Management of Multiple Myeloma: The Changing Paradigm

Supportive Care for Patients With Multiple Myeloma

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Effects of Myeloma

Multiple Myeloma

Red marrow where plasma cells are made

Bone

Normal plasma cells

Antibodies

Multiple myeloma cells (abnormal plasma cells)

www.cancer.gov
Effects of Myeloma

- Low blood counts
- Decreased kidney function
- Bone damage

www.cancer.gov
Effects of Myeloma:

Bone Disease

- Occurs in 85% of patients
- Weakened bone due to lesions or “holes”
- Increased levels of calcium in the blood (hypercalcemia)
Effects of Myeloma: Bone Disease

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- Weakened bone due to lesions or “holes”
- Increased levels of calcium in the blood (hypercalcemia)
- Leads to
  - Fractures
  - Spinal cord compression/collapse
  - Lethargy (hypercalcemia)
Bisphosphonates for Myeloma Bone Disease

- Prevent bone disease from getting worse
- Slows bone destruction by inhibiting osteoclasts (cells that break down old or worn out bone)
- Does not build bone

OC, osteoclast (inhibited, halting bone break-down);
BP, bisphosphonate
Bisphosphonates for Myeloma Bone Disease

How they work
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Benefits
- Decreases pain and reduces fractures
- Anti-myeloma effect (Zometa): increases in survival time in one major study

Dosing
- Intravenous infusion in doctor’s office every 3–4 weeks; this timing varies

Medication types
- Zometa (zoledronic acid): 15-minute infusion
- Aredia (pamidronate): 2-hour infusion

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Side effects
- Reduced kidney function
- Fracture of the femur
- Osteonecrosis of the jaw (ONJ): Painful exposed bone in the jaw
- Flu-like symptoms

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Reducing the Risk of ONJ: Oral Health Recommendations

• Complete major dental work before beginning bisphosphonate therapy
• Practice good oral hygiene
• Schedule regular dental visits
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• Let your dentist know that you are receiving bisphosphonates
• Manage dental problems by the least invasive strategy
• Keep your doctor informed of dental issues/need for dental work
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• Be attentive! ONJ seems to be related to the length of time patients are on bisphosphonates
Orthopedic Procedures to Stabilize the Spine

- Minimally invasive procedures
- Can be performed without hospitalization
- Small incision
- Cement filler stabilizes bone
- Potential for relatively rapid symptom relief – can be immediate (approximately 1 month with kyphoplasty)
Radiation Therapy for Pain Relief

Pain management

Nerve pain → Neurology
**Additional Medications In Development That May Help Treat Bone Disease**

**Bone Support Drugs Being Studied**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Type</th>
<th>Clinical Trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xgeva* (denosumab)</td>
<td>Monoclonal antibody, RANKL inhibitor</td>
<td>• Phase 3 study in progress</td>
</tr>
<tr>
<td>Sotatercept (ACE 011)</td>
<td>Activin-A inhibitor</td>
<td>• Phase 2 study completed</td>
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SMM, smoldering multiple myeloma

*FDA approved to prevent fracture, spinal cord compression, or the need for radiation or surgery to bone in patients with bone metastases from solid tumors.
Effects of Myeloma: Low Blood Counts

- Low red blood cells = anemia; can lead to fatigue
- Low white blood cells = neutropenia; can lead to infection
- Low platelets = thrombocytopenia; can lead to bleeding
Anemia  
(Low Red Blood Cell Count)

**Symptoms**
- Fatigue
- Depression/mood changes
- Difficulty breathing
- Weight loss
- Rapid heartbeat
- Nausea
- Dizziness
- Difficulty sleeping

**Other causes**
- Low levels of iron, folate, and vitamin B12

**Treatment**
- Identify and treat causes other than myeloma
- Supplements
- Medications to increase number of red blood cells
- Blood transfusions
Neutropenia
(Low White Blood Cell Count)

Reduced in pt’s on treatment or post-transplant

Infection prevention

- Vaccination (pneumonia, flu)
- Antifungal medications
- Antiviral prophylaxis, in some cases (herpes zoster)
- Preventive antibiotics (controversial)
  - Treatment with intravenous IgG
  - Diet considerations

Treatment

- Medications to stimulate production of white blood cells
- Antibiotics
- Antifungal medications
Effects of Myeloma: Decreased Kidney Function

- Detection
  - Decreased amount of urine is one sign
  - Blood test: increase in creatinine and other proteins
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- Treatment
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  - Plasmapheresis
  - Treat other causes
  - Dialysis (severe)
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Provider and patient must work hard to protect kidney function!
Effects of Myeloma or Drug Induced: Peripheral Neuropathy

Potential causes:
• Monoclonal protein deposits on nerves
• Previous use of: Velcade, Thalidomide, Vincristine
• Less contribution: Ninlaro, Revlimid, Pomalidomide (less)
• Minimal to noncontributory: Carfilzomib, Antibodies
• Vitamin deficiency

Signs/Symptoms:
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• Numbness/tingling
• Burning
• Muscle cramping

www.livingwithperipheralneuropathy.com
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Treatment:
– Proper foot care/support
– Treat underlying cause
– Medications: oral and topical (Gabapentin, Lyrica)
– Physical Therapy (weakness)
– Potential Neurology consult for further evaluation and treatment
– Dose schedule modifications!!

www.livingwithperipheralneuropathy.com
Side Effects of Commonly Used Treatments

Revlimid:
- Fatigue
  - Continue daily regimen
  - Stay active- exercise, exercise, exercise!
  - Healthy, well-balanced diet. Stay hydrated.
  - Healthy sleep habits
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  - Anti-diarrheal medications: Imodium, **Colestipol**
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  - Stretching/massage
  - Assess for other causes (electrolytes, low calcium)
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  - Over the counter anti-itch creams – hydrocortisone or Benadryl
  - Potential referral to Dermatology
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Don’t forget to discuss side effects with your provider!
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Carfilzomib (Kyprolis):
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    - Dyspnea (trouble breathing or shortness of breath)
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- Treatment:
  - Manage blood pressure – low sodium diet, BP control
  - Heart evaluation- EKG and Echocardiogram
  - Lung evaluation- Pulmonary function testing
  - Dose changes
  - Refer when needed
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Steroids

Dexamethasone

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  • Medication as needed
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  • Severe cases → depression, euphoria
  • Discuss with healthcare provider
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- **Dyspepsia - heartburn**
  - Dietary modifications (spicy, acidic foods)
  - Avoid NSAID’s
  - Acid-blocking medications
  - Take steroid with food; use enteric coated Aspirin with food

[www.themenshealthtoolbox.com](http://www.themenshealthtoolbox.com)
Lifestyle Modifications

- Eat better
- Get more exercise
- Regular sleep
- Decrease alcohol consumption
- Give up tobacco
- Minimize or eliminate stress
- Take care of your emotional/mental well-being as well as your physical health!

OPTIMISTIC OUTLOOK!
Summary: Supportive Care for Patients With Multiple Myeloma

- Various approaches are used to reduce the impact of common multiple myeloma complications
  - Bone damage/loss
  - Low blood counts
    - Anemia
    - Infection due to low white blood counts
  - Reduced kidney function
  - Treatment-related side effects

*Partner with your health care team to determine the best management plan for you.*
THANK YOU!