Novel use of abrocitinib in refractory ulcerative panniculitis with vasculitis: a case report

Sirs,

Panniculitis is a relatively rare inflammation originating in the subcutaneous fat layer, typically manifesting as subcutaneous nodules, skin ulceration, fever, and other symptoms. It may be associated with damage to other systems, such as the digestive and hematological systems, with liver injury being the most common complication (1). The specific aetiology of this disease remains unclear, though it is thought to be related to multiple factors, including immunodeficiency and infection. Histopathologically, panniculitis is classified into septal, lobular, mixed, and vasculitis-combined types (2). In 2021, Shavit *et al*. further proposed a classification into ulcerative and non-ulcerative subtypes based on clinical presentation (3). Currently, reports of panniculitis are rare, and targeted therapeutic strategies remain unclear. Here, we report a woman with ulcerative panniculitis who was successfully treated using Abrocitinib.

A 38-year-old female presented to our hospital with a history of recurrent left buttock skin ulcers for over 1 year, reporting significant pain and soreness in the left buttock. A local hospital considered a diagnosis of panniculitis and prescribed oral prednisone 25 mg once daily combined with hydroxychloroquine 200 mg once daily. After more than six months of treatment, the patient's symptoms showed no significant improvement. Physical examination revealed a sinus tract on the left buttock with persistent outflow of pale yellow fluid. Buttock ultrasound showed heterogeneous echo areas in the subcutaneous fat layers of the left buttock and right lumbar region, suspicious for panniculitis. Histopathological examination of the buttock biopsy demonstrated epidermal necrosis with crusting, inflammatory infiltration of blood vessel walls in the dermis and subcutaneous fat layer, vascular lumen occlusion, surrounding inflammatory cell infiltration, and fat degeneration, consistent with vasculitis. Laboratory tests revealed elevated inflammatory markers such as erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP), while immunological indices including antinuclear antibodies remained within the normal range. Combining the patient's medical history and examination results, a diagnosis of refractory ulcerative panniculitis with vasculitis was confirmed.

Given the characteristics of her condition, our hospital initiated treatment with abrocitinib 200 mg once daily orally, supplemented with clarithromycin 0.25 g twice daily for anti-infection. After one month of treatment, the patient's buttock pain resolved, and sinus tract drainage decreased (Fig. 1). Additionally, the patient's inflammatory markers returned to normal after treatment with abrocitinib. Currently, her condition is stable with no symptom recurrence.

This represents the first reported case of successful treatment of ulcerative panniculitis with abrocitinib. Reviewing the medical history, the patient experienced recurrent left buttock skin ulcers for over a year, with no significant improvement after conventional therapies, until abrocitinib was initiated. Therefore, abrocitinib may offer advantages over traditional medications such as glucocorticoids, with significant efficacy and relatively fewer side effects, enabling long-term clinical remission.

Although no mechanistic studies directly link the JAK-STAT pathway to ulcerative panniculitis have been reported, existing research has demonstrated that the release of inflammatory factors such as IFN-γ and lymphocyte infiltration play critical roles in ulcerative panniculitis pathogenesis (4). As a highly selective JAK1 inhibitor, abrocitinib reduces IFN-γ activity and impedes IFN-JAK-STAT signal transduction, thereby slowing disease progression in ulcerative panniculitis (5). Additionally, the drug inhibits the proliferation and activation of inflammatory cells such as CD4+ T cells, reducing lymphocyte infiltration. In addition to ulcerative panniculitis, this patient had associated vasculitis, and JAK1 inhibitors are known to mitigate vascular inflammation (1). Therefore, abrocitinib likely exerts therapeutic effects on both ulcerative panniculitis and vasculitis. From this case, we learn that abrocitinib may be a viable treatment option for patients with ulcerative panniculitis. Further studies are needed to validate its efficacy, optimal dosing, and safety.

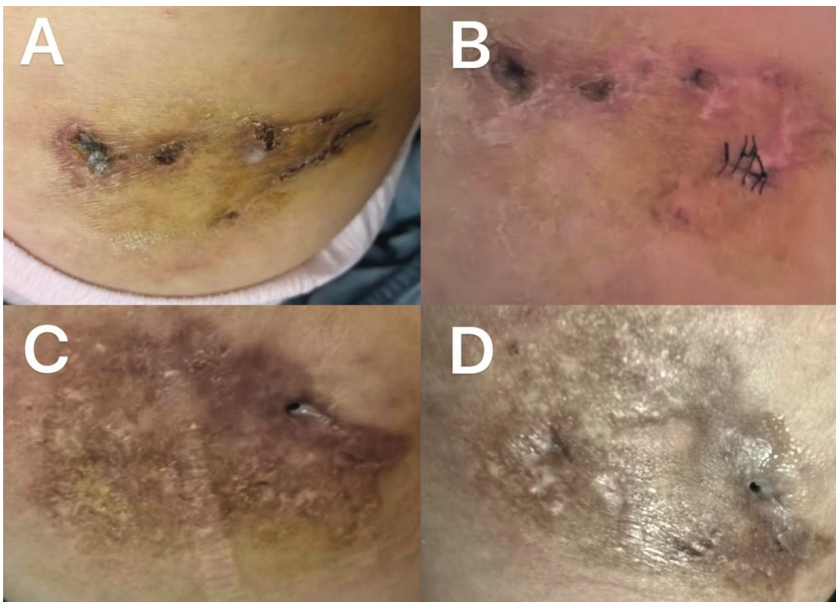

Fig. 1. A: At disease onset, the patient developed multiple skin ulcers with crusting on the left buttock.
B: Following treatment at a local hospital, ulcers diminished, though the patient reported persistent severe buttock pain (the site marked with a knot indicates where the skin biopsy was obtained).
C: Upon presentation to our hospital, the left buttock showed a sinus tract with persistent fluid discharge and extensive skin hyperpigmentation.
D: After one month of abrocitinib treatment, buttock pain resolved, the sinus tract healed with reduced discharge, and skin hyperpigmentation significantly improved.

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