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Case Report

Skin reaction due to intravenous bortezomib in a multiple myeloma patient

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ABSTRACT

Multiple myeloma (MM) is a hematological disease characterized by the increase of abnormal immunoglobulin. Clinical features of MM are anemia, recurrent bacterial infections, osteolytic bone lesions, and renal failure. Bortezomib is a frequently used agent in the treatment of disease. A male patient was admitted to our hematology department with dermal lesions. Physical findings revealed a gross hyperemic dermal area. The purpose of this case is to present the bortezomib associated rash and its treatment in a 71-year-old male patient treated with bortezomib. Although bortezomib is a frequently used agent in the treatment of MM, side effects may occur rarely. Therefore, during patient follow-up, drug side effects should be carefully evaluated.

Keywords: Bortezomib, side effect, skin reaction.

Multiple myeloma (MM) is one of the most common plasma cell dyscrasia proceeding with clonal plasma cell increase.[1,2] There are various treatment protocols available for the management of MM. Bortezomib, a proteasome inhibitor, is one of the important chemotherapy agents commonly used in its treatment.[3] Fatigue, tiredness, hypersensitivity reactions, cytopenia, nausea, diarrhea, dizziness, tingling and burning on the skin, injection site reactions are among the side effects that may occur due to bortezomib. We reported our case on whom infusion site bortezomib associated rash developed due to the use of intravenous (IV) bortezomib as a rare side effect.

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CASE REPORT

A 71-year-old male patient with anemia and bone pain, soft tissue masses was diagnosed with MM. The case was administered bortezomib, cyclophosphamide, dexamethasone (VCD) treatment regime. There was no allergic or dermal complaint in the patient's history and family clinical history. During the infusion, no extravasation was observed in the site administered with bortezomib intravenously. As it is known in the literature that skin reactions may occur due to subcutaneous (SC) bortezomib, the patient was monitored. Physical examination revealed that the area of the injection, the dermis, was edematous and red with pain. The lesion involved on the left arm, other mucosal and dermal area was intact. It was observed that hyperemia developed in the administration site 5 minutes after the bortezomib infusion (Figure 1a), and the reaction proceeded around the injection site in a short time (Figure 1b). A written informed consent was obtained from the patient.

A temperature increase was observed during the monitoring. The level of

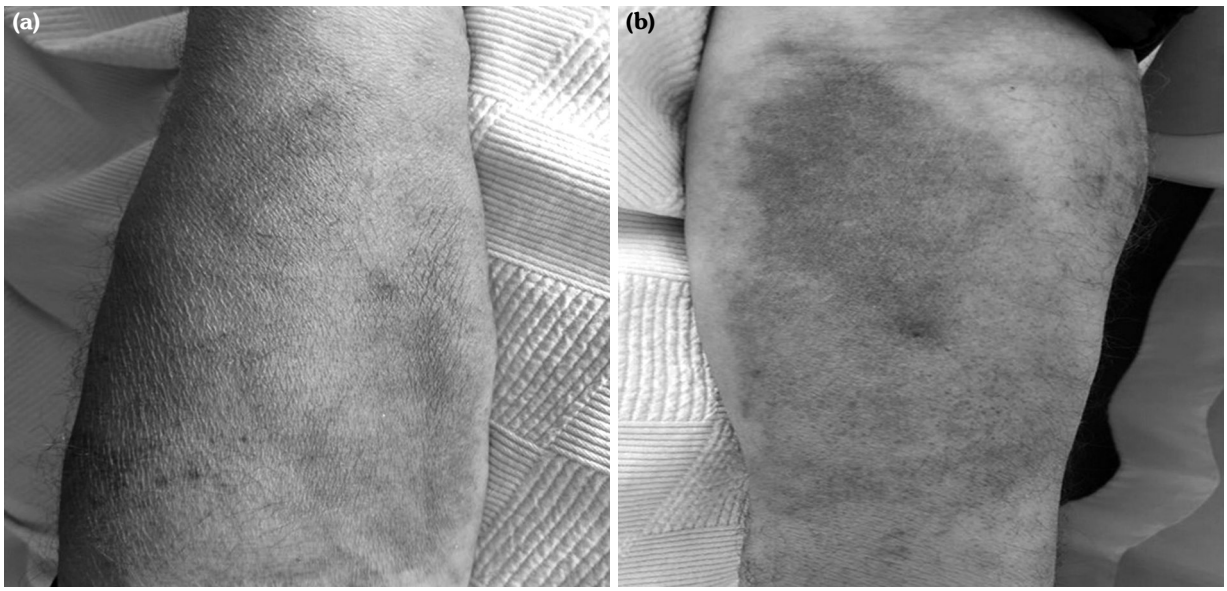

Figure 1. Cellulite like lesion on the lower extremity. **(a)** A view of the administration site 5 minutes after the bortezomib infusion and **(b)** the reaction proceeded around the injection site in a short time.

Table 1. Summary of the laboratory findings of the patient

	1st day of treatment	3rd day of treatment	10th day of treatment
White blood cell	18,000/mL	14,000/mL	7,500/mL
Hemoglobin	10.8 g/L	9.8 g/L	10.2 g/L
Platelets	422×10^9/L	405×10^9/L	$35{,}410^9$/L
C-reactive protein	25 mg/L	18 mg/L	5 mg/L
Creatinine	1.6 mg/dL	1.5 mg/dL	1.5 mg/dL
Aspartate aminotransferase	42 IU/L	37 IU/L	35 IU/L
Alanine aminotransferase	47 IU/L	41 IU/L	32 IU/L

C-reactive protein (CRP) increased to 25 mg/L during this period. Laboratory findings of the patient as shown in Table 1. Fever proceeded subfebrile. The patient was treated with parenteral piperacillin-tazobactam and dressing. Homans's sign of the lower extremity examination was negative. No thrombosis was observed in the venous Doppler ultrasonography performed for phlebothrombosis. There was no other cause of the cellulite-like lesion. The bortezomib associated rash in the injection site regressed three days after the treatment (Figure 2).

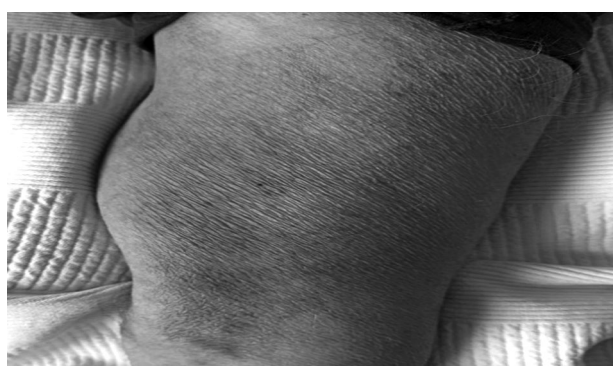

Figure 2. The cellulite-like reaction in the injection site regressed three days after the treatment.

The lesion began 10 days ago and persisted until 2-3 days ago when it was cured. After completing 10 days of antibiotherapy, the patient was discharged with full recovery. Therapy with per oral antibiotherapy was continued for a total of 14 days, with a positive outcome and recovery of the lesion.

DISCUSSION

Multiple myeloma is a hematological neoplasm that can affect the elderly more.[4] Increased clonal plasma cells are observed in bone marrow biopsies taken from patients who have a fever, weight loss, fatigue, hypercalcemia, kidney failure, anemia, and bone involvement.[5-7] Bortezomib is one of the most important treatment agents for patients for whom treatment is planned.[8,9] The bortezomib, cyclophosphamide, and dexamethasone treatment regime were chosen for this case. In this case, a cellulite-like skin reaction occurred at the bortezomib infusion site. Subcutaneous administrations are the most common cause of known injection site reactions. It occurs due to inflammatory reactions at the site of administration of bortezomib. Therefore, observing a bortezomib associated rash with intravenous injection is interesting. It could, however, be responsible for the extravasation that occurred during the drug infusion. This condition improved as a result of the antibiotherapy and proper dressing. As expected, corticosteroid administration before administration of bortezomib may prevent such reactions. However, using dexamethasone did not prevent the skin reaction in this case. In our case, the duration of the bortezomib associated rash was short, and the response to antibiotics was rapid. The general approach to chemotherapy-induced dermal lesions was shown in Figure 1a, b. In this patient, dermal lesions were suspected following chemotherapy. The point of this case report for hematologists is to consider the importance of physical and clinical examinations.

So, it was considered as a side-effect of injection. Although there are not many cases of bortezomib associated rashs secondary to intravenous bortezomib in the literature, ours is one of the first.

Learning points and the importance of the presented case

1. Dermal lesions can occur at any site, with or without chemotherapy; a mass or a group of masses with a distinct margin and an obvious enhancement on the physical examination might be an implication of chemotherapy.
2. A suggestive pre- and post-chemotherapy diagnosis of dermal lesions can help doctors in developing more appropriate chemotherapy plans.

Declaration of conflicting interests

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