



Case Report of Successful Treatment of Jessner's Lymphocytic Infiltration of the Skin with Tofacitinib Citrate

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Background

Jessner lymphocytic infiltration of the skin is a rare dermatological condition that typically affects individuals between the ages of 30 and 50, with no gender predilection. The disease presents as single or multiple asymptomatic erythematous papules or plaques in sun-exposed areas, characterized by histopathological findings of lymphocyte infiltration around blood vessels in both the superficial and deep layers of the dermis¹. The etiology and pathogenesis of this condition remain unclear, and treatment options are generally unsatisfactory. Despite one report attempt to treat refractory Jessner lymphocytic infiltration of the skin using photodynamic therapy², the literature on the treatment is limited and often yields minimal efficacy. To our knowledge, there are currently no reports in the literature regarding the use of JAK inhibitors therapy for this particular condition.

Case Report

A 25-year-old Chinese male patient presented with a 4-month history of persistent erythematous plaques with pruritus on the face. Skin examination revealed infiltrated erythematous plaques on his left periorbital region and cheek (Fig. 1A). Skin histopathology showed significant lymphocyte infiltration around blood vessels and appendages in the entire dermis and adipose tissue (Fig. 2A/B), consistent with the clinical diagnosis of Jessner lymphocytic infiltration of the skin. The patient denied any family history of the same disease. Cone-beam computed tomography showed neither abnormalities in the upper and lower mandibles and dentition teeth, nor swollen in the left maxillofacial soft tissue. Full blood cell count, renal, liver and thyroid function, treponema pallidum antibody, HIV, C-reactive protein, screening for anti-nuclear antibody and extractable nuclear antigen were all negative or normal. Color Doppler ultrasound revealed no abnormal lymph nodes in both axilla and clavicles, as well as no obvious abnormalities in the thyroid gland. Due to its side effects, the patient refused treatment with medications such as glucocorticoids and hydroxychloroquine. After ruling out the possible increased risk of infection and thrombosis, the patient was treated solely with oral administration of 5mg tofacitinib citrate twice a day based on a normal full blood cell count. A marked response was observed after 1 month of treatment; after two months of treatment his facial skin lesions had completely cleared (Figure 1B) without any adverse reactions. There was no relapse following discontinuation of

tofacitinib citrate for 6 months and the patient is currently undergoing follow-up.



Figure 1A: Erythematous plaques in the left periorbital and malar/mandibular regions.

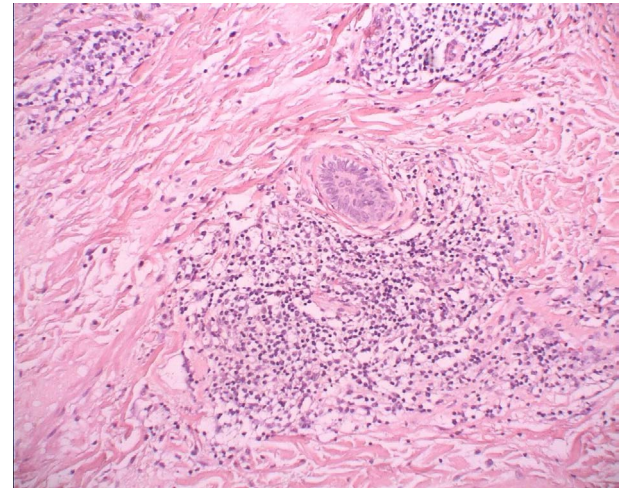


Figure 2B: Medium magnification (HE) Significant infiltration of lymphocytes around dermal hair follicles and blood vessels.



Figure 1B: Complete remission after a two-month monotherapy with tofacitinib citrate.

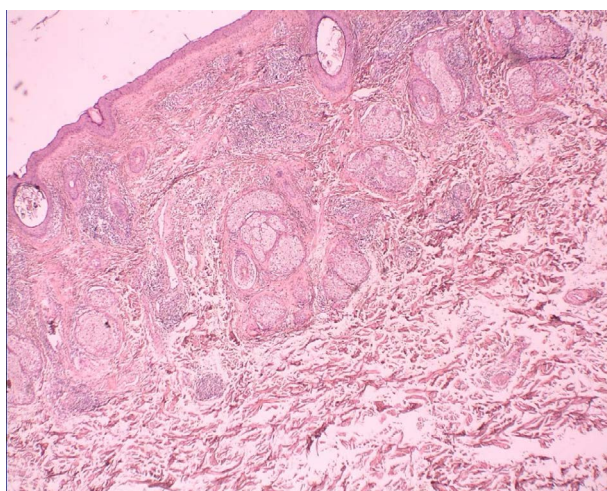


Figure 2A: Low magnification (HE) Significant infiltration of lymphocytes around the blood vessels and appendages throughout the dermis and adipose tissue.

Discussion

Jessner lymphocytic infiltration of the skin is a rare disease with an unknown etiology. Genetic factors may play a role, and it has been associated with certain drugs³. In rare cases, it has also been linked to infections such as HIV⁴. However, in this particular case, the patient had no family or medication history prior to onset, and no HIV infection. Treatment for Jessner lymphocytic infiltration of the skin is usually unsatisfactory; however, there have been reports of effectiveness with topical or systemic corticosteroids, topical calcineurin inhibitors, minocycline and minocycline and gold salts (Auranofin®) in isolated cases⁵⁻⁹. The use of tofacitinib citrate in monotherapy in this case achieved a satisfactory result. Tofacitinib is a non-selective first-generation JAK inhibitor that strongly blocks JAK1/3 but weakly inhibits JAK2. It is representative of pan-JAK inhibitors which are emerging targeted therapeutic agents that act by inhibiting Janus kinase activity and regulating the JAK/STAT pathway while blocking the transduction pathway of key pro-inflammatory cytokines and affecting T cell differentiation. As Jessner's lymphocytic infiltration of the skin is dermatosis with low prevalence, further clinical validation is mandatory to determine the specific reason for successful treatment with tofacitinib in this case/condition. Clinicians should remain vigilant and conduct long-term follow-up on these patients.

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and with the understanding that this information may be publicly available. Patient consent forms were not provided to the journal but are retained by the authors.

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