Leukocytoclastic Vasculitis in Cutaneous Crohn Disease in the Setting of COVID-19

Key Words: leukocytoclastic vasculitis, COVID-19, Crohn disease, intravenous immunoglobulin

To the Editors,

Leukocytoclastic vasculitis (LCV) is a rare cutaneous manifestation associated with Crohn disease (CD) that often resolves with treatment of the underlying CD.[1] In addition, LCV can be a rare adverse reaction to anti-tumor necrosis factor (TNF) alpha therapy. Recently, LCV after SARS-CoV-2 infection has been reported.[2-4] We report a challenging case of a patient with LCV in the setting of CD, anti-TNF biologic therapy, and COVID-19 infection.

A female patient aged 32 years with refractory cutaneous CD involving the groin (Fig. 1A), gluteal, axillary, and inframammary regions was maintained on prednisone 40 mg daily, certolizumab, and 6-mercaptopurine. She developed high-grade fever, headaches, fatigue, and myalgias followed by ageusia and anosmia. Nasopharyngeal swab real-time polymerase chain reaction confirmed SARS-CoV-2 infection. Two weeks after her symptom onset, she developed multiple erythematous to violaceous macules and papules over her bilateral lower extremities involving the dorsum of her feet (Fig. 1B). Laboratory tests including complete blood count, biochemical parameters, and complement levels were unremarkable. Lupus anticoagulant level, cardiolipin antibody, and beta-2-microglobulin levels were normal. Antinuclear antibody was detected at high titers of 1:2560. A punch skin biopsy showed findings consistent with LCV, with perivascular karyorrhectic material, stromal edema and purpura, and mild capillary ectasia without thrombotic vasculopathy. Myeloperoxidase stain highlighted cellular uptake with T-cell lymphocytic populations, predominantly CD4, a few scattered solitary mast cells, and stromal mononuclear cells. The diagnosis of LCV post-COVID-19 was made.

Given the difficulty of excluding drug-induced LCV, certolizumab was stopped. The patient was started on aspirin and pentoxifylline. Therapeutics against COVID-19 were not considered given the isolated skin manifestation. Her LCV did not improve until she received the first cycle of intravenous immunoglobulin (IVIG), which led to a complete resolution of the lesions (Fig. 1C) and marked improvement in the cutaneous CD lesions.

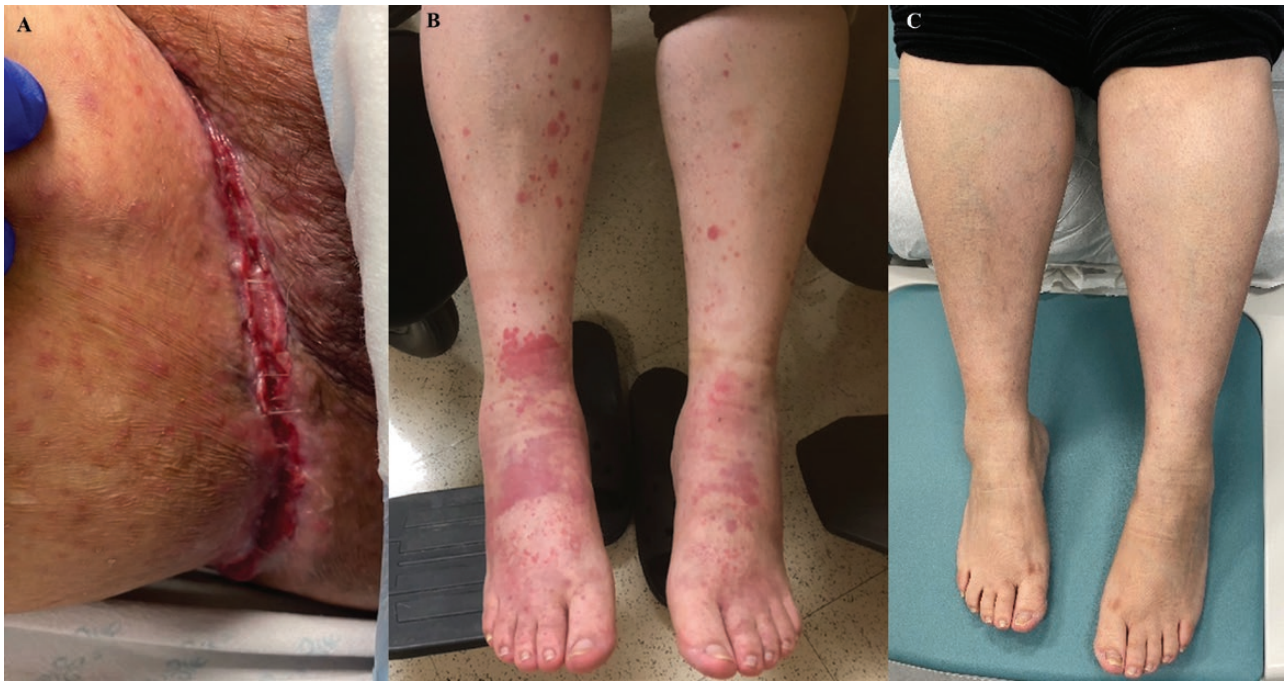

FIGURE 1. A, Cutaneous Crohn at the right groin; B, LCV lesions affecting the lower extremities; C, Healing of the lesions after intravenous immunoglobulin treatment.

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The therapeutic challenge in patients with CD on anti-TNF therapy in the COVID-19 era is preceded by a diagnostic challenge because multiple confounders accounting for LCV can coexist. This patient's dermatologic disease evolved from an initial working diagnosis of hidradenitis suppurativa alone to the addition of cutaneous CD with features of pyoderma gangrenosum, raising concern for pyoderma gangrenosum, acne, hidradenitis suppurativa syndrome, which has been described with recurrent vasculitis.[5] In response to anti-TNF therapy, the patient had previously developed psoriatic lesions, making certolizumab a possible culprit. The timing of LCV after COVID-19 hinted toward COVID-19 as the possible immune trigger. We conclude that IVIG is a viable treatment option in the setting of a limited therapeutic arsenal.

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