Carfilzomib and Dexamethasone as a Treatment Option in Patients With Relapsed Multiple Myeloma

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INTRODUCTION

The development and application of several new drugs, including carfilzomib, a second-generation proteasome inhibitor (PI) that binds irreversibly and specifically to its target—the chymotrypsin-like activity of the 20S proteasome—has significantly improved the treatment of multiple myeloma (MM) in the past two decades. The US Food and Drug Administration (FDA) approved its use in 2012 for relapsed and/or refractory MM as a single agent with or without dexamethasone and in combination with lenalidomide.

AIM

To present a case of MM treated with a first-generation IP; however, after two relapses in a very short period, treatment was switched to second-generation IP carfilzomib combined with dexamethasone.

DESIGN

A case report.

CASE STUDY

In 2019, a 65-year-old woman was diagnosed with immunoglobulin G (IgG) kappa MM, with around 50% plasma cells in the bone marrow puncture. She began treatment with the CyBorD protocol (Cyclophosphamide + Bortezomib + Dexamethasone) for four cycles. The bone marrow puncture revealed no neoplastic infiltration, and the patient was offered an autologous stem cell transplant, which she declined and received two more cycles of CyBorD. The patient was in remission and on lenalidomide 10 mg maintenance medication. Repeated punctures yielded 10%, 9%, and 7-8% plasma cells. After 33 months of lenalidomide maintenance medication, a bone marrow puncture revealed 50% plasma cells, indicating a relapse and VRd (bortezomib + lenalidomide + dexamethasone) treatment was initiated. After 8 cycles, the patient was in remission and started lenalidomide maintenance medication. Three months later, the bone marrow puncture results in 20% plasma cells, and the disease relapses for the second time, prompting therapy with carfilzomib, a second-generation PI, plus dexamethasone. The patient is still receiving treatment and shows no signs of the disease.

CONCLUSIONS

In the present case, the treatment of MM with carfilzomib and dexamethasone is still in its early stages, and there is insufficient evidence of a persistent response to the therapeutic impact to make a firm conclusion.

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