

Learning Objectives

“Discovery, Development, and Clinical Applications of Bortezomib”

After reading this article, the participant should be able to

- (1) Describe how proteasome inhibition affects tumor cell growth and survival.
- (2) List two advantages of bortezomib over other synthetic and natural proteasome inhibitors.
- (3) Discuss the results of clinical trials evaluating bortezomib alone or in combination with standard chemotherapy agents in the treatment of hematologic malignancies and solid tumors.
- (4) Discuss the efficacy results of the SUMMIT and CREST trials evaluating bortezomib with or without dexamethasone in patients with relapsed or refractory multiple myeloma.
- (5) List three patient or disease characteristics that predict positive outcomes (eg, longer time to disease progression or survival time) in patients with relapsed or refractory multiple myeloma receiving bortezomib therapy.
- (6) Based on preliminary clinical trial results, describe the potential advantages and disadvantages of long-term (> 8 weeks) bortezomib therapy.

“Pharmacology, Pharmacokinetics, and Practical Applications of Bortezomib”

After reading this article, the participant should be able to

- (1) Describe the process by which the ubiquitin-proteasome pathway controls degradation of regulatory proteins.
- (2) Describe the antitumor mechanisms of action of bortezomib.
- (3) Discuss the pharmacokinetics and pharmacodynamics of bortezomib.
- (4) List the most common adverse effects reported in phase II trials evaluating bortezomib as treatment of relapsed/refractory multiple myeloma.
- (5) Recommend bortezomib dosage adjustments for patients who experience peripheral neuropathy, grade 3 or 4 nonhematologic toxicities, or grade 4 hematologic toxicities.

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