HAI R LOSS AND ALOPECIA

In this article, the author looks at issues around baldness and alopecia and considers the treatments that are available.

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What is the pathophysiology of alopecia and baldness?

The pathophysiology of hair loss (alopecia) may include infectious, nutritional, congenital, autoimmune or environmental causes and can be temporary or long-lasting. Non-scarring alopecia includes androgenic alopecia (common hair loss), telogen effluvium (thinning of the hair), alopecia areata (spot baldness) and scarring alopecia discoid lupus erythematosus (a group of rare disorders that destroy hair follicles) or lichen planus (a type of non-infectious rash) caused by trauma or infections. Other hair follicle disorders include trichotillomania (hair pulling disorder), traction alopecia (gradual hair loss caused by pulling of hair), tinea capitis (fungal infection affecting the scalp) and hair shaft abnormalities.

In androgenetic alopecia (male- or female-pattern baldness), hair follicles diminish in size over time in both male and females until they become cosmetically insignificant. This happens in specific patterns over the scalp area and there can be a significant gap between hair shedding and regrowth in affected individuals. The result is very short hairs and follicles devoid of hair shafts and pigmentation. In advanced androgenetic alopecia some follicles are completely replaced by fibrous tracts.

Another common form of alopecia, telogen effluvium, manifests itself as widespread thinning of the hair rather than specific bald patches, and can be caused by the body reacting to external factors, such as: hormonal changes for example, caused by pregnancy; intense emotional or physical stress; changes in diet; short or long-term illnesses, such as infections or cancer; or reactions to medications. Other body hair is usually not affected and although hair may feel thinner, it is unlikely that patients would lose all their hair, and in many cases hair would grow back within six months.

Alopecia areata on the other hand tends to lead to patches of baldness, usually on the scalp but can be anywhere on the body. In most cases hair will grow back in a few months. Hair growth occurs in phases; growth (anagen), cessation (catagen), and rest (telogen), and these bald patches occur when cells of the anagen hair bulb (the actively growing hair bulbs) are attacked by blood lymphocytes and as a result the hair shaft breaks off. In rare cases the condition can lead to further hair loss. It most commonly occurs in teenagers and young adults, but can affect any age. Alopecia areata is an autoimmune disorder and so mostly occurs in patients with other autoimmune conditions such as hyperthyroidism, diabetes or Down’s syndrome. As it is an abnormal immune response from the body against substances and tissues found in the body, it is often found in those who have a family history of the condition, so is thought to have a genetic basis.

What is the difference between and alopecia and baldness?

Alopecia is a general medical term referring to the decline and loss of visible hair and there are many types with different symptoms and causes.

Baldness is the name given to the most common type of hair loss, androgenetic alopecia. This type of hair loss is commonly seen in both males and females (male- and female-pattern baldness), and causes the hair to recede starting from both temples and vertex in men and the crown and temples in females. Less commonly it can progress to complete baldness. Male-pattern baldness is hereditary and linked to an excess of testosterone though the causes of female-pattern baldness are less understood.

Most people lose 60-100 hairs per day and this is a normal level of hair loss that we all experience throughout our lives. However, when the level of hair loss exceeds this normal level, or is concentrated in certain areas, this is referred to as pathological hair loss. Thus both male and female-pattern baldness are considered pathological states.
Alopecia areata is an autoimmune disorder that usually affects the scalp, though it can occur anywhere on the body’s hair-bearing areas, and causes partial or total hair loss. The condition causes lymphocytes of the immune system to attack hair follicles in a process similar to that following chemotherapy and is most common in teenagers and young adults.

Triggering factors can be either stress or an infection and it can also be symptomatic of other autoimmune illnesses such as diabetes, vitiligo or thyroid disorders. There is also thought to be a genetic disposition.

The incidence of thyroid disease varies from 8% to 28% in patients with alopecia areata, with hypothyroidism being most frequently associated. Characteristic clinical signs of myxoedema are changes in the texture of the hair as well as alopecia of the scalp, eyebrow and other body hair.

Reversible alopecia has also been observed in iatrogenic hypothyroidism that is prevalent during the treatment of thyrotoxicosis (Grave’s disease). This type of temporary hair loss has been attributed to the toxic effects of anti-thyroid drugs such as carbimazole and propylthiouracil. After replacement therapy with thyroid hormone hair growth resumes.

Male-pattern baldness may be treated medically with either oral finasteride or topical minoxidil, with the latter also used for female-pattern baldness. Depending on the cause, several treatment options are available for alopecia areata including steroid injections, which are the most effective steroid treatment, or steroid creams or ointments. If there is a link to an autoimmune disease, anti-inflammatory drugs (injections, pills or cream) or immunotherapy can be used to treat the condition and to help the hair grow back. Immunotherapy involves the creation of an intentional allergic reaction on the affected areas of skin to stimulate hair growth.

Patients will then need to be monitored through treatment as everything depends on how the body and immune system react to the treatment and whether hair loss is stemmed or not. In many cases hair will grow back within a few months.

Surgical options include hair transplants. Globally, about 80% of hair transplants are successful. Follicular Unit Transplantation (FUT) and Follicular Unit Extraction (FUE) are the most common procedures and the technique for each patient is determined upon a consultation session evaluating patients’ skin and hair structure. These techniques are performed under local anaesthesia and the transplant process usually takes four to six hours. Some recent advances in hair transplant surgery include the use of Platelet Rich Plasma (PRP) with the aim of increasing the survivability of the hair following a hair transplant to improve future growth.
Hair loss and alopecia

Thinning hair in females caused by the effects of male hormones (androgens) is called androgenic alopecia and is frequently observed in women with polycystic ovary syndrome (PCOS), congenital adrenal hyperplasia, and other conditions of excessive male hormones. The medical management of baldness associated with PCOS consists of a number of options of combination therapy. Options commonly used include oral contraceptive (OCP) in combination with spironolactone, Diane-35, OCP in combination with finasteride, OCP with flutamide, multiple drug modalities or in combination with minoxidil. Medical management of hair loss in relation to PCOS can be much more difficult than some of the others problems related to PCOS, such as acne or hirsutism, and a combination of drugs is likely only to slow the progress of androgenetic alopecia rather than reversing it. A first step is to control the overproduction of male hormones before further treatment for baldness.

Finasteride works by preventing testosterone (an androgen) from becoming a stronger form of testosterone inside the cells. Few side effects have been reported by the NHS when finasteride is used in women.

Finasteride is a drug that counteracts the androgenic hormone testosterone by blocking its conversion to dihydrotestosterone (DHT). It is mainly used to treat benign prostate enlargement and is also prescribed for androgenic alopecia in males. Finasteride is not available on the NHS but can be obtained on private prescription from your GP.

The NHS reports that it usually takes 3-6 months of continuous use before any results are witnessed, and hair loss may return within six to 12 months if treatment is stopped.

Studies have shown that side effects are rare but may include such sexual problems as erectile and ejaculatory dysfunction, and the loss of libido. Other side effects can include enlargement of breasts, dizziness, fatigue, migraines, skin rash and swelling of hands and feet. It can also lead to an increased risk of breast cancer and prostate cancer.

It can also affect the prostate specific antigen (PSA) blood test used in prostate cancer screening as it has been found to reduce PSA levels in the blood by 50%.

Hair transplantation is an increasingly popular cosmetic trend among celebrities (UK celebrities include Wayne Rooney, Robbie Williams, James Nesbitt and Elton John) and the number of patients undergoing this procedure has increased significantly over the years. Patients should know that the technique used depends on the patient’s skin and hair structure as this directly affects the outcome of any transplantation. Some recent advances, such as the PRP technology, may also boost the success of the long term hair growth.

With hair transplantation, bald areas can be once more covered in hair, albeit less densely. In recent decades, hair transplantation has evolved into a microsurgical procedure with local rather than general anesthetic. Follicular units of 1 to 4 hairs are transplanted in large numbers and high densities and so, unlike the Strip (FUT) procedure, no stitches are required after the treatment. Hence the FUE technique (Follicular Unit Extraction) today has become the gold standard surgical treatment for hair transplantation together.

For patients with progressive alopecia, hair transplantation can only be performed if additional surgery is possible to harvest more hair from the proper donor areas where hair follicles are inherently resistant to hair loss. To ensure the best treatment for the patient’s condition is provided, thorough consultation is recommend from the outset. This would include information on the possible outcomes and the progressive nature of androgenetic alopecia, which may go on to require further surgery and/or medical treatment.
A Telogen effluvium, an extremely common form of alopecia, is a condition that causes hair to shed excessively and can be caused by a number of factors. Causes include sex hormone imbalances, which can occur due to a variety of reasons such as pregnancy, menopause, toxins or an unbalanced lifestyle, which can be diagnosed through blood tests. Other reasons may include reactions to medications, short or long-term illnesses or psychological issues as stress, dietary problems or other external factors. If the root cause can be isolated, the best method is to treat that condition – for example, by using stress reduction techniques or mental health advice, or supplements or dietary advice if a dietary deficiency appears on a blood test. A deficiency in thyroid hormones can be treated with hormone supplements.

Q What is the best treatment for telogen effluvium?

A Topical minoxidil is a hair regrowth medicine used for treating pattern baldness in men, and thinning hair and hair loss in women. Several studies have shown that topical minoxidil yields successful results in women. Minoxidil 2% topical solution twice daily appears to be an effective and safe treatment for female hair loss. Minoxidil 5% concentration used once daily has also been reported to be as effective as the 2% used twice daily, but further research is required for conclusive results.

Minoxidil stimulates hair growth and results can be observed between three to six months after the start of treatment. Minoxidil is not recommended for those under 18 years of age. It’s not available on the NHS, but can be prescribed privately or bought over the counter.

Q How effective is topical minoxidil in women?

A In general, hair loss is often the symptom of the natural ageing process and does not pose a health risk, but it can be distressing and may be the result of other underlying causes so patients should see their GP if they have concerns. GPs can easily diagnose the type of hair loss via examination and, if necessary, screen for systemic diseases then make suitable recommendations regarding the various treatment options available, or refer them to a specialist dermatologist. If a patient wants to treat hair loss for aesthetic reasons, GPs can refer them to a specialist to discuss patient suitability for hair transplantation.

Q When should a GP refer a patient with alopecia?

Q What is the best treatment for telogen effluvium?

A Acibadem Health Group specialises in hair transplants and the treatment of hair loss. Acibadem Health Group’s surgical treatments include Follicular Unit Extraction (FUE). The technique suitable for each patient at Acibadem is determined after a consultation session where the patient’s skin and hair structure is evaluated. Performed under local anaesthesia, a hair transplant process takes four to six hours, with hairs emerging in three months following treatment and reaching their normal length within six months. For more information on Acibadem and on hair transplants visit http://www.acibademinternational.com/treatment/hair-transplant-center or call +44 808 238 0043 (toll-free UK).