Bisphosphonates in Myeloma
Mayo Consensus

Scottsdale, Arizona

Rochester, Minnesota

Jacksonville, Florida

MAYO CLINIC

mSMART

Mayo Stratification for Myeloma And Risk-adapted Therapy

Bisphosphonates in Myeloma

Lacy MQ et al. Mayo Clin Proc 2006;81:1047-53. v3: Jan 2011//last reviewed Sept 2012

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mSMART: Consensus Statement
Indications for bisphosphonates

- **Osteolytic Lesions: Intravenous bisphosphonates should be administered monthly for patients with MM and lytic disease evident on plain radiographs**
- **Osteopenic/osteoporotic but no lytic lesions: Obtain DXA scan at baseline and use DXA Z-score for comparison to controls. If osteopenia or osteoporosis is out of proportion to age, treat as myeloma related with intravenous bisphosphonates as in myeloma patients with lytic lesions. Otherwise treat with schedules used for general osteoporosis.**
- **Bisphosphonates are not recommended for patients with smoldering MM; bisphosphonate therapy should be used in such patients only in the setting of a clinical trial**

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Choice of bisphosphonate

- **Either Pamidronate or Zoledronic Acid**

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Dose of bisphosphonate

- **Pamidronate**
  - **90 mg standard dose**
  - **If ESRD on HD, work with nephrologist**
  - **No evidence for dose reduction by age/weight**
- **Zoledronic Acid**
  - **Dose reduce according to renal dosing guidelines supplied by manufacturer**

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Duration of bisphosphonate therapy

- Patients should receive infusions of bisphosphonates monthly for 1 year, and then every 3 months for 2nd year
- After 2 years:
  - If stable disease or better, discontinue and follow general osteoporosis guidelines
  - If less than stable, continue monthly dosing
  - With relapse, return to monthly dosing and restart as above

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Risks with bisphosphonate therapy: Osteonecrosis of the Jaw

- Encourage patients to:
  - Have comprehensive dental evaluation before receiving any bisphosphonate treatment
  - Undergo invasive dental procedures before starting bisphosphonate treatment
  - See a dentist at least annually and maximize preventive care; report oral/dental symptoms promptly
  - Manage new dental problems conservatively and avoid dental extractions unless absolutely necessary
  - See an oral and maxillofacial surgeon if surgery is required
  - Practice good dental hygiene

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Risks with bisphosphonate therapy: Osteonecrosis of the Jaw

- Encourage physicians to:
  - Withhold bisphosphonate treatment for at least 1 month before the procedure and do not resume until the patient has fully recovered and healing of the surgery is complete

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Risks with bisphosphonate therapy: Osteonecrosis of the Jaw

- Support use of antibiotics with dental extraction procedures.
- Discontinue bisphosphonates with onset of osteonecrosis of the jaw
- If recurrent skeletal disease occurs, may consider resuming with risk/benefit analysis

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Risks with bisphosphonate therapy: Subtrochanteric fractures

- There is a reported risk of subtrochanteric fractures in patients who are on long term bisphosphonates that physicians should be aware of

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Risks with bisphosphonate therapy: Renal Impairment

- **Monitoring**
  - **Spot urinalysis every 6 months for albuminuria**
  - **Also monitor serum creatinine if zoledronic acid is used**

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Role of DXA scan and bone markers

- **Role of DXA:**
  - **Only in subjects with no evidence of lytic disease**
  - **Repeat at 2 years**

- **Role of Bone Turnover Markers**
  - **No current role for risk stratification or for following treatment**