Alopecia and Pruritic Rash on the Forehead and Scalp

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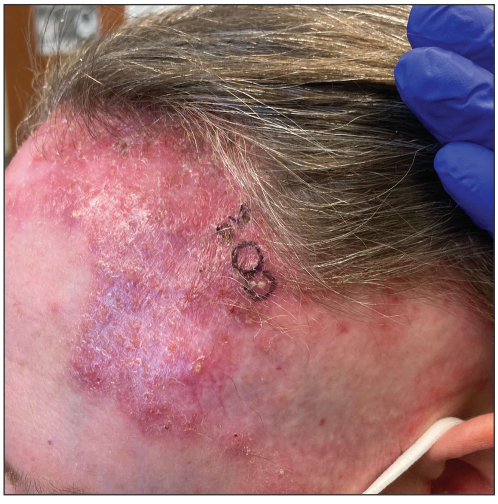

A 52-year-old woman presented to the dermatology department with an intermittently pruritic rash in a bandlike distribution on the left upper forehead and the frontal and temporal scalp of 4 years' duration. The rash initially was diagnosed as psoriasis at an outside facility. Treatment over the year prior to presentation included tildrakizumab-asmn; topical crisaborole 2%; and excimer laser, which was complicated by blistering. The patient reported no history of topical or injected steroid use in the involved areas. Physical examination at the current presentation revealed arcuate erythematous plaques with follicular prominence, perifollicular scaling, pustules, and lone hairs. There also were porcelain-white atrophic plaques with loss of follicular ostia that were most prominent over the temporal scalp. A biopsy of the left lateral forehead was performed.

WHAT'S YOUR **DIAGNOSIS?**

a. discoid lupus erythematosus
b. dissecting cellulitis
c. erosive pustular dermatosis
d. folliculitis decalvans
e. frontal fibrosing alopecia

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THE **DIAGNOSIS:** Folliculitis Decalvans

Biopsy results revealed a brisk perifollicular and intrafollicular mixed inflammatory infiltrate comprising lymphocytes, neutrophils, and plasma cells filling the upper dermis and encircling dilated hair follicles. Elastic stain (Verhoeff-van Gieson) demonstrated loss of elastic fibers in areas of scarring. Periodic acid–Schiff with diastase staining was negative for fungal elements, while Gram staining revealed colonies of bacterial cocci in the stratum corneum and within the hair follicles. Immunofluorescence was unremarkable, and culture revealed methicillin-sensitive *Staphylococcus aureus*, leading to a diagnosis of folliculitis decalvans (FD). The patient was treated with doxycycline 100 mg twice daily and received intralesional triamcinolone 2.5 mg/mL (total volume, 2 mL) every 6 weeks with considerable improvement in pustules, erythema, and scaling (Figure). While not yet in complete remission, our patient demonstrated short regrowing hairs in areas of incomplete scarring and focal remaining perifollicular erythema and scale along the midline frontal scalp 5 months after initial presentation.

Folliculitis decalvans is an uncommon subtype of cicatricial alopecia that may mimic other forms of alopecia. Cicatricial alopecia often is difficult to diagnose due to its overlapping clinical characteristics, but early diagnosis is essential for appropriate management and prevention of further permanent hair loss. Traditionally classified as a primary neutrophilic cicatricial alopecia, lymphocyte-predominant variants of FD now are recognized.[1]

Patients with FD typically present with patchy scarring alopecia at the vertex scalp that gradually expands and may demonstrate secondary features of follicular tufting and pustules.[1-3] While the epidemiology of FD is poorly characterized, Vañó-Galván et al[4] reported that FD accounted for 2.8% of all alopecia cases and 10.5% of cicatricial alopecia cases in a multicenter study of 2835 patients. The pathophysiology of FD still is under investigation but is thought to result from a dysregulated immune response to a chronic bacterial infection (eg, *S aureus*), with resulting neutrophil-predominant inflammation in early stages.[1-3] Vañó-Galván et al[4] reported that, among 35 patients with FD cultured for bacteria, 74% (26/35) returned positive results, 96% (25/26) of which grew *S aureus*.[5]

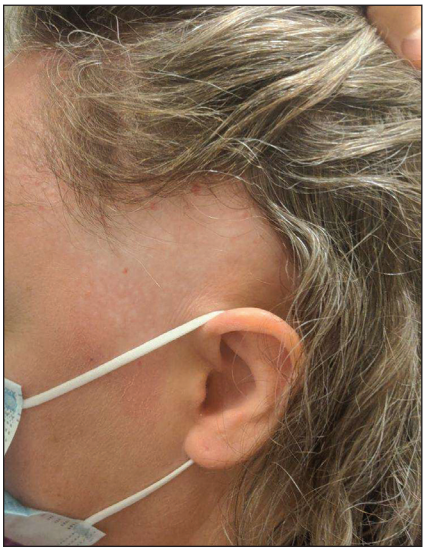

FIGURE. Clinical improvement of folliculitis decalvans following treatment with oral doxycycline and intralesional triamcinolone.

A systematic review of 20 studies that included 263 patients found rifampin and clindamycin to be the most common treatments for FD; however, there is insufficient evidence to determine if this treatment is the most effective.[6] In our patient, clindamycin was avoided due to its propensity to negatively alter the gut microbiome long term.[7] Other therapies such as oral tetracyclines, high-potency topical steroids, and intralesional triamcinolone also can be used to achieve disease remission.[5,6] Other treatments such as isotretinoin, red-light photodynamic therapy, tacrolimus, and external beam radiation have been reported in the literature but vary in efficacy.[6] Our patient improved on a regimen of topical benzoyl peroxide wash, oral doxycycline, and intralesional triamcinolone.

Notably, FD may share clinical features with other causes of cicatricial alopecia. In our patient, FD mimicked other entities including discoid lupus erythematosus, frontal fibrosing alopecia, dissecting cellulitis, and erosive pustular dermatosis (Table).[1-14] Discoid lupus erythematosus manifests as round hypopigmented and hyperpigmented plaques with associated atrophy, perifollicular erythema, and follicular plugging. Frontal fibrosing alopecia is a primary lymphocytic scarring alopecia that manifests in a bandlike linear distribution over the frontal scalp and may involve the temporal scalp, posterior hairline, and/or eyebrows. Isolated hairs (known as lonely hairs) often are seen. Dissecting cellulitis is characterized by boggy nodules associated with alopecia on the scalp without notable epidermal change, although pustules and sinus tracts may develop.[9] Erosive pustular dermatosis is a diagnosis of exclusion but often is seen in older adults with chronic sun damage and clinically manifests with eroded plaques with adherent crusts.[10]

While our patient presented with several overlapping clinical features, including progressive hair loss along the frontal scalp in a bandlike pattern suspicious for frontal fibrosing alopecia as well as atrophic depigmented plaques with adherent peripheral scaling suspicious for discoid

TABLE. Clinical and Histologic Features of Folliculitis Decalvans Compared With Common Differential Diagnoses[1-14]

Features	Folliculitis decalvans	Frontal fibrosing alopecia	Discoid lupus erythematosus	Erosive pustular dermatosis	Dissecting cellulitis
Classic distribution	Vertex, crown, occipital scalp	Bandlike linear distribution over frontal and/or temporal hairline, +/− eyebrow loss	May involve conchal bowls, lips, and/or cheeks; noncontiguous lesions may be seen	Scalp, especially regions with prior actinic changes	Diffuse patchy scalp distribution
Dermoscopy findings	Pustules, tufted hairs (doll hairs), perifollicular erythema with white-yellow scales, crusting, loss of follicular ostia	Perifollicular collarette of scale, follicular prominence, loss of follicular ostia	Arborizing vessels, perifollicular white scaling, follicular yellow keratotic plugs, absent follicular opening, follicular ostia loss	Skin atrophy with telangiectasia, diffuseperifollicular crusting, follicular ostia loss	Pustules, suppurative nodules, black dots, perifollicular scales, exclamation point hairs, broken hairs, follicular ostia loss
Histology	Top-heavy neutrophilic infiltrate (early); mixed lymphocytic infiltrate (late); dermal fibrosis	Lichenoid lymphocytic infiltration at perifollicular dermal-epidermal junction, sebaceous gland hyperplasia, follicular lichenoid changes	Lymphocytic perivascular dermal infiltrate, interface dermatitis, basement membrane thickening	Mixed inflammatory dermal infiltrate, sterile pustules, epidermal changes	Deep neutrophilic perifollicular dermal infiltrate, dermal abscesses, dermal fibrosis and granulomas
Bacterial culture	Positive for *Staphylococcus aureus*	Unremarkable	Unremarkable	Unremarkable	Often unremarkable

lupus erythematosus, the presence of pustules was an important clue. The biopsy demonstrating a mixed infiltrate inclusive of neutrophils confirmed the diagnosis of FD.

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