Rapid response of refractory subacute cutaneous lupus after single dose anifrolumab

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Key words: anifrolumab; subacute cutaneous lupus; type I interferon receptor antagonist.

INTRODUCTION

Cutaneous lupus erythematosus (CLE) is a heterogenous disease comprising several subtypes that can occur with or without features of systemic lupus erythematosus (SLE). Even skin-limited disease can have a significant impact on patient's quality of life and patients are often refractory to standard topical therapy, antimalarials, and immunosuppressants. Despite the varied clinical presentations of CLE, production of type I interferon is well-described in its pathogenesis which makes it an ideal treatment target.[1] Anifrolumab, a monoclonal antibody to type I interferon receptor subunit 1, showed a reduction in systemic and cutaneous lupus activity in its hallmark phase III trial: type I interferon inhibitor anifrolumab in active systemic lupus erythematosus.[2] Anifrolumab was subsequently approved for adults with moderate-to-severe SLE by the US Food and Drug Administration which added a promising therapeutic option to the treatment arsenal for patients with refractory disease. Several case series have shown dramatic improvement in refractory cutaneous disease for patients with discoid lupus erythematosus, however, its utility in subacute cutaneous lupus (SCLE) is sparsely reported.[3-5] We herein present a case of a patient with refractory SCLE that responded rapidly after single dose of anifrolumab.

Abbreviations used:

CLE: cutaneous lupus erythematosus
SCLE: subacute cutaneous lupus
SLE: systemic lupus erythematosus

CASE REPORT

A 52-year-old Caucasian female with longstanding history of discoid lupus erythematosus and SLE presented to our clinic with recalcitrant rash. Examination was notable for widespread annular scaly plaques on the face, trunk, and extremities morphologically consistent with SCLE (Fig 1). She also reported fatigue, arthralgias, and nasal ulcers. Patient denied xerostomia and xeropthalmia. Prior failed treatments included high-potency topical steroids, hydroxychloroquine, methotrexate, systemic steroids, and belimumab. The patient was taking omeprazole; however, this medication was initiated several years after skin eruption and rash did not resolve after many months of cessation. No other possible medication triggers were identified. Throughout the course of her disease, she was steroid-dependent on oral prednisone and methylprednisolone and was taking methylprednisolone 8 mg on presentation. Laboratory workup was notable for an antinuclear antibody 1:320, anti-double stranded DNA <10, anti-Smith Ab <3, anti-Ro 619 (reference range 0-20), anti-La 226 (reference range 0-20), and undetectable antiphospholipid antibodies. Based on comprehensive medication review and lack of sicca symptoms, a diagnosis of idiopathic SCLE in the setting of SLE was favored. Her omeprazole was discontinued indefinitely, although

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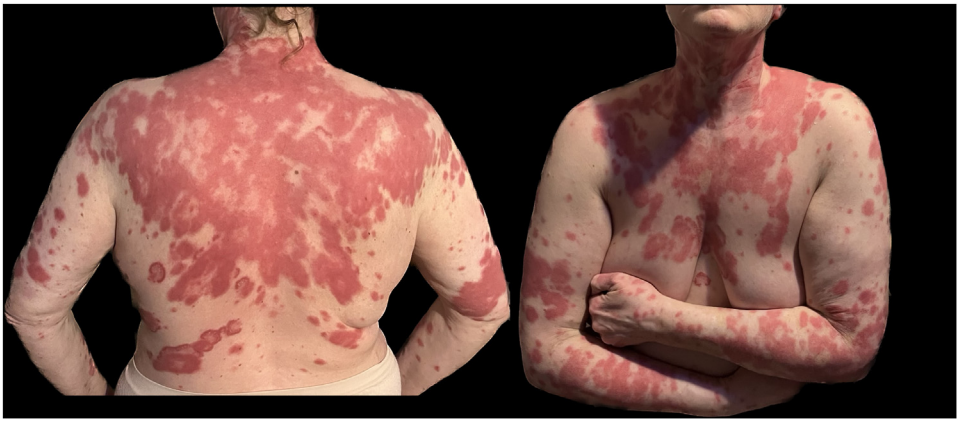

Fig 1. Upper portion of the trunk and extremities at presentation.

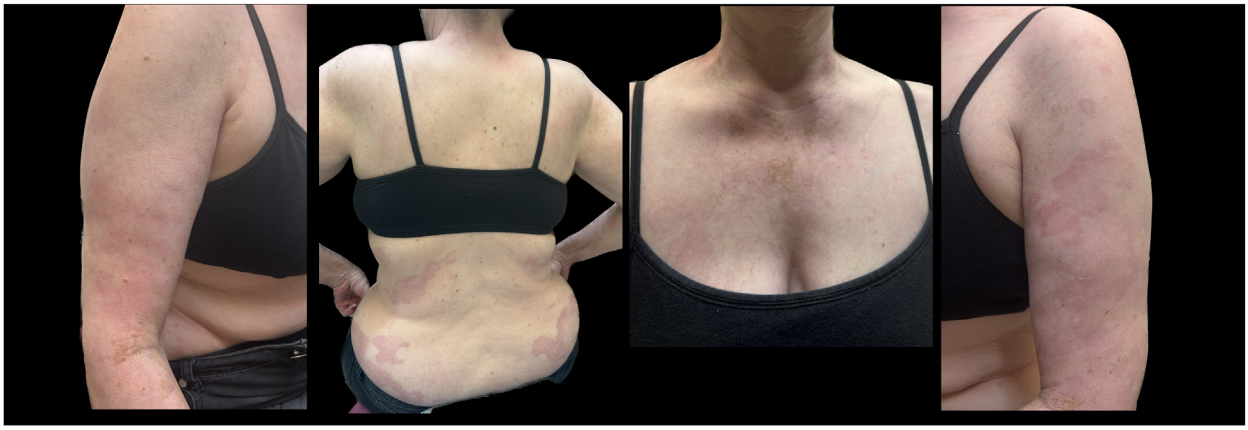

Fig 2. Upper portion of the trunk and extremities after 1 dose of anifrolumab.

there was low suspicion of drug-induced SCLE. She was treated with chloroquine 250 mg daily and mycophenolate mofetil 1500 mg twice daily and then transitioned to mycophenolic acid due to gastrointestinal intolerance. Despite treatment for several months, she continued to flare and was admitted to her community hospital for intravenous steroids and pain control. Given her severe treatment-refractory cutaneous disease, she was started on anifrolumab 300 mg intravenous every 4 weeks. She was seen in clinic 3 weeks after just 1 infusion of anifrolumab and was found to have near complete clearance of her prior lesions (Fig 2). She also reported improvement in her nasal ulcers and fatigue. She tolerated the infusion well with no side effects. She was tapered off prednisone and continued on chloroquine daily and anifrolumab every 4 weeks.

DISCUSSION

CLE encompasses several subtypes with or without SLE that can be debilitating and significantly impact quality of life. Despite this potentially disfiguring disease, the standard treatments for advanced disease are primarily immunosuppressants which are not always effective and may have serious side effects. There have been no skin-directed therapies approved by the US Food and Drug Administration in the last 50 years, and up until 2021, belimumab was the only biologic approved for SLE.[6] Belimumab, a monoclonal antibody that inhibits B cell survival factor B-lymphocyte stimulator, has only shown modest improvement in CLE and may take several months of treatment to show a clinical response.[7] Here, we showcase the clinical utility of anifrolumab in SCLE, and offer it as promising therapeutic option for patients who have failed belimumab, which is also supported by several case series.[3-5] Additionally, its rapid efficacy can prevent the irreversible damage associated with longstanding CLE including dyspigmentation and scarring which negatively impacts emotions and functioning of patients. It is important to note that a long-term sustained response and risk of flare or rebound with cessation of anifrolumab is not fully known. This case adds to the growing data to

support anifrolumab for use specifically in SCLE and highlight it as a compelling therapeutic option for patients with severe or refractory disease.

Conflicts of interest

Dr Merola is a consultant and/or investigator for Amgen, Astra-Zeneca, Boehringer Ingelheim, Bristol-Myers Squibb, AbbVie, Dermavant, Eli Lilly, Incyte, Moonlake, Novartis, Janssen, UCB, Sanofi-Regeneron, Sun Pharma, Biogen, Pfizer, and Leo Pharma. Dr Gaffney has no conflicts of interest to declare.

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