Case Study Discussions on the Nurse’s Role in Caring for Patients With Hematologic Malignancies

Welcome and Overview

Lauren Berger, MPH
Senior Director, Professional Education and Engagement
The Leukemia & Lymphoma Society

www.LLS.org/CE
Faculty Disclosures

• Beth Finley, RN, BSNc, OCN
• Lynn Rich, ANP-BC, OCN

Have no affiliations with commercial interests to disclose

Multiple Myeloma: Case Study

Beth Finley-Oliver, RN, BSNc, OCN
Primary Nurse
Moffitt Cancer Center
Tampa, FL
Outline

- Understanding the Disease
  - Staging systems
  - Response criteria
- Case Study
- Treatment Strategy
  - Transplant vs non-transplant candidate
- Treatment Options
  - Newly diagnosed
- Nursing Considerations for Myeloma Patients
  - Bone health
  - Kidney health
  - Anemia
  - Preventing complications
- Multidisciplinary Team
  - Social worker
  - Physical and occupational therapist
  - Financial assistance

What Is Myeloma?

Cancer of plasma cells
- An uncontrolled growth of plasma cells

Myeloma begins in the bone marrow
- Spongy tissue found in the center of bones
“M-spike” – Monoclonal Paraproteins

Myeloma Cell
- Produce Antibodies

Antibody
- Heavy and light chain components

Heavy Chain
- IgG > IgA >> IgD & IgE >> IgM

Light Chain
- Kappa (κ) > lambda (λ)

Intact Ig Myeloma
~80% MM
Eg. IgG kappa

Light Chain Myeloma
~15%–20% MM
Eg. kappa

Non-Secretory/Oligosecretory
~0.5%–5% MM
Eg. kappa

Ig, immunoglobulin; MM, multiple myeloma.

Diagnosing Myeloma

Blood and urine tests

Bone marrow biopsy or aspiration

Imaging tests
Diagnosis: “CRAB” Criteria

**Presentation:**
- Hypercalcemia (C)
- Renal Failure (R)
- Anemia (A)
  - Fatigue
- Fractures (B)
  - Bone pain
- Infections (I)

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**Lytic Lesions**

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**Durie-Salmon Staging System**

Stage I

*All of the following:*
- Hemoglobin >10 g/dL
- Serum calcium normal (<12 mg/dL)
- Bone X-ray normal or solitary bone plasmacytoma only
- Low M-protein production (IgG <5 g/dL; IgA <3 g/dL)
- Bence-Jones protein <4 g/24 hours

Stage II

Fitting neither stage I nor III

Stage III

*One or more of the following:*
- Hemoglobin <8.5 g/dL
- Serum calcium >12 mg/dL
- Advanced lytic bone lesions
- High M-protein production rates (IgG >7 g/dL; IgA >5 g/dL; Bence-Jones protein >12 g/24 hours)

Durie-Salmon sub classifications (either A or B)

A: Relatively normal renal function (serum creatinine value <2.0 mg/dL)
B: Abnormal renal function (serum creatinine value ≥2.0 mg/dL)

**International Staging System (ISS)**

Stage I

Factors: Beta-2 microglobulin <3.5 mg/L
- Albumin ≥3.5 g/dL

Stage II

Factors: Beta-2 microglobulin <3.5 mg/L
- Albumin <3.5 g/dL or
- Beta-2 microglobulin ≥3.5–<5.5 mg/L

Stage III

Factors: Beta-2 microglobulin ≥5.5 mg/L

## MM Risk Stratification

<table>
<thead>
<tr>
<th>High Risk (25%)</th>
<th>Standard or Good Risk (75%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>t(4;14) by FISH</td>
<td>Hyperdiploidy</td>
</tr>
<tr>
<td>t(14;16) or t(14;20) by FISH</td>
<td>t(11;14) by FISH</td>
</tr>
<tr>
<td>Deletion 17q13 by FISH</td>
<td>t(6;14) by FISH</td>
</tr>
<tr>
<td>Deletion 13 by metaphase analysis</td>
<td>Beta-2 microglobulin &lt;5.5</td>
</tr>
<tr>
<td>Aneuploidy by metaphase analysis</td>
<td>Labeling index &lt;2.0</td>
</tr>
<tr>
<td>Plasma cell labeling index &gt;3.0</td>
<td></td>
</tr>
<tr>
<td>Beta-2 microglobulin &gt;5.5</td>
<td></td>
</tr>
<tr>
<td>High-risk MyPRS™</td>
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</tbody>
</table>

FISH, fluorescence in situ hybridization; MM, multiple myeloma; MyPRS, Myeloma Prognostic Risk Signature.

### Factors Influencing Treatment Choice

- **Myeloma Stage**
- **Age**
- **Overall Health Status**
- **Patient Preference**
- **Cytogenetics**

Response Criteria

<table>
<thead>
<tr>
<th>Response Type</th>
<th>M Protein</th>
<th>Plasma Cells in Bone Marrow</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stringent complete response (sCR)</td>
<td>None (blood/urine)</td>
<td>No abnormal plasma cells</td>
<td>No free light chains</td>
</tr>
<tr>
<td>Complete response (CR)</td>
<td>None (blood/urine)</td>
<td>&lt;5%</td>
<td>Disappearance of soft tissue plasmacytoma</td>
</tr>
<tr>
<td>Very good partial response (VGPR)</td>
<td>&gt;90% reduction (blood)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Partial response (PR)</td>
<td>&gt;50% reduction in serum and &gt;90% reduction in urine</td>
<td>NA</td>
<td>&gt;50% reduction in the size of soft tissue plasmacytoma</td>
</tr>
<tr>
<td>Minimal response (MR)</td>
<td>25%–49% reduction in blood and reduction of 50%–89% in urine</td>
<td>NA</td>
<td>25%–49% reduction in the size of soft tissue plasmacytoma</td>
</tr>
<tr>
<td>Stable disease (SD)</td>
<td>Does not meet criteria for response or progressive disease</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Progressive disease (PD)</td>
<td>&gt;25% increase (blood or urine)</td>
<td>&gt;10%</td>
<td>New bone lesions, soft tissue plasmacytoma, high calcium levels</td>
</tr>
</tbody>
</table>


Case Study

- 61-year-old male
- Presentation
  - SPEP: 3.6
  - IgG: 6791
  - Serum free light chain - Lambda: 89.56
  - Beta-2 microglobulin: 2.3
  - Albumin: 3.2 g/dL
  - Calcium: 8.2 mg/dL
  - Creatinine: 0.8 mg/dL
  - Hemoglobin: 9.3 g/dL
  - UPEP: 156 mg/24 hours
- BMBX 70%–80% plasma cells
- Survey + lytic lesions
  - Skull
  - 8th rib fracture
  - FISH results
    - Hyperdiploidy
    - 13q deletion
    - t(11;14)
  - ISS II
  - Durie-Salmon Stage 2A

BMBX, bone marrow biopsy; FISH, fluorescence in situ hybridization; Ig, immunoglobulin; SPEP, serum protein electrophoresis; UPEP, urine protein electrophoresis.
Treatment Options for Transplant-Eligible Patient

- Transplant
  - Avoid melphalan
    - RVD
      - Lenalidomide 25 mg, days 1–14
      - Bortezomib 1.3 mg/m², days 1, 4, 8, and 11
      - Dexamethasone 20 mg PO, days 1, 2, 4, 5, 8, 9, 11, and 12

- VDC
  - Bortezomib 1.3 mg/m², days 1, 4, 8, and 11
  - Cyclophosphamide 500 mg PO, days 1, 8, and 15
  - Dexamethasone 20 mg PO, days 1, 2, 4, 5, 8, 9, 11, and 12

Bisphosphonate Monthly

RVD, lenalidomide, bortezomib, and dexamethasone; VDC, bortezomib, dexamethasone, and cyclophosphamide.

Response: VGPR

BMT, bone marrow transplant; Ig, immunoglobulin.
Disease Course

High-dose melphalan and autologous transplant 6/5/2013

M spike (g/dL)

IgG (mg/dL)

M protein

IgG

Ig, immunoglobulin.

Case Study Discussions on the Nurse’s Role in Caring for Patients With Hematologic Malignancies

Nursing Considerations
## Case Study Discussions on the Nurse’s Role in Caring for Patients With Hematologic Malignancies

### Managing Side Effects

**Immunomodulatory Drugs (IMiDs)**

<table>
<thead>
<tr>
<th></th>
<th>Thalidomide</th>
<th>Lenalidomide</th>
<th>Pomalidomide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myelosuppression</td>
<td>Minimal</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>VTE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GI</td>
<td>Constipation</td>
<td>Diarrhea</td>
<td>Diarrhea</td>
</tr>
<tr>
<td>Rash</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sedation</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Neuropathy</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Teratogens!**

GI, gastrointestinal; VTE, venous thromboembolism.
Proteasome Inhibitors

<table>
<thead>
<tr>
<th></th>
<th>Bortezomib</th>
<th>Carfilzomib</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule</td>
<td>Days 1, 4, 8, and 11 every 21 days</td>
<td>Days 1, 2, 8, 9, 15, and 16 every 28 days</td>
</tr>
<tr>
<td>Modes of administration</td>
<td>IV/SC</td>
<td>IV</td>
</tr>
<tr>
<td>Myelosuppression/thrombocytopenia</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Neuropathy</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Zoster</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GI</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Cardiac/pulmonary (RARE)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

GI, gastrointestinal; IV, intravenous; SC, subcutaneous.

Steroids (Dexamethasone/Prednisone)

- Mood Swings
- Insomnia
- Irritability
- Hyperactivity
- Edema
- flushing
- Fatigue
- Blurry vision
- Cataracts
- Dyspepsia
- PPI
- Muscle atrophy
- Hyperglycemia
- Acne
- Muscle cramping
- Taste changes
- Ulcer
- Weight gain
- Hair loss

PPI, proton pump inhibitor.
Nurse’s Role

• Education and support
  – Oral adherence to complex regimens
• Improving quality of life by helping to manage side effects
• Navigating patients and their caregivers throughout the disease process

Bone Health

• Bisphosphonates
  – Avoid invasive dental procedures
  – Prevent pathological fractures
    • Orthopedist
    • Neurosurgeon
• Pain control
  – Avoid NSAIDs
  – Narcotic education

NSAID, non-steroidal anti-inflammatory drugs.
Renal Health

- Cast nephropathy (myeloma kidney)
- Hypercalcemia
  - Aggressive hydration and treatment
- Dehydration
  - IV fluids
- NSAIDS
- IV contrast
- Aminoglycoside antibiotics
  - Gentamycin, tobramycin, etc.
- Bisphosphonates

IV, intravenous; NSAID, non-steroidal anti-inflammatory drugs.

Anemia

- Due to disease or treatment
- Supportive care
  - Erythropoietin-stimulating agents
    - Epoetin alfa
    - Darbepoetin alfa
  - PRBC transfusions
  - Fatigue
    - Treatment
    - Disease
    - Physical therapy

PRBC, packed red blood cell.
Safety and Mobility

- Exercise
  - Physical/Occupational therapy
- Nutrition and hydration
  - Consult from nutritionist
- Psychosocial well-being
  - Support system
  - Fatigue
  - Sleep disturbances
  - Anxiety
  - Depression


Multidisciplinary Team Approach

- Social workers
  - Financial assistance programs
    - Non-profit organizations
      - The Leukemia & Lymphoma Society
      - Chronic Disease Fund
      - Patient Network Access
    - Pharmaceutical companies
- Physical and occupational therapists
- Dietician
- Pharmacist
- Dentist
Summary

• Multiple myeloma is most often a chronic and complex disease
• Treatment decisions are individualized to the patient
• Managing side effects helps patients maintain quality of life
• A multidisciplinary team approach helps support patients and caregivers

Case Study Discussions on the Nurse’s Role in Caring for Patients With Hematologic Malignancies

Thank You
Follicular Lymphoma: Case Study

Lynn Rich, ANP-BC, OCN
Nurse Practitioner
JP Wilmot Cancer Institute
University of Rochester
Rochester, NY

Outline

• Define disease
• Epidemiology
• Natural history of disease
  – Indolent vs curable
• Approved treatment options
  – Rituxan maintenance vs observation
• Use of idelalisib
• Communication strategies: support of social workers
• Resources: survivorship challenges
Lymphoma

General name given to a group of cancers that affect the lymphatic system

- Includes:
  - Lymph nodes
  - Plasma cells
  - Spleen
  - Lymphatic vessels
  - Bone marrow
  - Immunoglobulins

- Immune system helps protect against disease and infection


Lymphoma

Two distinct types:
- Non-Hodgkin lymphoma (NHL)
  - Approx. 50 different subtypes
- Hodgkin lymphoma (HL)
  - Approx. 5 different subtypes
Follicular Lymphoma (FL)

- B-cell NHL (vs T/NK-cell NHL)
- Damage to DNA of one of the parent B cells causes a malignant transformation resulting in uncontrolled and exaggerated growth of the lymphocyte

Follicular Lymphoma (FL)

- 2nd most common subtype of NHL
- Average age at diagnosis is 60 years
- Indolent: slow-growing disease
- Treatable, but not curable
  - Impact of deciding treatment

Image courtesy of JP Wilmot Cancer Institute; Chronic Lymphocytic Leukemia (CLL) Booklet.

NHL: Epidemiology

Approximately 70,800 new cases of NHL in 2014

- DLBCL
- FL
- T cell
- Other B cell

DLBCL, diffuse large B-cell lymphoma.

Case Study: MB

- 57-year-old married female
  - 3rd-grade elementary teacher
  - Symptom profile
    - Abdominal fullness
    - Sweats
    - Fatigue
    - Lymphadenopathy
  - Next step, stage?

\[
\begin{align*}
354 & \div 23 \\
= & 15.4304347826 \\
\end{align*}
\]
Ann Arbor Staging System

Case Study: MB

• Stage III
  – Bilateral axillary – small
  – Abdominal – 10-cm mass
  – Small inguinal node (groin node)
  – Bone marrow negative
    (would have been stage IV)
Treatment

- Watch and wait?
- Grade 1, 2, or 3?

Ready to Treat

- Criteria includes:
  - >3 sites of disease, 3 cm or more
  - 1 node measuring 7 cm
  - Cytopenias – refractory thrombocytopenia disease
  - Effusions
  - Symptoms of disease, or B symptoms
  - Threatened organ involvement
  - Elevated LDH

LDH, lactate dehydrogenase.
Case Study: MB

• Treated with R-CHOP – completed 2007
  – Attained complete remission
• Consider maintenance with rituximab vs observation
  – Upfront vs consolidation
  – Things to consider:
    • Expected response
    • Impact on overall survival
    • Quality of life
    • Financial impact

R-CHOP, rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone.

Case Study: MB

• No maintenance rituximab
• Relapsed in 5/2008
  – Concerning?

• What we did:
  – Salvage RICE × 2, then autologous stem cell transplant
  – Complete remission 9/2008

RICE, rituximab, ifosfamide, carboplatin, and etoposide.
Case Study: MB

• Relapsed 12/2014
  – Essentially asymptomatic – mild abdominal fullness
  – However, CT of abdomen showed increased disease
• Is she ready for treatment?
  – What are the treatment options?

CT, computed tomography.

Idelalisib – What Is It?

• PI3K inhibitor
  – Phosphoinositide 3-kinase delta
Idelalisib

- Oral agent
- FDA approved in 2014
- Used for CLL/SLL or FL
- In relapsed setting

Side Effect Profile

- Concern for pneumonitis or colitis
  - What to look for
  - When concerned
  - How to follow

- Concern for evolution of liver function abnormalities
  - What to look for
  - When concerned
  - How to follow
Things to Consider

• Is this patient a good candidate?
  – Why wouldn’t she be?
  – Why would she be?

• Bring in social worker
  – Help to assess medical literacy (implications)
  – Help with financial assistance
    • What are potential sources of assistance?

Communication Strategies

• Create a calendar with details
  – When to take pills, get blood drawn, etc.

• Dialogue with patient
  – Check in by phone
    • At least weekly initially
    • Consider MyChart®

• Eventually evolve to monthly visits, if tolerated
What Happened to MB?

• Began idelalisib 150 mg BID
• Well tolerated
• Held after 2 months for elevated LFTs
• Update to date…

BID, twice daily; LFTs, liver function tests.

Resources – Survivorship Issues

• The Leukemia & Lymphoma Society
  – www.LLS.org
  – Explore local chapter support groups
• YMCA – Exercise program
  – Explain cancer survivor
  – Describe health and fitness programs
• Look for specific related survivor support groups
  – www.LLS.org/survivorship
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Thank You