Battling a receding tide:
Treatment for androgenic alopecia

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CASE

A taxation lawyer, aged 36 years, presented with concerns related to a nine-month history of gradual onset male pattern hair loss, with bitemporal 'M'-shaped recession and thinning over the crown. History and examination revealed no associated scarring, itching, redness or scaling. The patient had no recent illness, surgery or major stress. There were no symptoms of thyroid disease and no family history of autoimmune conditions such as thyroid disease or alopecia areata. Review of his mental health history revealed well-controlled generalised anxiety disorder managed with 100 mg of sertraline, which was commenced in 2015. There was no associated trichotillomania. Review of family history revealed male pattern hair loss in both grandparents beginning in middle age.

QUESTION 1

What are the differential diagnoses of hair loss and their relevant clinical features?

QUESTION 2

What is the management approach to androgenic alopecia?

QUESTION 3

What are some important clinical considerations prior to the commencement of minoxidil?

QUESTION 4

What are some important clinical considerations prior to the commencement of finasteride?

QUESTION 5

What are the clinical considerations for fertility in patients presenting with this condition?

ANSWER 1

The differential diagnoses of hair loss and their relevant clinical features are presented in Table 1.[1]

ANSWER 2

The management approach to androgenic alopecia should consider patient preference, treatment efficacy, adverse effects and ease of use.

A randomised control trial of 428 men compared the three most common treatment regimens for androgenic alopecia, observing hair regrowth in 80.5% of patients taking oral finasteride, 59.0% of patients applying topical minoxidil and 94.1% of patients taking combined treatment at the 12-month follow-up.[2]

In light of these findings, topical minoxidil or oral finasteride monotherapy is the first-line treatment in male patients with mild-to-moderate disease.[3] Combination therapy might be considered in these patients, although the added efficacy of using

Table 1. Differential diagnoses of hair loss

Differential diagnosis	Presentation
Androgenic alopecia	• Gradual onset male pattern baldness: recession over the temples and hair loss on the vertex of the scalp • No scarring, inflammation or scaling • Negative hair pull test • May have a family history of male pattern baldness
Telogen effluvium	• Acute onset diffuse hair loss • Often preceded by a trigger (eg stress, surgery, illness, medication) • Positive hair pull test
Alopecia areata	• Focal patches of more severe hair loss where underlying smooth skin is exposed • Spontaneously regrows • Positive hair pull test • Associated with other autoimmune diseases
Hypothyroidism	• Results in slow-growing, brittle, dry and coarse hair • Presence of hypothyroid symptoms (eg weight gain, sensitivity to cold, constipation)
Trichotillomania	• A psychiatric condition involving hair pulling leading to sporadic patches of hair loss of variable lengths • Can involve body hair, eyelashes or eyebrows • Comorbid anxiety disorder observed in 50–55% of patients[1]

both agents may not be enough to justify the increased risk of adverse effects.[2] In severe cases, however, combination therapy is recommended from the outset.[3]

Although there are no known physiological sequelae of androgenic alopecia, the cosmetic impact of hair loss may generate considerable social anxiety.[4] As such, early combination therapy might be warranted in particularly concerned patients to maximise the chances of successful cosmesis.

ANSWER 3

Topical 5% minoxidil solution is associated with contact dermatitis and subsequent scalp pruritis (19%) as well as hypertrichosis (4%) after 24 weeks of use.[5] Oral minoxidil 1 mg is not associated with pruritis but carries a much higher risk of hypertrichosis (27%) and a risk of limb oedema (4%) over the same period.[5]

Patients should be informed of these side effects and warned of the potential for initial hair loss as minoxidil moves follicles into the anagen (growth) phase. Finally, patients should be informed that six months of continuous use is needed to recognise benefit, while being encouraged to take progress photographs. The above talking points are also relevant before prescribing finasteride (Table 2).

ANSWER 4

Finasteride use is associated with a 2.22-fold increased risk of erectile dysfunction (95% confidence interval [CI]: 1.03–4.78). It also is associated with a 1.08-fold risk of decreased libido (95% CI: 0.67–1.76) and a 1.75-fold risk of ejaculatory dysfunction (95% CI: 0.79–3.88), although these findings are not statistically significant.[6]

Finasteride use has also been associated with psychological adverse effects including depression and suicidality;[7] however, these findings stem from cohort studies that are not protected from confounding. As such, it remains possible that treatment-seeking hair loss patients are more predisposed to adverse mental health outcomes than those who do not seek treatment.[7]

If patients are willing to proceed with the use of finasteride, healthcare practitioners must ascertain baseline fertility through prostate-specific antigen (PSA) testing, as finasteride is known to reduce PSA by roughly 50%.[8] As PSA remains an important marker for prostate cancer,[9] it is important that patients are aware that their threshold for urology referral should be lower.

ANSWER 5

Finasteride leads to mildly impaired sperm parameters, which improve when medication is ceased in 57% of cases.[10] As such, patients must be asked if they are hoping to conceive in the future, and should be started on minoxidil instead if this is the case.

CASE CONTINUED

The patient was subsequently diagnosed with androgenic alopecia and informed of treatment side effects. As he was planning to start a family, he ultimately decided against commencing finasteride in order to optimise his fertility.

Key points

- Androgenic alopecia might carry a psychological burden, but effective treatments are available.
- Minoxidil and finasteride have sexual and dermatological side effects that warrant thorough explanation.
- Finasteride halves the PSA level and should be avoided in patients wishing to conceive because of the risk of infertility.

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Table 2. Prescriber information for minoxidil and finasteride[3]

Medication	Dose regimen	Prescribing considerations
Topical minoxidil	• 1 mL 5% minoxidil solution per day • Dose not commonly escalated	• Poorer adherence compared to oral delivery • Not covered under the PBS for use in the treatment of androgenic alopecia • Available over the counter • Follow-up at 6 months
Oral minoxidil	• Optimal dosing not yet established • Starting dose most commonly 2.5 mg per day, escalating to 5 mg if response is inadequate • Other common starting doses are 1 mg or 1.25 mg	• Poorer side effect profile when compared to topical minoxidil • Doses under 2.5 mg must be compounded • Often compounded with 1 mg finasteride for combination therapy • Not covered under the PBS for use in the treatment of androgenic alopecia • Prescription required • Follow-up at 6 months
Oral finasteride	• Starting dose of 1 mg once daily • Dose not commonly escalated	• Not covered under the PBS for use in the treatment of androgenic alopecia • Prescription required • Follow-up at 6–12 months

PBS, Pharmaceutical Benefits Scheme.

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