In each issue, UK General Practitioner Dr. James Kennedy considers a common medical problem and summarises the pragmatic evidence-based advice that can be offered to people wanting to look after themselves.

SELFCARE 2012;3(1):15-18

OPINION

SELFCARE OF MALE PATTERN HAIR LOSS

INTRODUCTION

Male pattern hair loss (androgenic alopecia) is by far the most common cause of hair loss in men. The condition has a genetic predisposition which is inherited from either parent but expressed only in the presence of androgens. The time course and characteristic pattern of such loss means that there is little risk of confusion with other causes of alopecia in men.

Many men are unconcerned with hair loss as they age, but some suffer considerable distress. This may be particularly the case for men with early onset of major hair loss leading to premature baldness. Men may be embarrassed to consult health care professionals about a complaint they fear will be considered trivial and may try the plethora of unregistered treatments available. Others are sufficiently motivated to undergo surgical treatment for their condition. As with other conditions widely considered to be ‘cosmetic’ the anxiety caused may be disproportionate in some individuals and may require counselling.

One medicinal product (minoxidil) is widely available for self care of hair loss in men, and pharmacists may be asked for advice on its correct use. One other medical option (finasteride) is available on private prescription (in the UK) and through specialists. Often men do not persist with these drug options since treatment needs to be long term and results are often disappointing.

Key words: Hair loss, Male Pattern, Androgenic, Alopecia.

MALE PATTERN HAIR LOSS – PRESENTATION AND PATHOPHYSIOLOGY

Male pattern hair loss (androgenetic alopecia) is very common, affecting half of men by the age of 50 years. Hair loss is gradual and typically occurs in the temporal and frontal areas and crown of the scalp, while the sides and back of the head are spared. It continues with progressive thinning in the frontal and vertex areas of the scalp often accompanied by recession of the frontal hairline. Shedding activity and thinning may be more noticeable in autumn and winter. Eventually thinning in these areas may merge, with complete loss of visible hair over the top of the scalp. A family history of similar hair loss in males is generally present if sought. These typical characteristics readily distinguish it from rarer causes of hair loss in which patchy (e.g. tinea capitis) or diffuse (e.g. telogen effluvium) hair loss generally occur over a relatively short period of time and with no family history. The inheritance pattern of androgenetic alopecia is
probably polygenic and autosomal dominant, and the trait can be inherited from either parent. Androgens, including 5α-dihydrotestosterone (DHT), are required for expression of the trait.

The characteristic pattern of androgenetic alopecia reflects the distribution of androgen-sensitive hair follicles on the scalp. From puberty, androgens progressively shorten the growth phase of the hair cycle. In turn this increases the proportion of resting hairs, and therefore scalp hair becomes progressively finer and thinner with each cycle. Under the influence of androgens the hair follicles become miniaturized and produce fine un-pigmented 'vellus' hair rather than thicker pigmented terminal hairs. Also the 'lag' phase (the time between normal shedding of hair and re-growth) increases, reducing the total amount of scalp hair present at any given time. Androgenetic alopecia is progressive and, un-treated, hair density will decrease at a rate of approximately 6% per year until the process arrests spontaneously. The stage and age at which the hair loss stabilises varies between individuals.

The psychosocial consequences of male pattern hair loss vary markedly but can include distress and impaired body image. This may lead to low self-esteem, introversion and feelings of unattractiveness and may be a particular problem in men affected at a relatively young age.

**SELF CARE ADVICE AND MANAGEMENT OPTIONS**

If a man presents for advice, then it is reasonable to discuss what he may expect in terms of progression of hair loss. He can also be reassured that hair may be shampooed at a normal frequency without increasing the rate of hair loss. It may be that, with reassurance, the man will accept that no treatment is necessary.

**DRUG TREATMENTS**

Two drug treatments with proven efficacy are available to treat male pattern hair loss:

**Minoxidil for topical application**

Topical minoxidil is available without a prescription in the UK as a 2% or 5% solution that must be applied twice daily. Its mechanism of action is not fully understood but it has been shown to have a mitogenic, nonhormonal effect on epidermal cells and to induce increased proliferation of hair follicles *in vitro*. Clinical studies in men have shown that topical minoxidil stabilizes hair loss and increases hair density. The 5% formulation may be more effective than the 2%, but may give rise more frequently to scalp irritation.

**Finasteride 1 mg daily — oral treatment**

DHT, which plays a key role in the pathophysiology of male pattern hair loss, is derived from testosterone by 5α-reductase, which exists as two isoenzymes (Type 1 and Type 2). Within the scalp, the Type 2 isoenzyme is located mainly in the root sheaths of the scalp hair follicles.
Finasteride, an inhibitor of human Type 2 5α-reductase, binds pseudo-irreversibly to the enzyme, thereby inhibiting the conversion of testosterone to DHT. This decreases scalp and serum DHT concentrations, partially removing a key factor in the development of male pattern hair loss. Clinical studies in men with male pattern hair loss have shown that finasteride 1 mg daily slows progression of hair loss and increases hair growth. Improvements were seen as early as 3 months after starting treatment, with improvement continuing up to 12 months of treatment and maintained during 5 years of treatment.

Both of these drug options share good safety profiles but have different adverse effects: topical minoxidil may cause scalp irritation, whilst finasteride may cause adverse sexual effects in a small number (2%) of men during usage of the medication.

Drug treatments for male pattern hair loss are best regarded as a way of slowing the progression of hair loss, and dramatic results should not be expected. Treatment needs to be long term for effects to be seen and typically a 4-6 month trial is needed before assessing efficacy. If treatment is withdrawn, the effects of treatment will wear off and there may sometimes be a period of rebound shedding.

Medical treatments for hair loss work better the earlier they are started, and results are poorer when alopecia is well established. Once started, treatment is essentially life-long if effects are to be maintained. The expense that this entails, together with the disappointing results obtained in many men, means that treatment is abandoned more often than not over time.

If a man chooses to try medical treatment, then the option selected is often based on the preference for oral or topical treatment. There is no definitive evidence that one is better than the other. Since the available drugs work by different mechanisms, it is plausible that they may have additive effects, although there is a lack of good evidence that this is the case.

**OTHER OPTIONS**

Various other cosmetic options (e.g. wigs and hairpieces) are available and may be considered an acceptable option by some men. Surgical treatments are also available using micrografting to produce a more natural appearance than older techniques which transplanted plugs of follicles.

**SUMMARY**

Male pattern hair loss is very common and is rarely confused with other causes of alopecia because of the slowly progressive clinical course and the pattern of loss which reflects the distribution of androgen sensitive hair follicles. A family predisposition is generally present if sought and inheritance can be from either parent although the trait requires androgens for expression.

In many instances the best option is to leave the condition untreated and many men simply
become reconciled to their changed appearance. Men should be educated about the likely course of the condition and reassured that routine hair care, e.g. normal shampooing will not worsen the hair loss.

Two treatments with differing modes of action are available. One (topical minoxidil) is available OTC in the UK while the other (oral finasteride) is only available on private prescription. Both treatments take some months to have an effect and treatment must be maintained or any response is lost. Results are often disappointing and the long term nature of these options involves considerable expense. For these reasons, many men eventually abandon treatment.

For the minority of men that are distressed by their condition, counseling may be helpful. Some men find support groups, such as Hairline International (www.hairlineinternational.com), useful. Adjusting to hair loss may be difficult and men who trouble to seek advice from healthcare professionals should be treated sympathetically and given clear information about their options.

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Conflict of Interest Statement: None.

REFERENCES