

# Bitemporal alopecia: A unique pattern variant of alopecia



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**Key words:** alopecia; hair plugs; hair transplant; skin of color; traction alopecia.

## INTRODUCTION

Alopecia is a condition that is associated with social stigma and embarrassment. The underlying cause of alopecia may be multifactorial and difficult to delineate clinically.<sup>1</sup> The term “hot comb alopecia” was used to describe a form of alopecia thought to be associated with hairstyling practices in Black communities.<sup>2</sup> Further research on the disorder’s pathology challenged whether hairstyling practices were causative. “Hot comb alopecia” was later replaced with the more clinically descriptive central cicatricial centrifugal alopecia (CCCA).<sup>2</sup> The disease process of “traction alopecia” was similarly named based on observations of hairstyling practices in a group of people experiencing hair loss.<sup>3-5</sup> Some researchers have suggested that differences in follicular shape and chemical hairstyling practices also predispose patients to “traction alopecia.”<sup>6</sup> Although studies have shown an increased risk of “traction alopecia” associated with braids or chemical treatment, these studies also reported a significant proportion of patients with “traction alopecia” who did not have any history of the associated hairstyling practices.<sup>3,4</sup> This case report describes a patient with bitemporal alopecia, a distinct noninflammatory nonscarring pattern variant of alopecia. Consent for the publication of all patient photographs and medical information was provided by the authors at the time of article submission to the journal stating that all patients gave consent for their photographs and medical information to be published in print and online and with the understanding that this information may be publicly available.

## CASE PRESENTATION

The patient was a 31-year-old Black woman with a history of slowly progressive alopecia of the

### Abbreviation used:

CCCA: central cicatricial centrifugal alopecia



**Fig 1.** Clinical photographs of bitemporal alopecia. **A**, Preprocedural photograph of the right side of the temporal aspect of the scalp marking the location of 15 graft recipient sites. **B**, Follow-up at 2 months following the procedure showing graft uptake, with new hair growth.

bitemporal areas. She was evaluated for alopecia 2 years prior, and laboratory samples were drawn at that time. The levels of thyroid-stimulating hormone, free thyroxine, ferritin, and follicular stimulating hormone; complete blood count; and basic metabolic panel were within normal limits. Prior treatments with topical minoxidil for 6 months and Lidex solution 0.05% once every night were unsuccessful in restoring hair coverage. An over-the-counter antidandruff shampoo with 1% pyrithione zinc was used to treat seborrheic dermatitis of the scalp. Additionally, the patient had avoided tight braiding

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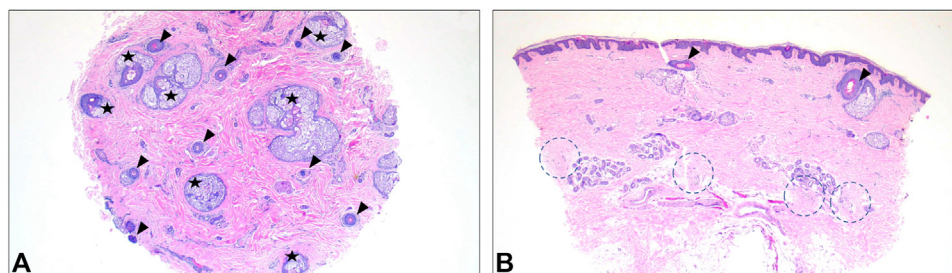
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**Fig 2.** Hematoxylin and eosin stain histologic examination of the alopecic area. **A**, Horizontal sections of the skin punch at the level of the infundibulum revealed complete absence of terminal hairs. The background vellus hairs (*arrowheads*) and sebaceous glands (*asterisks*) were largely preserved. There was no interfollicular fibrosis or inflammation to suggest a history of inflammatory alopecia. **B**, Vertical sections showed the absence of terminal hairs, with few fibrous tracts entirely replaced by collagen fibers (*circles*). Vellus hairs are occasionally encountered. There was no evidence of marked fibrosis or inflammation in the background.

of her hair for >1 year. On physical examination, the patient had decreased hair density on the bilateral temporal aspect of the scalp, with sparse vellus hairs. Injection of 0.5 mL of 5-mg/mL triamcinolone into the bitemporal aspect of the scalp was attempted but was not efficacious. Ultimately, the patient opted for treatment with hair transplant.

For the first round of the hair transplant procedure, a surgical area on the right side of the temporal aspect of the scalp and occipital aspect of the scalp was marked and anesthetized using 1% xylocaine with epinephrine (Fig 1). Fifteen 4-mm donor plugs were harvested from an unaffected and clinically normal area on the occipital aspect of the scalp. The plugs were inserted into 3.5-mm punches at the recipient site on the right side of the temporal aspect of the scalp and secured in place with pressure dressing.

Furthermore, 3.5-mm punch biopsy samples were taken as part of the hair transplant procedure from the right side of the temporal aspect of the scalp. Histologic examination of the punch biopsy samples taken from the areas of hair loss showed a sparse superficial perivascular and lymphocytic infiltrate. Sebaceous glands were retained, without associated terminal hairs (Fig 2). Aggregates of amorphous connective tissue, consistent with fibrous streamers, were present in longitudinal sections. In the samples, there were decreased amounts of terminal hairs, with an increase in vellus hairs. In 1 section with 9 vellus hairs, 1 was in the catagen/telogen phase. Pigmented casts and perifollicular hemorrhage were absent. Periodic acid–Schiff special stain result was negative for fungal elements.

## DISCUSSION

The histologic examination of this patient showed features typically seen in “traction alopecia,”

including terminal hairs, with relative retention of the total number of vellus hairs and the presence of fibrous streamers.<sup>1</sup> The frontotemporal pattern of hair loss observed would be an unusual presentation of female androgenetic alopecia.<sup>7</sup> The patient had loss of terminal hairs but did not have fibrosis of the hair follicles that would indicate scarring. Additionally, this patient had retained sebaceous glands, without associated terminal hairs, and lacked the inflammatory infiltrate and lamellar follicular scarring typical of cicatricial hair loss like in CCCA.<sup>1,2</sup>

Although other causes of alopecia may result in a similar pattern of bitemporal hair loss, there are histologic and clinical features that would differentiate them from the disease process described here.<sup>5</sup> Alopecia areata may present as a bitemporal pattern of hair loss, but histologic examination typically shows a bulbar and periadnexal inflammatory infiltrate.<sup>5</sup> Iatrogenic causes of bitemporal hair loss have also been reported; thus, recording the medical and procedural history is an important step when diagnosing alopecia.<sup>8</sup>

For patients with bitemporal alopecia, hair transplant can be an effective treatment. Patients with bitemporal alopecia typically have tightly curled hair, associated with curved hair follicles, which increases the risk of follicular transection when attempting follicular unit extraction.<sup>9</sup> Larger punch grafts, like those used in our patient, can decrease the risk of transection and improve graft outcomes.<sup>9</sup> Additionally, tightly curled hair may give the appearance of greater hair coverage with a fewer number of actual follicles.

The retention of sebaceous glands and absence of fibrosis in bitemporal alopecia provide a fertile environment for graft uptake. This is in contrast with scarring alopecia, such as CCCA, which causes destruction of the sebaceous glands and tracts of

fibrosis that replace the follicular units. Fibrosis caused by CCCA also compromises vascularity, inhibiting successful hair growth following grafting.<sup>10</sup> If hair grafting is attempted in patients with CCCA, steps must be taken to ensure that the recipient site is no longer experiencing active inflammation because this can lead to graft rejection, and a “test graft” is typically performed prior to attempting hair transplantation to prevent this.<sup>9</sup>

## CONCLUSION

Often, patients diagnosed with “traction alopecia” continue to have hair loss after changing hairstyling practices.<sup>6</sup> Pharmacologic treatments for “traction alopecia” are typically ineffective, and patients are often unsatisfied with the outcomes.<sup>9</sup> Bitemporal alopecia is a distinct variant of alopecia that previously fell under the umbrella of “traction alopecia.” As dermatology becomes more inclusive, it is essential to re-examine the naming and classifications of diseases. Just as some dermatologists may forgo the use of the term “picker’s nodule” in favor of the more technical term prurigo nodularis, the term “traction alopecia” should be examined. “Traction alopecia” affects one-third of African women; yet, a PubMed search for “traction alopecia” only returned 212 results at the time of this writing compared with 625 results for “frontal fibrosing alopecia.”<sup>6</sup> For patients with bitemporal alopecia, further research is imper-

ative for understanding the pathologic mechanism of the disease and improving treatment outcomes.

## Conflicts of interest

None disclosed.

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