and promoting wound healing are critical. Patients can resume normal activity 1-2 days after the procedure. Sutures in a strip technique should be removed 10-14 days after the procedure. An average session will transplant between 1000-2500 FUs and 93-97% are expected to take. After surgery, grafted hair will fall in 3-5 weeks and start growing in 3-4 months. The more significant growth will be seen 6-8 months after and final growth (98%) is expected after one year.⁵ The procedure can be repeated after 6 months for further hair density as long as there is a good donor area.

FU hair transplantation can also be useful for treating areas of traumatic alopecia, restoration of eyebrows, and formation of facial hair or beards.

CONCLUSION

Pharmacological treatments are effective in halting hair loss and producing a mild amount of hair growth. Hair transplantation remains the gold standard for replacing lost hair. A combination of

both modalities translates into better results. There continues to be significant research in the field with topical medications, stem cells, and robotic assisted transplantation.

REFERENCES

1. *Medical and Surgical Options to Restore and Maintain Scalp Hair. (2005). International Society of Hair Restoration Surgery. [Brochure].*
2. *Jandali S, Low, D.W.: From Surgery to Pharmacology to Gene Therapy. Annals of Plastic Surgery 65 (4): 437-441, October 2010.*
3. *Ross, E. K., Shapiro, J.: Management of Hair Loss. Dermatologic Clinics 23 (2005) 227-243, 2005.*
4. *Unger, W. P., Shapiro, R., Unger, R., Unger, M., Publication. P.91-105, 262. Hair Transplantation. Informa Healthcare, New York, 2011.*
5. *Haber, R. S., Stough, D. B., Publication. p. 84-97. Procedures in Cosmetic Dermatology-Hair Transplantation. Elsevier Saunders Inc, Philadelphia, 2006.*

Francisco J. Agullo, M.D., Clinical Associate Professor of Plastic Surgery at Texas Tech University Health Sciences Center-Paul L. Foster School of Medicine and El Paso Cosmetic Surgery.

Pablo L. Padilla, First Year Medical Student, UTMB Galveston.