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Treatment Strategy for Refractory Dissecting Cellulitis of the Scalp Using Bimekizumab, Isotretinoin, and Oral Antibiotics

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ABSTRACT

Dissecting cellulitis of the scalp (DCS) is a chronic inflammatory disorder of the scalp that manifests as inflamed nodules and abscesses, with subsequent patchy, scarring hair loss. While its exact pathogenesis remains unclear, follicular occlusion, inflammation, and sinus tract formation are thought to be key contributors. We present two patients, a 26-year-old male and a 33-year-old male, with refractory DCS and concomitant hidradenitis suppurativa and acne conglobata who were successfully treated with a combination therapy regimen of bimekizumab, isotretinoin, and oral antibiotics.

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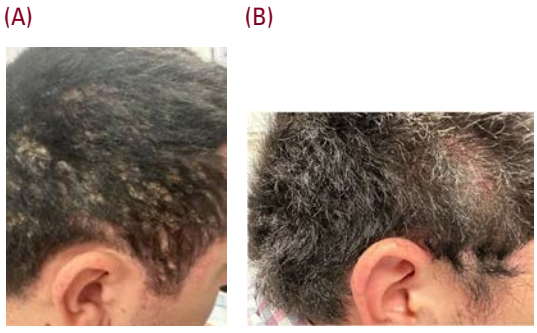
INTRODUCTION

Dissecting cellulitis of the scalp (DCS) is a chronic inflammatory disorder of the scalp that manifests as inflamed nodules and abscesses, with subsequent patchy, scarring hair loss.[1] While its exact pathogenesis remains unclear, follicular occlusion, inflammation, and sinus tract formation are thought to be key contributors.[1] DCS is commonly associated with hidradenitis suppurativa (HS), acne conglobata (AC), and pilonidal cysts, collectively known as the follicular occlusion tetrad.[1] The condition can be significantly debilitating due to pain, visual disfigurement, and psychological distress.[1] We present two patients with refractory DCS and concomitant HS and AC who were successfully treated with a combination therapy regimen of bimekizumab, isotretinoin, and oral antibiotics.

CASE REPORTS

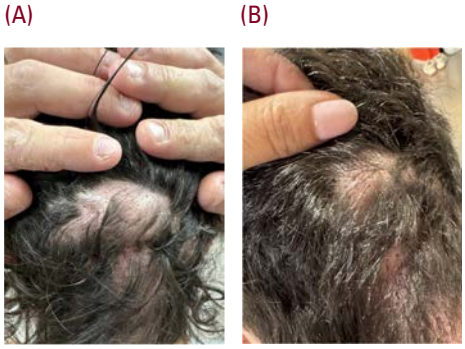
A 26-year-old male with a medical history significant for HS and AC presented to our dermatology clinic with a greater than 10-year history of draining sores on his scalp and associated hair loss (Figure 1). At the time of presentation, the patient had already been diagnosed with biopsy-proven DCS from an outside dermatologist. Previously trialed and failed treatments included adalimumab, isotretinoin, oral tetracycline, doxycycline, minocycline, and incision and drainage of the nodules. On physical examination, he had multiple scarring alopecic patches with surrounding erythematous pustules and nodules on the scalp, face, and chest. Although his medical history was also significant for nodules and abscesses within the inguinal folds and chest, they were not observed on exam. The patient was subsequently started on bimekizumab 320 mg, cephalexin 500 mg twice daily, and isotretinoin 40 mg twice daily. At the initial visit, the patient received a loading dose of bimekizumab 320 mg and then switched to bimekizumab 160 mg every two weeks. After 6 weeks following the initial loading dose, the patient achieved complete resolution of scalp lesions (Figure 1). The patient is continuing the bimekizumab 160 mg maintenance dosing, cephalexin 500 mg twice daily, and isotretinoin 40 mg twice daily to maintain clearance of his condition.

FIGURE 1. The 26-year-old patient with erythematous, crusted pustules throughout the scalp before (A) and after treatment (B) with bimekizumab 320 mg every two weeks, isotretinoin 40 mg twice daily, and cephalexin 500 mg twice daily.



A 33-year-old patient from Australia presented with a 4-year history of HS, AC, and DCS, primarily concerned about the increasing number of nodules developing on his scalp and scattered areas of hair loss. He had previously tried and failed

FIGURE 2. The 33-year-old patient with several occipital subcutaneous nodules throughout the scalp before (A) and after treatment (B) with bimekizumab 320 mg every two weeks, isotretinoin 160 mg daily, and cephalexin 500 mg twice daily.



a 6-month course of a "low dose" isotretinoin, a one-year course of adalimumab injections, and 6 months of systemic methotrexate. On physical examination, several mobile, subcutaneous nodules were present on the occipital scalp (Figure 2). Multiple erythematous inflammatory nodules were present on the right cheek and several closed sinus tracts were observed near the groin (Figure 2). The patient was started on 160 mg isotretinoin daily (2 mg/kg), bimekizumab 320 mg every four weeks, and cephalexin 500 mg twice daily. The patient also underwent incision and drainage of his occipital scalp nodule. After returning to Australia, his primary dermatologist continued the isotretinoin dosage and increased the bimekizumab dosage to 320 mg every two weeks. After four months of treatment, the patient reported significant improvement in his AC and reduced frequency of nodule development throughout his scalp (Figure 2).

CONCLUSION

The treatment of DCS is multifactorial and no gold standard treatment exists for this condition.[1] Treatments include tumour necrosis factor-alpha blocking agents, antibiotics, corticosteroids, laser treatment, and surgical excision.[1] Notably, there are a few case reports describing the successful treatment of DCS utilizing interleukin (IL)-23 and IL-17 blockers such as risankizumab and secukinumab, respectively.[2,3] Given that both of our patients previously failed treatment with adalimumab, we opted to utilize biologics targeting different interleukin classes.

IL-17 has been implicated in the pathogenesis of HS and other scarring alopecias like lichen planopilaris.[2,4] While no studies have specifically evaluated the mechanism of IL-17 involvement in the pathogenesis of DCS, there is literature describing the resolution of this condition utilizing secukinumab, another IL-17 blocker.[2] For the treatment of HS, IL-17 blockers like secukinumab and bimekizumab have been extensively studied through various clinical trials.[5] Bimekizumab selectively inhibits IL-17A and IL-17F and is approved for HS.[5] Unlike other IL-17 inhibitors, bimekizumab notably inhibits the IL-17F isomer as well.[5] A preliminary study using a Bayesian anchored indirect comparison of clinical trial data for secukinumab and bimekizumab in HS found that bimekizumab achieved a greater HiSCR 50 response at week 16 compared to secukinumab.[5] A greater response with bimekizumab may be attributed to its IL-17F blocking activity for both HS and DCS.

Given that DCS may concomitantly occur with HS and AC, appropriate treatment selection must account for these comorbid conditions. As demonstrated in our patients who had previously failed various treatment modalities, they achieved significant clearance of their AC, HS, and DCS after treatment with bimekizumab and isotretinoin. Ultimately, in patients with severe DCS refractory to traditional treatments, biologic therapies like bimekizumab should be used.

DISCLOSURES

Authors Lau and Gerstein have no conflicts of interest to disclose. Author Lebwohl is an employee of Mount Sinai and receives research funds from: Abbvie, Arcutis, Avotres, Boehringer Ingelheim, Cara therapeutics, Clexio, Dermavant Sciences, Eli Lilly, Incyte, Inozyme, Janssen, Pfizer, Sanofi-Regeneron, and UCB, and is a consultant for Aikium, Almirall, AltruBio Inc., Amgen, Apogee, Arcutis, Inc., AstraZeneca, Atomwise, Avotres Therapeutics, Boehringer-Ingelheim, Bristol-Myers Squibb, Castle Biosciences, Celltrion, Corevitas, Dermavant Sciences, Dermsquared, Evommune, Inc., Facilitation of International Dermatology Education,Forte biosciences, Galderma, Genentech, Incyte, LEO Pharma, Goodrx-Mayne, Meiji Seika Pharma, Mindera, Mirium Pharmaceuticals, Oruka, Pfizer,Sanofi-Regeneron, Revolo, Seanergy, Strata, Sunpharma,Takeda,Trevi, and Verrica.

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