

Early Intervention of 5% Minoxidil Usage Yields Improved Hair Regrowth in Male Androgenetic Alopecia: The Effects of Age and Stage

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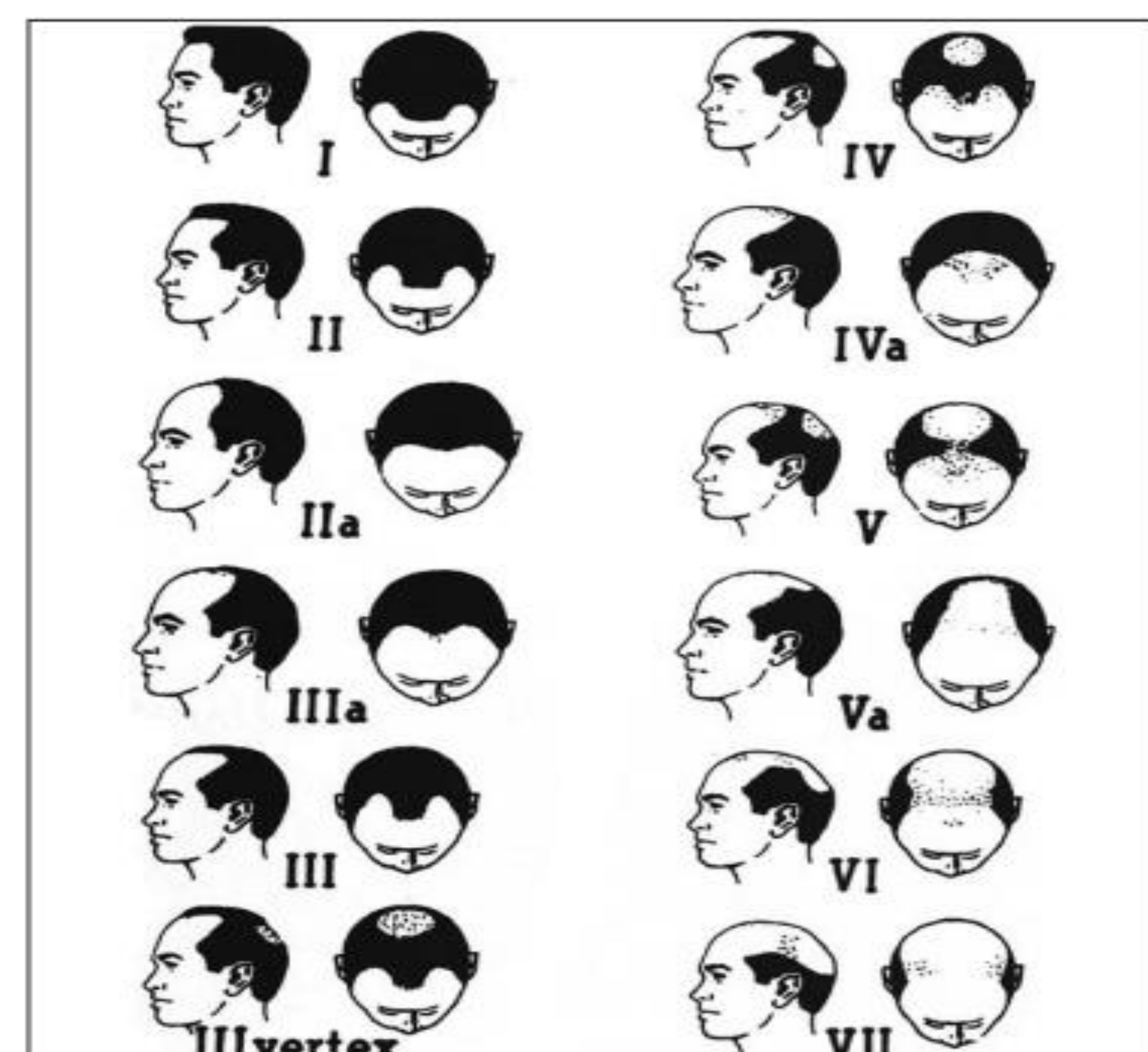
Background

Introduction: Androgenetic alopecia is the most common form of hair loss in men, affecting 30-50% of men by age 50¹. In a survey completed in 2023, 322 male topical minoxidil users were surveyed to inquire how old they were when they started treatment. On average, men started at age 38 and on average wished they had started at age 34². It is often assumed that starting an intervention earlier in any disease process helps mitigate progression of disease. There is a paucity of data in androgenetic alopecia regarding earlier intervention resulting in better outcomes. The objective of this research is to investigate change from baseline non-vellus hair counts within different age groups and different hair loss severity stages, as classified by the Norwood-Hamilton scale. Treatments were compared by covariate category (age and hair loss severity stage) using models with terms for center, treatment, covariate category, and covariate category by treatment.

Materials & Methods: To explore the relationship between hair regrowth and some covariates, subject's age and stage of hair loss, the change from baseline at Week 16 in target area hair count (TAHC) were summarized by the covariates in a men's 5% Minoxidil Topical Foam (MTF) study. The current post-hoc analysis builds upon a previous post-hoc analysis probing the effects in the change from baseline at the end of treatment (16 weeks) in hair count based on age: considering younger men 20-30 years of age, men 31-40 years of age, and men 41-50 years of age enrolled in a phase III trial of commercially available 5% MTF. In addition, difference in hair regrowth in the stages of hair loss was assessed by the mean change from baseline hair count at week 16 in stages of hair loss based on the Norwood-Hamilton scale. Men enrolled in the study were in Type III (vertex), Type IV, and Type V classifications of hair loss.

Results: Subjects using 5% MTF twice daily regrew more non-vellus hairs from baseline in younger men than men in older age groups. Change in TAHC from baseline at 16 weeks showed hair count for younger men aged 20-30 (26.25), men aged 31-40 (19.22), and men aged 41-50 (20.41). Subjects using 5% MTF showed statistically significant improvement in hair regrowth compared with placebo for each of the three age categories ($p \leq 0.005$). Subjects using 5% MTF twice daily regrew more non-vellus hairs from baseline for Type III hair loss pattern than for Type IV and Type V. Subjects in Type III classification showed an increase in hair count (23.06) compared to Type IV (15.83) and Type V (21.57) classifications. Subjects using 5% MTF showed statistically significant improvement in hair regrowth compared with placebo for each of the three hair loss classifications ($p < 0.002$).

Norwood-Hamilton Scale for male androgenetic alopecia



Results: Table and Figures

Figure 1. Bar Chart for Change from baseline in Hair Count at Week 16 by Norwood-Hamilton Hair Loss Pattern & Treatment (Subjects in ITT Analysis Set)

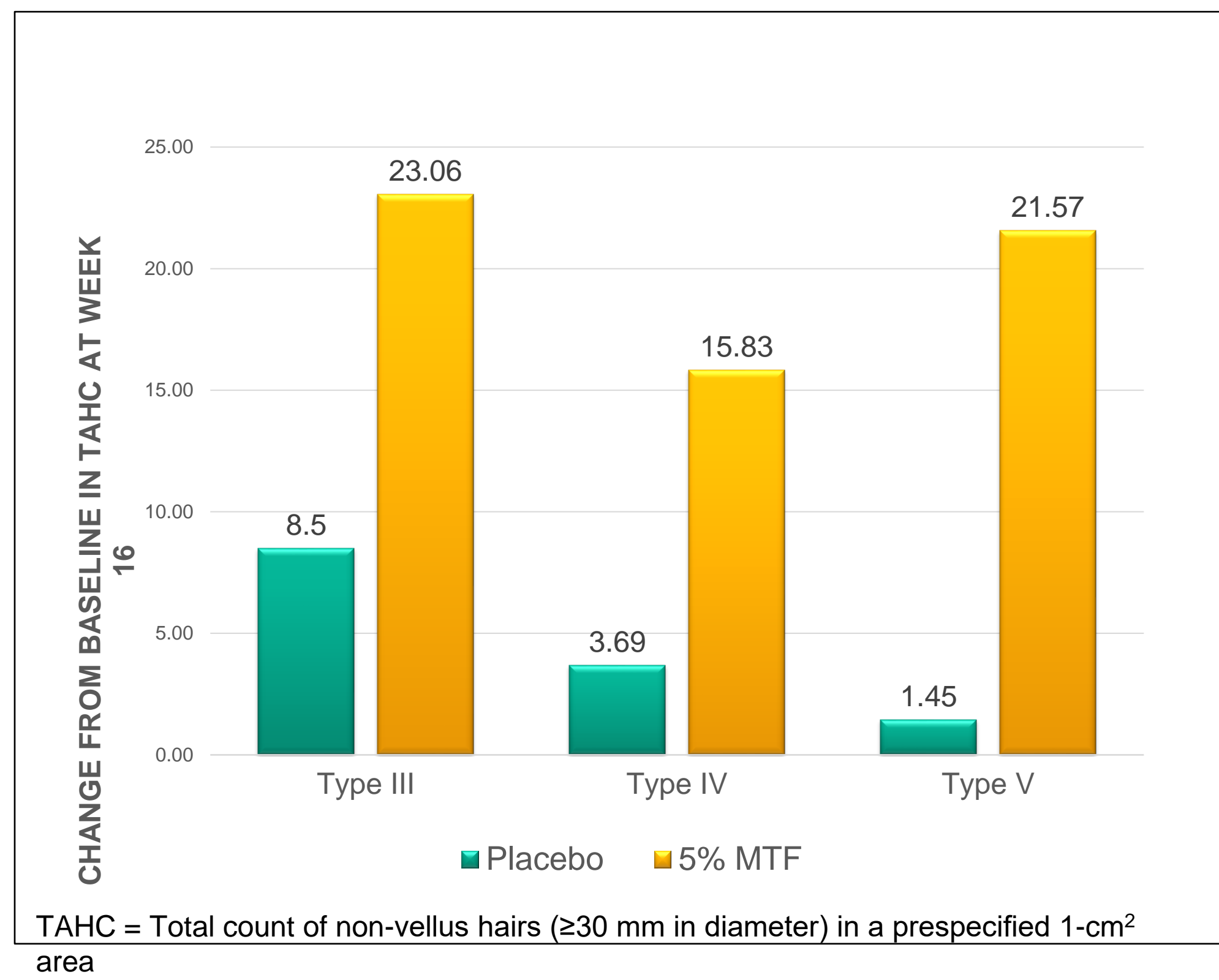


Figure 2. Significant Increase from Baseline in Hair Count at Week 16 for Younger Men (age: 20-30) using Twice a Day 5% MTF vs. Placebo Foam

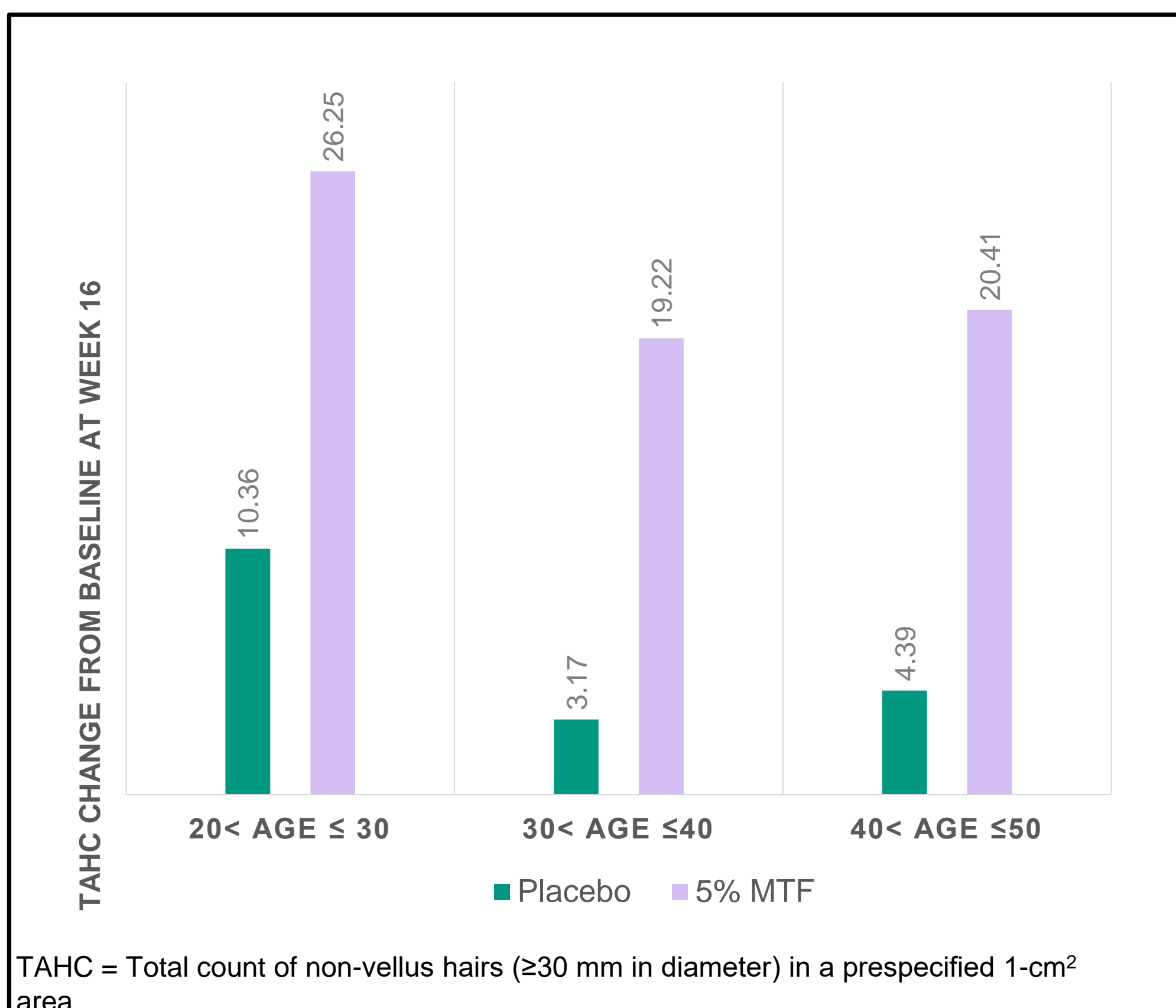


Table 1. Summary of Change From Baseline in Hair Count at Week 16 by Subgroup Variables ITT Subjects in 5% MTF clinical trial.

		Placebo	5% MTF
Norwood-Hamilton Hair Loss Pattern			
Type III	N	52	69
	Mean	8.50	23.06
	S.D.	20.292	18.389
	Median	5.50	22.00
Type IV	N	59	47
	Mean	3.69	15.83
	S.D.	17.595	25.610
	Median	6.00	13.00
Type V	N	38	47
	Mean	1.45	21.57
	S.D.	21.339	23.452
	Median	3.00	18.00
Age			
Age ≤ 30	N	22	16
	Mean	10.36	26.25
	S.D.	17.597	17.578
	Median	9.00	22.00
30 < Age ≤ 40	N	58	60
	Mean	3.17	19.22
	S.D.	22.049	24.704
	Median	4.50	17.00
40 < Age ≤ 50	N	69	87
	Mean	4.39	20.41
	S.D.	17.969	21.220
	Median	4.00	23.00

Before and After

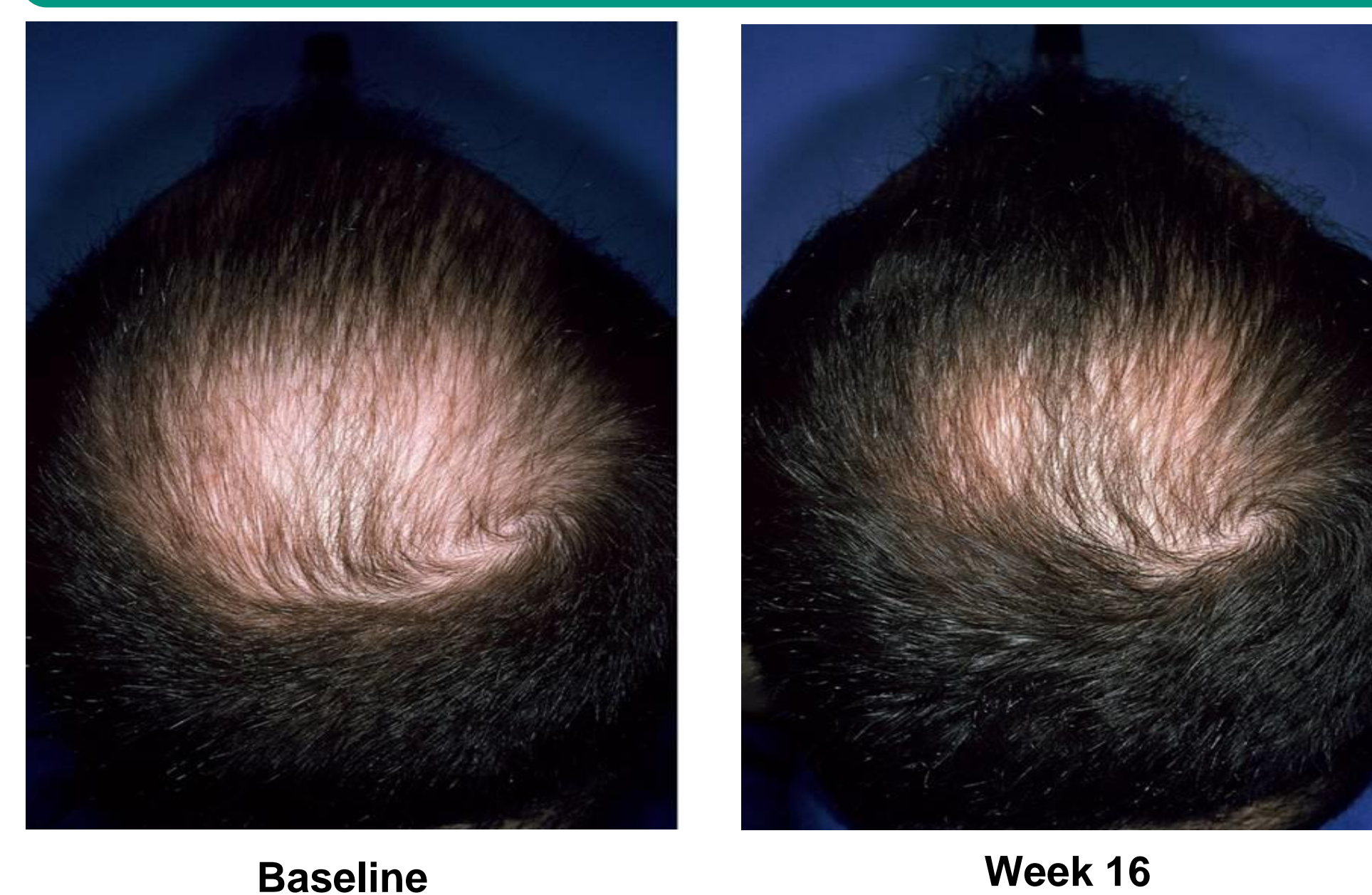


Figure 3. shows a male subject of younger age (age ≤ 30) with significant hair regrowth at week 16 compared to baseline after using 5% MTF. Age = 25, Type IV.

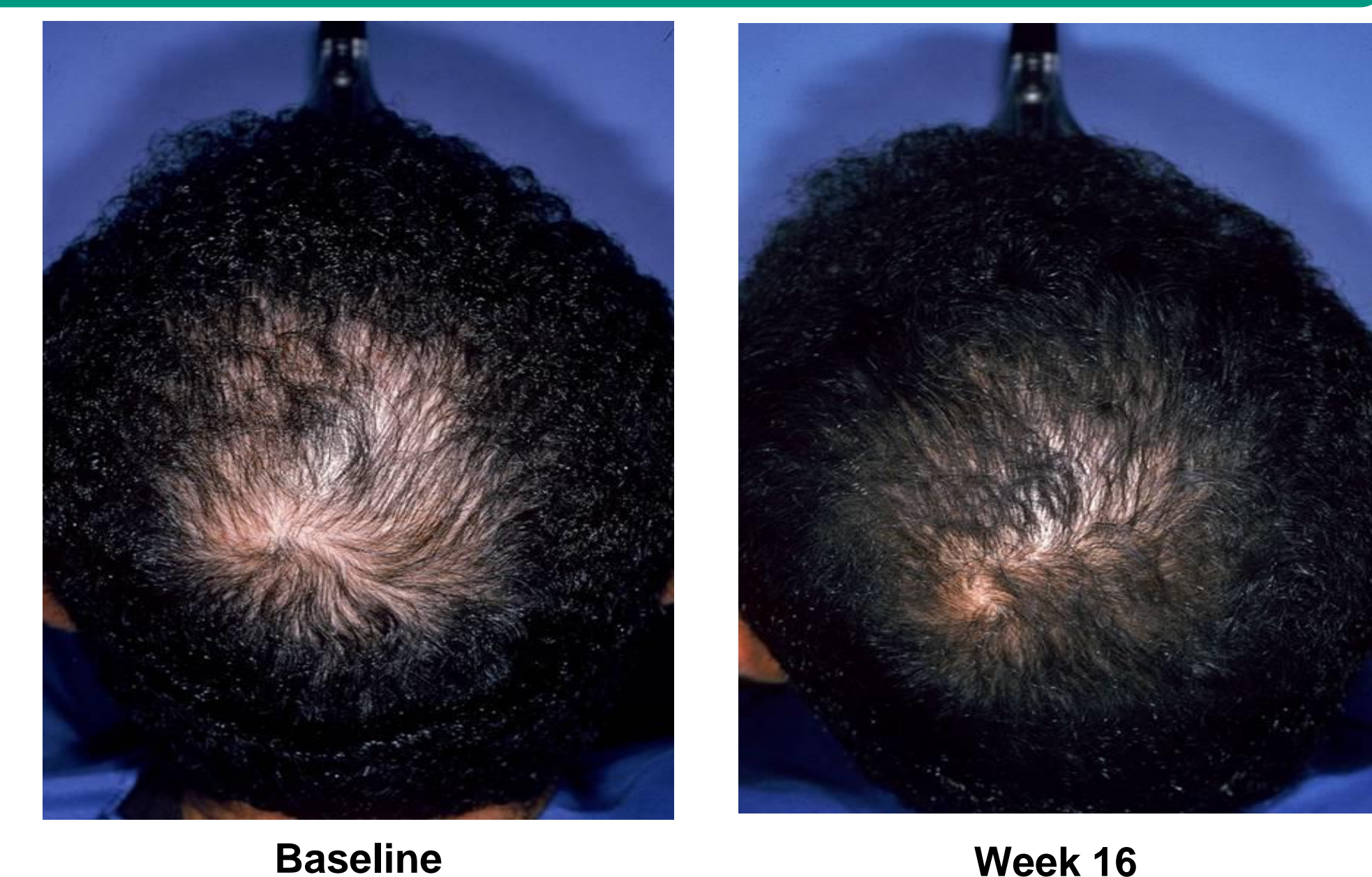


Figure 4. shows a male subject at an earlier stage of hair loss (Type III vertex) with significant hair regrowth at week 16 compared to baseline after using 5% MTF. Age = 39, Type III.

Conclusion

The use of 5% MTF twice daily regrew more non-vellus hairs versus baseline in all age groups and all stages of hair loss. However, regrowth was greater in younger men and men at an earlier stage of hair loss. This study has demonstrated that there is objective improvement of hair regrowth when intervening earlier in age and stage of hair loss severity with topical minoxidil. This data can appropriately and objectively inform health care providers with evidence to provide best practices in shaping the treatment paradigm for male androgenetic alopecia.

References

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- Numerator Study: Hair Loss Consumer Journey. November 2023. Kenvue.
- Olsen EA, Whiting D, Bergfeld W, et al. A multicenter, randomized, placebo-controlled, double-blind clinical trial of a novel formulation of 5% minoxidil topical foam versus placebo in the treatment of androgenetic alopecia in men. *J Am Acad Dermatol.* 2007;57(5):767-774. doi:10.1016/j.jaad.2007.04.012
- A post-hoc analysis probed effects in the change from baseline at the end of treatment (16 weeks) in hair count based on age: considering younger millennials (20-30 yrs), older millennials (31-40 yrs), and generation X (41-50 yrs) for men enrolled in a phase III trial of commercially available 5% MTF (Rogaine™, Johnson & Johnson, USA)