INTRODUCTION

Folliculitis decalvans (FD) is a primary neutrophilic cicatricial alopecia of unknown etiology, representing 9% of all primary cicatricial alopecia, which leads to the permanent destruction of hair follicular stem cell and subsequent replacement with fibrous tissue. Bacterial infection, including *Staphylococcus aureus*, in combination with hypersensitivity reaction to “superantigens” and defect in host cell-mediated immunity, have all been suggested as possible pathogenetic factors.

Two case reports (three patients) of successful therapy of FD with adalimumab are presented.

CASE REPORT

A 54-year-old female patient presented to King Fahad Armed Forces Hospital in Jeddah with painful, foul-smelling, multiple-scarring pruritic alopecic patches, follicular pustules, and tufting of hairs involving the occipital region of the scalp for more than 9 years [Figure 1a]. A scalp punch biopsy showing intrafollicular neutrophil-rich abscess with perifollicular fibrosis along with lymphoplasmacytic infiltrate [Figure 2]. Her dermatology life quality index (DLQI) was 16. On the basis of clinical signs, symptoms, and histopathological findings, the diagnosis of FD was made. Topical and systemic antibiotics (including clindamycin and rifampicin 300 mg BID for 10 weeks), topical and intralesional corticosteroid, systemic acitretin, and isotretinoin (doses up to 1 mg/kg/day) were tried for months to years without satisfactory results. Laboratory tests (complete blood count, liver function test, renal profile, lipid profile, Vitamin D level, antinuclear antibody, C-reactive protein, hepatitis serology, purified protein derivative, and chest X-ray) were found to be normal. Culture examination of the scalp pus was positive for methicillin-susceptible *S. aureus*, for which she received appropriate C/S-guided antibiotics.

Due to the positive outcome in the therapy of other neutrophilic dermatoses, such as pyoderma gangrenosum with infliximab (chimeric human-mouse monoclonal IgG1 antibodies, target tumor necrosis factor-alpha), we offered the patient subcutaneous injections of Adalimumab (Humira®) with no serious adverse events throughout the treatment.
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[TNF-α], case reports of successful therapy of FD with adalimumab in three patients[3,4] and multiple reports of adalimumab-induced neutropenia,[6,7] we considered a treatment attempt with the TNF-α blocker adalimumab reasonable. Adalimumab (Humira®) started as off-label therapy using the hidradenitis suppurativa dosing regimen of 160 mg subcutaneously on day 1, 80 mg starting on day 15, and 40 mg weekly starting from day 29.

After 3 months, there was a marked remission in inflammation, signs, and symptoms, as well as no new areas of scarring alopecia appreciated [Figure 1b], and her DLQI was 7. She stopped the treatment for 2 weeks (due to temporary unavailability of adalimumab in the hospital), resulting in the recurrence of pustules and inflammation. However, once she had restarted the weekly subcutaneous injection of 40 mg of adalimumab for 1 month, inflammation was repressed, and no new lesions appeared. No serious adverse reactions were noted throughout the therapy.

DISCUSSION

FD is a different form of folliculitis that spreads progressively, leads to scarring alopecia, and is characterized by the crops of pustules that surround multiple slowly expanding round or oval areas of alopecia on the scalp. Unfortunately, even after the pustules disappear, the progression of scarring alopecia can continue.[1]

Different treatment options exist, including topical antibiotics (e.g., mupirocin and fusidic acid); they may be used alone or in combination with topical or intralesional corticosteroids.[8] The classic combination of rifampicin 300 mg twice daily and clindamycin 300 mg twice daily for 10 weeks can be effective.[2] Acitretin and isotretinoin can be used to treat FD.[8]

Unfortunately, the aforementioned treatment options were tried in our patient without any significant improvement. When we tried adalimumab, we observed good improvement in her condition (suppression of inflammation and no new lesions), which we did not observe with other therapies. Unfortunately, she relapsed once the medication was stopped (due to temporary unavailability of adalimumab in the hospital) and improved again immediately once the treatment with adalimumab was restarted, which is a good indication that it is an effective therapy and the improvement is not due to spontaneous remission that may occur in some cases.

Adalimumab is human recombinant IgG1 monoclonal antibodies with specificity for human TNF.[9] Because of its role as a mediator of inflammatory processes and its overproduction in many chronic inflammatory diseases,[10] TNF-a has been implicated as a therapeutic target for the management of a variety of dermatological and systemic autoimmune diseases. Moreover, it has been used for different off-label indications, including neutrophilic dermatosis (e.g., pyoderma gangrenosum[11] and dissecting cellulitis)[12] with a positive outcome.

One drawback of the treatment with biologics is the relapse of disease activity and inflammation once adalimumab is stopped, which is a common downside in many dermatological diseases (e.g., psoriasis and dissecting cellulitis).[12] Although adalimumab did not heal the previous scarred areas (but may prevent further destruction and inflammation of the hair follicles with subsequent scarring), a prolonged treatment course with adalimumab remains the only treatment option for resistant cases.[12]
Three cases of FD treated with adalimumab has been reported in the literature,\textsuperscript{[3,4]} including two females (ages 58 and 50) and one male (age 23) both failed multiple treatment options, but responded very well to subcutaneous injections of adalimumab and they remained in remission after 2–3 months of treatment.

To confirm our observation, we assume that there is a need for a larger number of studies with longer durations of therapy.

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Conflicts of interest

There are no conflicts of interest.

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