

MULTIPLE MYELOMA CHEMOTHERAPY REGIMENS

The selection, dosing, and administration of anti-cancer agents and the management of associated toxicities are complex. Drug dose modifications and schedule and initiation of supportive care interventions are often necessary because of expected toxicities and because of individual patient variability, prior treatment, and comorbidities. Thus, the optimal delivery of anti-cancer agents requires a healthcare delivery team experienced in the use of such agents and the management of associated toxicities in patients with cancer. The chemotherapy regimens below may include both FDA-approved and unapproved uses/regimens and are provided as references only to the latest treatment strategies. Clinicians must choose and verify treatment options based on the individual patient.

GENERAL TREATMENT NOTES

- Exposure to myelotoxic agents—including alkylating agents and nitrosureas—should be limited to avoid compromising stem-cell reserve prior to stem-cell harvest in patients who may be candidates for transplant¹
- Primary induction therapy is highly recommended, based on a high degree of evidence from randomized controlled clinical trials¹

REGIMEN	DOSING
PRIMARY INDUCTION THERAPY FOR TRANSPLANT CANDIDATES	
Bortezomib (Velcade) + doxorubicin (Adriamycin) + dexamethasone ^{2,3}	<p><u>Cycle 1</u> Days 1, 4, 8, and 11: Bortezomib 1mg/m² or 1.3mg/m² IV, plus Days 1-4, 8-11, and 15-18: Dexamethasone 40mg orally, plus Days 1-4: Doxorubicin 4.5mg/m² or 9mg/m² IV</p> <p><u>Cycles 2-4</u> Days 1, 4, 8, and 11: Bortezomib 1mg/m² or 1.3mg/m² IV, plus Days 1-4: Dexamethasone 40mg orally, plus Days 1-4: Doxorubicin 4.5mg/m² or 9mg/m² IV Repeat cycle every 21 days for 4 cycles</p>
Bortezomib + thalidomide (Thalomid) + dexamethasone ⁴	<p>Days 1-14: Thalidomide 100mg/day orally, plus Days 1-12: Dexamethasone 40mg/day orally (for 8 of the 12 days, not consecutively but for a total of 320mg), plus Days 1, 4, 8, and 11: Bortezomib 1.3mg/m² IV, then Days 15-21: Thalidomide 200mg/day orally Repeat cycle every 21 days for 3 cycles</p>
Lenalidomide (Revlimid) + dexamethasone ⁵	<p>Days 1-21: Lenalidomide 25mg orally once daily, plus Days 1, 8, 15, and 22: Dexamethasone 40mg/day orally Repeat cycle every 28 days for 4 cycles or until disease progression</p>
Lenalidomide + high-dose dexamethasone ^{6,7}	<p><u>Cycles 1-4</u> Days 1-21: Lenalidomide 25mg/day orally, plus Days 1-4, 9-12, and 17-20: Dexamethasone 40mg/day orally</p> <p><u>Subsequent cycles</u> Days 1-21: Lenalidomide 25mg/day orally, plus Days 1-4: Dexamethasone 40mg/day orally Repeat cycle every 28 days until disease progression or toxicity occurs</p>
PRIMARY INDUCTION THERAPY FOR NON-TRANSPLANT CANDIDATES	
Lenalidomide + dexamethasone ⁵	<p>Days 1-21: Lenalidomide 25mg orally once daily, plus Days 1, 8, 15, and 22: Dexamethasone 40mg/day orally Repeat cycle every 28 days for 4 cycles or until disease progression</p>
VMP (bortezomib + melphalan [Alkeran] + prednisone) ⁸	<p>Days 1, 4, 15, and 22: Bortezomib 1mg/m² or 1.3mg/m², plus Days 1-5: Melphalan 6mg/m²/day orally + prednisone 60mg/m²/day orally Repeat cycle every 35 days for 6 cycles</p>
Bortezomib + melphalan + prednisone or Bortezomib + thalidomide + prednisone as induction therapy followed by maintenance treatment with bortezomib + thalidomide or bortezomib + prednisone ⁹	<p><u>Cycle 1</u> Days 1, 4, 8, 11, 22, 25, 29, and 32: Bortezomib 1.3mg/m² IV, plus Days 1-4: Melphalan 9mg/m² or thalidomide 100mg/day orally + prednisone 60mg/m² orally</p> <p><u>Cycles 2-6</u> Days 1, 8, 15, 22: Bortezomib 1.3mg/m² IV, plus Days 1-4: Melphalan 9mg/m² or thalidomide 100mg/day orally + prednisone 60mg/m² orally Repeat cycle every 35 days for 6 cycles</p>
Melphalan + prednisone + thalidomide ¹⁰	<p>Days 1-4: Melphalan 0.2mg/kg/day orally + prednisone 2mg/kg/day Repeat cycle every 42 days for 12 cycles, plus Days 1-504: Thalidomide 100mg/day orally</p>

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