Frontal fibrosing alopecia: A retrospective review of 19 patients seen at Duke University

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Background: Frontal fibrosing alopecia (FFA) is a type of scarring hair loss primarily observed in postmenopausal women and characterized by fronto-tempero-parietal hairline recession, perifollicular erythema, and loss of eyebrows. The incidence is unknown, but the number of women presenting with this condition has significantly increased in recent years. No effective therapy has been established.

Objective: The purpose of this study is to present pertinent demographic and clinical findings of patients with FFA seen at an academic hair loss clinic and their responses to various therapeutic interventions.

Methods: Patients seen at the Duke University Hair Disorders Research and Treatment Center, Durham, NC, between 2004 and 2011 who met FFA inclusion criteria and signed an informed consent form for participation in the Duke University Hair Disorders Research and Treatment Center database were included in this review.

Results: Nineteen female patients with FFA met our inclusion criteria, the majority of whom were white and postmenopausal. A number of treatments, including topical and intralesional steroids, antibiotics, and immunomodulators, were used with disappointing results in most patients. However, the majority of patients on dutasteride experienced disease stabilization.

Limitations: This was a retrospective review and outside clinic records were occasionally incomplete.

Conclusions: FFA is an increasingly common form of scarring hair loss, but the origin remains unknown. Without clear understanding of the pathogenesis and evolution of this condition, it is not surprising that treatments to date have been minimally or not effective. At our institution, dutasteride was most effective in halting disease progression, although no therapy was associated with significant hair regrowth. (J Am Acad Dermatol 2013;68:749-55.)

Key words: cicatricial alopecia; frontal fibrosing alopecia; lichen planopilaris; scarring hair loss.

Frontal fibrosing alopecia (FFA) is a form of cicatricial hair loss characterized by fronto-tempero-parietal hairline recession, perifollicular erythema in areas of scalp hair loss, and loss of eyebrows (Fig 1). Histologically, the scalp biopsy specimen in FFA shows findings typical of lichen planopilaris (LPP), another scarring hair loss disorder, which is characterized clinically by patches of hair loss rather than the regional hair loss seen with FFA.[1] The origin and prevalence of FFA is unknown, although the number of women presenting with this condition has markedly increased in recent years. Furthermore, no effective treatment regimens have

Abbreviations used:

5αR:	5-alpha reductase
5αRi:	5-alpha reductase inhibitor
FAPD:	fibrosing alopecia in a pattern distribution
FFA:	frontal fibrosing alopecia
FPHL:	female pattern hair loss
LPP:	lichen planopilaris

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been established, although various reports have noted some improvement or stabilization with topical and intralesional corticosteroids, antibiotics, hydroxychloroquine, topical and oral immunomodulators, and 5-alpha reductase (5αR) inhibitors (5αRis).[1-8]

METHODS

After receiving institutional review board approval, a retrospective review was performed of the Duke University Hair Disorders Research and Treatment Center, Durham, NC for all patients meeting criteria for FFA. Diagnostic criteria for FFA included: (1) symmetric or irregular ("moth-eaten") bandlike frontal hairline recession plus at least one of the following: eyebrow alopecia, interfollicular erythema, perifollicular erythema, or perifollicular papules in the area of scalp hair loss; and (2) a scalp biopsy specimen from an area of involvement (usually from the frontal or central scalp) showing a lymphocytic cicatricial alopecia consistent with LPP. All biopsy specimens (including those performed at outside hospitals) were read at the Duke University Medical Center by our dermatopathologist (M. A. S.).

Patients meeting criteria for FFA were further assessed clinically and photographically for concomitant central scalp hair loss disorders including female pattern hair loss (FPHL) and fibrosing alopecia in a pattern distribution (FAPD). In cases where the clinical diagnosis was uncertain, a central scalp biopsy was performed. Diagnostic criteria for FAPD included diffuse central scalp hair loss and a central scalp biopsy specimen consistent with LPP.

Patients routinely had the following laboratory tests performed as part of their initial workup: complete blood cell count, thyroid-stimulating hormone, free T4, serum iron, total iron-binding capacity, and ferritin.

Given that antiandrogen therapy has reportedly been effective in FFA[2-5] and in FAPD,[9] and given the paucity of data supporting the effectiveness of anti-inflammatory therapy in FFA, we elected to try a 5αRi in many of the patients. The 5αRis had not previously been tried in these referral patients, many of whom had already failed anti-inflammatory treatments at the time of presentation. If premenopausal, women were treated with finasteride 1 to 2.5 mg daily in combination with oral contraceptive therapy, and if postmenopausal, they were treated with either finasteride or dutasteride, the latter in doses of 0.5 mg daily for 2 weeks and then 0.5 mg weekly thereafter. Although the dosing frequency of dutasteride used for FFA was lower than the daily dosing approved for prostate hyperplasia, it has an extremely long biologic half-life of 5 weeks.[10] Moreover, a prior study has shown efficacy of finasteride, a drug with a much shorter half-life (6-8 hours) than dutasteride,[11] when used on a weekly basis in the treatment of FPHL.[12] Because blockage of 5αRi in men with male pattern baldness has led to a decrease in DHT and an increase in testosterone and estrogen, we checked estradiol, DHT, and testosterone levels after 5 alfa reductase in postmenopausal women not on hormone replacement therapy and DHT and testosterone in premenopausal women not on oral contraceptive pills.

CAPSULE SUMMARY

- Frontal fibrosing alopecia is a type of scarring hair loss usually observed in postmenopausal women and characterized by fronto-tempero-parietal hairline recession, perifollicular erythema, and eyebrow loss. No uniformly effective treatment regimen has been established.
- We present the demographics, clinical findings, and treatment responses of 19 patients to further understanding of this condition and potentially new therapeutic options.
- At our institution, dutasteride was most successful in disease stabilization, although long-term follow-up is necessary to establish prolonged efficacy.

Response to therapy was graded on a 3-point scale from −1 to +1 that corresponded to worsening, stabilization, and improvement, and was based on clinical notes and global photographic assessment. Improvement was defined as any regrowth of hair; stabilization was defined as arrest of hairline recession; and worsening was defined as progression of hairline recession. Changes in erythema or scalp symptoms were considered separately from changes in hair loss.

RESULTS

Table I summarizes demographic and clinical characteristics for the 19 female patients (18 white, 1 African American) with FFA seen at the Duke University Hair Disorders Research and Treatment Center from September 2004 through October 2011, who met clinicopathologic diagnostic criteria for FFA; no male patients with FFA were seen. Of 6 patients with central scalp hair loss, FAPD was present in 21% (4 of 19) and FPL in 11% (2 of 19). The average age of hair loss onset was 55.9 (40-78)