Dermatology Practical & Conceptual

Cutaneous Drug Reaction Due to Bortezomib Characterized by Erythematous Ramified Plaques in a Patient with Multiple Myeloma

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Introduction

Herein, we present a patient with multiple myeloma who developed erythematous and ramified skin lesions after the first administration of bortezomib subcutaneously.

Case Presentation

A 34-year-old male patient was admitted to our Dermatology Outpatient Clinic with a 4-week history of an asymptomatic erythematous rash on the abdomen. The patient was diagnosed with IgG kappa multiple myeloma three months earlier by a bone marrow biopsy and initiated subcutaneous bortezomib 1.5 mg/m^2/week, oral lenalidomide 25 mg/day, and intravenous dexamethasone 20 mg/week treatment regimen. The patient stated that the lesion appeared at the bortezomib injection site after the first administration of the drug and flared up after the second administration. He denied any allergies, trauma, or infection. Dermatological examination revealed erythematous plaques which showed less erythema in the central parts and ramified extensions of erythema forming a spider-like lesion on the right side of the abdomen (Figure 1A). The histopathological evaluation of the specimen, taken by a punch biopsy from the erythematous plaque, showed mild intercellular edema in the epidermis and perivascular mononuclear inflammation accompanied by eosinophils in the superficial dermis (Figure 2). Thus, the diagnosis of drug reaction was made based on clinical and histopathological findings. The laboratory tests (complete blood count, biochemistry panel, C-reactive protein, erythrocyte sedimentation rate, and urine analysis) were all within normal limits. Bortezomib treatment was discontinued, and the lesion regressed after using mometasone furoate 0.1% cream twice daily for two weeks (Figure 1B).

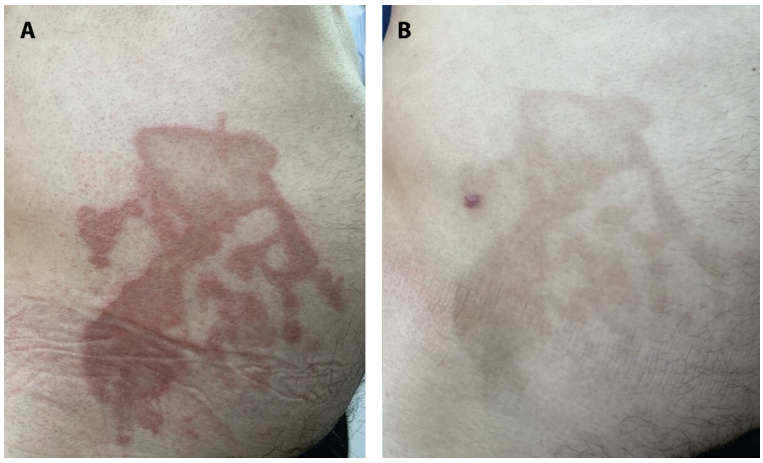

Figure 1 (A) Erythematous plaques with less erythema in the central parts accompanied by ramified spider-like extensions on the right abdomen. (B) The lesion healed four weeks after treatment, leaving post-inflammatory hyperpigmentation.

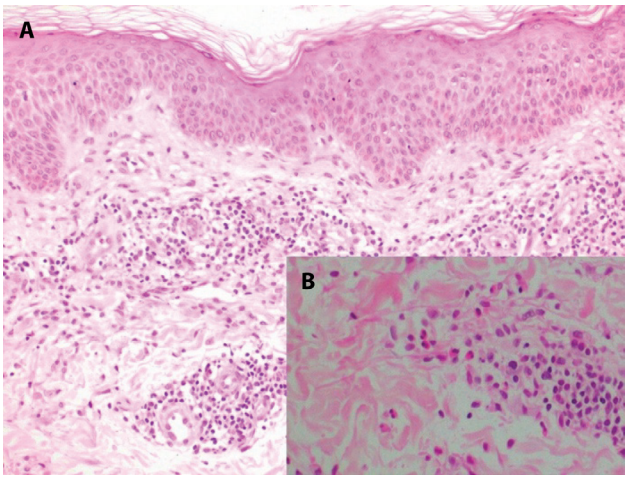

Figure 2 (A) Mild intercellular edema in the epidermis and perivascular mononuclear inflammation accompanied by eosinophils in the superficial dermis (H&E, ×20). (B) Close view of the eosinophils (H&E, ×400).

Discussion

Bortezomib is a reversible proteasome inhibitor used in the treatment of multiple myeloma and lymphoma. Skin reactions have been reported in up to 24% of patients treated with bortezomib, usually after the third or fourth injection, and these reactions have been associated with increased pro-inflammatory cytokine production [1]. Dermatological side effects of bortezomib include injection site reactions, Sweet syndrome, maculopapular eruption, Stevens-Johnson syndrome, urticaria, cutaneous vasculitis, and neutrophilic dermatosis [1-3]. However, bortezomib-induced skin reactions usually appear as cutaneous nodules, plaques, or morbilliform erythema. Recently, Han et al. reported a male patient with multiple myeloma who developed bortezomib-related reticular itchy skin rash following the third cycle of the treatment [3]. Moreover, a similar case with a spider-like erythematous lesion following bortezomib treatment was previously described [4]. Furthermore, Plume et al. reported spider-like injection site reactions in three patients receiving bortezomib and two patients receiving azacitidine for the treatment of multiple myeloma and myelodysplastic syndrome [5].

Conclusion

We consider that the ramified spider-like skin eruption developed due to bortezomib since the lesion appeared at the injection site following the subcutaneous administration of the drug. Advances in cancer treatment and novel chemotherapy regimens increase the risk of diverse cutaneous side effects, leading dermatologists to take an important role in the management of patients with malignancies. Establishing the cutaneous side effects of chemotherapy drugs may help to take preventive measures and to initiate appropriate dermatological treatment as early as possible to prevent cessation or delay of the cancer treatment and improve cancer management. Our case will hopefully make a significant contribution to the literature by describing this rare cutaneous side effect of bortezomib and determining its clinical features.

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