

# Bortezomib-induced injection-site reaction in refractory multiple myeloma

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Sir,  
Multiple myeloma (MM) is a malignant proliferation of monoclonal plasma cells often confined to the bone and bone marrow [1]. The outcome for patients with multiple myeloma (MM) has significantly improved with the introduction of novel agents such as the proteasome inhibitor bortezomib [2]. Bortezomib has been approved for the treatment of relapsing multiple myeloma. Since its approval, numerous bortezomib-related cutaneous adverse events have been reported in the literature, including herpes zoster, epidermal necrolysis, vasculitis, and other skin eruptions [3]. Subcutaneous (SC) rather than intravenous (IV) administration of bortezomib is still commonly preferred because SC bortezomib results in a lower incidence and severity of peripheral neuropathy and has equivalent efficacy. Unfortunately, detailed information on injection site reactions (ISRs) has not been sufficiently documented. It is recommended that SC injections of bortezomib should be rotated among eight different sites in the abdomen and thigh [2]. Oral prophylactic therapy before each bortezomib treatment with oral corticosteroids is also suggested and might be helpful in preventing such reactions or in limiting their extent in susceptible patients. Disseminated cutaneous manifestations due to the IV use of bortezomib, have been described in the past. To our knowledge, only one case has been reported in the literature describing an immune-associated necrotizing eruption on the site of an SC injection of bortezomib treated with intravenous methylprednisolone [3]. Herein, we report a case of localized ulceration following SC injection of bortezomib in a patient with refractory MM.

A 58-year-old patient with a history of refractory multiple myeloma was initially treated with a CDT

protocol with progression, hence the decision to switch to SC bortezomib. The patient received three injections with no incidents. The fourth injection was followed by the appearance of a painful, well-defined, 5 cm ulceration with deep infiltration on the injection site on the left side of the abdomen (Fig. 1). The patient initially received oral antibiotic therapy without improvement and extension of the ulceration (Fig. 2). She underwent a biologic workup and an ultrasound of the soft tissues to exclude an abscess. An ultrasound revealed a hyperechogenic subcutaneous infiltrate with no visible collection. The final diagnosis was bortezomib-induced injection-site reaction and the patient was treated with highly potent topical corticosteroids. She showed a significant improvement, complete healing of the ulceration, and the persistence of a painless, pigmented infiltration on the palpation of the injection site (Fig. 3). Oral



**Figure 1:** Painful, well-defined, 5 cm ulceration with deep infiltration on the injection site on the left side of the abdomen.

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**Figure 2:** Extension of the ulceration despite oral antibiotic therapy.



**Figure 3:** Complete healing of the ulceration and the persistence of a painless, pigmented infiltration after topical corticosteroids.

prophylactic corticosteroid therapy is to be considered for future injection in our patient.

### Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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