Imposters of Androgenetic Alopecia

Diagnostic Pearls for the Hair Restoration Surgeon

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KEYWORDS

• Hair loss • Alopecia areata • Cicatricial alopecia • Lichen planopilaris • Frontal fibrosing alopecia • Folliculitis decalvans • Hair transplantation

KEY POINTS

- Hair restoration surgeons should understand the basic clinical diagnosis and pathologic condition of hair loss conditions that are not always amenable to successful hair transplantation.
- There are several nonscarring and scarring mimickers of androgenetic alopecia that may fool even the most experienced hair transplant surgeon.
- When these conditions are transplanted, they either may not grow at all or may grow in the short term but fall out in the long term.
- Perifollicular erythema, shiny alopecia with loss of follicular ostia, yellow dots, unexplained pruritis and burning, and exclamation mark hairs are important clinical clues to identify androgenetic alopecia imposters.
- A scalp biopsy may help to definitively rule out imposters of androgenetic alopecia.

INTRODUCTION

The most frequent cause of hair loss in both men and women is androgenetic alopecia (AGA), affecting up to 50% of both genders. It is also known as male or female pattern hair loss. This male or female pattern hair loss is usually inherited and can progress over time. Fortunately, it is amenable to medical and surgical therapy, such as minoxidil, finasteride, and hair transplantation. However, other forms of hair loss are not always amenable to hair transplant surgery. It may be technically possible to transplant these conditions, but their underlying cause may be related to an inflammatory or cicatricial (scarring) nature. These conditions may fool even the most experienced hair transplant surgeons by appearing consistent with androgenetic alopecia, but when they are transplanted, they either may not grow at all or may grow in the short term but fall out in the long term.

Although it is not always possible to recognize these conditions early on, this article is important to provide as many clues as possible for recognizing such imposters of AGA. In this article a variety of the clinical, dermatoscopic, and symptomatic criteria are covered that help distinguish these conditions from male and female pattern hair loss. Hair surgeons who have training in dermatology may already be able to recognize some of these criteria. Others who do not may consider referral to a dermatologist or at least performing a scalp biopsy before hair transplantation

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to rule out any inflammatory or cicatricial condition. It is also highly valuable to cultivate a good relationship with your local dermatopathologist to help interpret these results. In many cases, a team approach is necessary and can offer the most accurate and helpful plan for patients.

Nature of the Problem

Patients presenting for hair transplantation have sometimes done extensive research on the Internet and have already made their diagnosis and treatment plan before even seeing a hair surgeon. It may be tempting for the hair surgeon to agree to transplant before understanding the true nature of the problem. They may assume the patient has no contraindications to surgery. However every hair surgeon must inspect the scalp and surrounding skin extremely carefully before proceeding with surgery. If there are any clues to suggest inflammation or scarring, they should stop and either perform a biopsy or refer to a dermatologist before agreeing to transplant.

In some cases of cicatricial alopecia the area may be transplanted, but it should only be done after 2 to 5 years' time, at the point when the condition has become completely "burned out." This stable period occurs when there is no further evidence of active inflammation on biopsy. Such inflammation could consume the transplanted grafts and result in their loss. However even then there is no guarantee of good or permanent growth. Some cases may grow well in the short run, only to flare years later with the loss of the transplanted grafts. Others may have only 20% to 50% of the hair growth even 12 months after surgery, which can be devastating to patients and disappointing to physicians. It is imperative that both parties have extensive discussion and management of expectations before hair transplant surgery.

NONSCARRING ALOPECIAS

Alopecia Areata

Alopecia areata (AA) represents an autoimmune form of hair loss in which the body's inflammatory T cells mistakenly attack the hair follicle. The mechanism is highly complicated, but seems to have both a genetic and an environmental cause. It is unclear whether this is a result of attack against the hair bulb or just the pigmented portion of the hair bulb. It usually presents as smooth round or oval patches of hair loss anywhere on the scalp, beard area, or body. Poliosis (whitening of the affected hairs) may occur with regrowth. Different terms are used to classify the body area affected. AA refers to one or more localized patches of hair loss; alopecia totalis refers to loss of all the hair on the head, and alopecia universalis refers to loss of all the hair on the body. A symmetric, single patch of hair loss in the vertex could certainly be confused with AGA (**Fig. 1**).

Diffuse AA /alopecia incognito

A less common form of AA (but more concerning mimicker of AGA) is diffuse alopecia areata, or alopecia incognito. This form of hair loss results in massive widespread and diffuse hair loss. In the short run, it may be confused with telogen effluvium, and in the long run, it may be confused with AGA. Practitioners should be on the lookout even for overlapping conditions such as a diffuse alopecia areata in the setting of male pattern hair loss. Clinical history can be valuable in sorting out the exact diagnosis.

Although the scalp biopsy is the gold standard, dermoscopy can be helpful in diagnosing this condition. There are unique features seen on microscopic examination of these patients. The most sensitive is yellow dots, which represent dilated infundibula filled with keratin debris. In diffuse alopecia areata, these yellow dots appear in and among normal (unaffected) follicles (**Fig. 2**). The most specific dermoscopic feature in AA is exclamation point hairs. These are short broken hairs that are tapered proximally. Both yellow dots and exclamation point hairs are shown in **Fig. 3**.

Patients may complain of a slight tingling or itching just before the affected area loses hair. On histology this may be related to the "swarm of bees" described as numerous T cells surrounding a hair bulb and attacking, resulting in sudden hair loss. The good news is that these patients frequently regrow their hair either with topical or with intralesional steroids or no treatment at all.

Fig. 1. Alopecia areata: large round patch of nonscarring hair loss in the vertex could mimic AGA.