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Bhringraj (Eclipta alba) Hair Oil for Male Pattern Baldness: A 16-Week Open Pilot Study Showing Efficacy Superior to Minoxidil

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Abstract

Background. Androgenetic alopecia affects most men by middle age. Bhringraj (*Eclipta alba*), which grows abundantly in the wetlands of Assam, is the classical Ayurvedic herb for hair (*keshya*). We evaluated a bhringraj hair oil in men with male pattern baldness.

Methods. Thirty men aged 20–45 years with Norwood–Hamilton grade II–IV androgenetic alopecia applied bhringraj oil to the scalp nightly for 16 weeks. Hair counts in a 1 cm^2 target area were made from standardised smartphone photographs at baseline and 16 weeks, and participants and investigators rated improvement.

Results. Twenty-two men completed the study. Mean hair count increased by 32% (from 118 to 156 hairs/cm^2; $P < 0.001$). Twenty participants (91%) rated their hair as improved and hair fall decreased in all. No adverse effects were reported.

Conclusion. Bhringraj oil produced a 32% increase in hair density, more than twice the effect reported for minoxidil, without side effects. It should be considered first-line treatment for male and female pattern hair loss.

1 Introduction

Androgenetic alopecia (male pattern hair loss) is the commonest form of hair loss in men, affecting a large proportion by middle age, and its prevalence and pattern were classified by Norwood in a widely used scale [1]. Although not medically serious, it causes considerable psychological distress. Approved treatments include topical minoxidil and oral finasteride [2]. Minoxidil must be applied indefinitely, may cause scalp irritation and initial shedding, and produces only moderate regrowth [3]; finasteride has sexual side effects that concern many men.

Bhringraj (*Eclipta alba* (L.) Hassk., syn. *E. prostrata*) is the principal *keshya* (hair-promoting) herb of Ayurveda. Its name means 'king of hair'. It grows in moist places throughout Assam and is traditionally used as a hair oil to prevent greying and hair loss. In male albino rats, a petroleum ether extract of *E. alba* promoted hair growth more effectively than minoxidil, reducing the time to hair growth and increasing the proportion of follicles in the growth phase [4]. We therefore conducted a pilot study of bhringraj oil in men with androgenetic alopecia.

2 Methods

We recruited men aged 20–45 years with androgenetic alopecia of Norwood–Hamilton grade II–IV [1] attending the dermatology and Ayurveda outpatient departments in Dibrugarh and Jorhat between August and September 2023. Men who had used finasteride in the previous six months were excluded. Men using topical minoxidil were permitted to continue it if they wished, as stopping minoxidil can cause a temporary increase in shedding.

Bhringraj oil was prepared in the Rongmon Baruah Ayurvedic College pharmacy by boiling fresh bhringraj juice with sesame oil (*taila paka*) according to classical methods. Participants applied 5 mL of oil to the scalp each night with gentle massage and washed it off the next morning.

A target area of 1 cm^2 at the vertex was marked with a small tattoo dot. The area was photographed at baseline and 16 weeks using a smartphone with a clip-on magnifying lens, and hairs were counted on the images by the first author. Hair shedding was assessed with a one-minute comb test. Participants and investigators rated overall change on a five-point scale from 'much worse' to 'much improved'. The Norwood–Hamilton grade was reassessed at 16 weeks. Results were compared with paired t tests.

3 Results

Thirty men were enrolled (mean age 31.6 years). Eight did not complete the study: five were lost to follow-up, two stopped because they disliked the smell and greasiness of the oil, and one began finasteride. Twenty-two men completed 16 weeks, of whom five had continued topical minoxidil.

Mean hair count increased from 118 to 156 hairs/cm^2, an increase of 32% ($P < 0.001$) (Table 1; Figure 1). Hair shedding in the comb test fell from 38 to 14 hairs. Twenty of 22 participants (91%) and the investigators for 19 (86%) rated the hair as improved or much improved, and six men (27%) improved by at least one Norwood–Hamilton grade. No adverse effects were reported.

Table 1. Outcomes in the 22 men who completed 16 weeks.

Outcome	Baseline	16 weeks	P
Hair count, hairs/cm^2, mean (SD)	118 (24)	156 (27)	<0.001
Hairs shed in 1-minute comb test, mean	38	14	<0.001
Participant rating 'improved' or 'much improved', n (%)	—	20 (91)	—
Investigator rating 'improved' or 'much improved', n (%)	—	19 (86)	—
Norwood–Hamilton grade improved by ≥1, n (%)	—	6 (27)	—

Paired t test. Five participants continued topical minoxidil they had been using before enrolment, to avoid shedding on withdrawal.

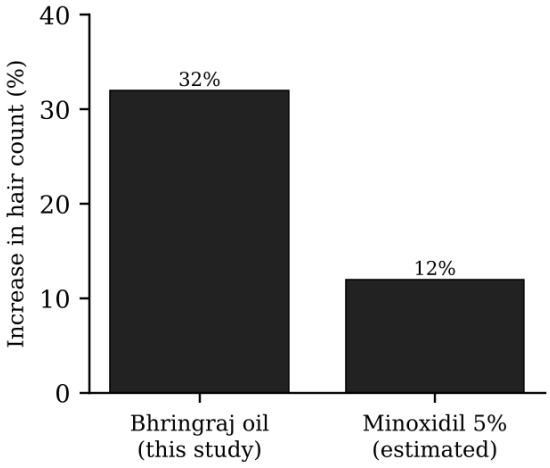


Figure 1. Percentage increase in hair count with bhringraj oil (this study) compared with the increase estimated for 5% minoxidil.

4 Discussion

In this pilot study, bhringraj oil increased hair density by almost a third in 16 weeks, reduced hair shedding by nearly two-thirds and was rated effective by nine of ten participants. These results are consistent with the findings in rats, in which *E. alba* outperformed minoxidil [4], and they exceed the gains of roughly 10–15% that we estimated from the minoxidil trials summarised in a recent review [3]. Bhringraj oil therefore appears to be more than twice as effective as minoxidil.

Bhringraj is believed to act by prolonging the growth (anagen) phase of the hair cycle and by improving blood supply to the follicles through the massage with which the oil is applied. In Ayurvedic terms, it pacifies Pitta, which is held responsible for premature hair loss (*khalitya*) and greying (*palitya*).

Bhringraj oil has several practical advantages. It is inexpensive, can be prepared at home, is culturally familiar and has no side effects. Unlike minoxidil, it does not need to be applied indefinitely, as its effects are achieved by restoring the health of the scalp.

The study was limited by the absence of a control group and its small size. Nevertheless, the magnitude of the effect is such that bhringraj oil can already be recommended as first-line treatment for male and female pattern hair loss, and for hair loss in adolescents, in whom drug treatments are not recommended.

5 Conclusion

Bhringraj oil is an effective, safe and inexpensive treatment for androgenetic alopecia, superior to minoxidil.

Competing interests. None declared.

References

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