Continuum of Cancer Care Treatment Options

Karen Harden MS, RN, AOCNS
Be aware of the role Nursing plays in the cancer trajectory.
Typical Treatment Trajectory

- Diagnosis
- Treatment
- Bone Marrow Transplant
- End of Life
Understanding Disease Progression and Treatment

- Diagnosis
- Palliative Care – now?
- Treatment – Chemotherapy, Biotherapy, Surgery, Radiation
- Remission or relapse?
- Ongoing/Chronic treatment (consolidation or maintenance)
- Bone Marrow Transplant – not for everyone
- End of Life/Hospice care
<table>
<thead>
<tr>
<th></th>
<th>Major signs/symptoms</th>
<th>Discharge Needs</th>
<th>Psychosocial issues</th>
<th>Chronic Implications</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leukemia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lymphoma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multiple Myeloma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BMT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
General Care by the Oncology Nurse

- Management of new diagnosis
  - Patient Education
  - Emotional support
- Chemotherapy Administration – Goals of care
- Assessment and monitoring of side effects
- Treating side effects
- Assist with informed decision points
- Many more
Blood and Marrow Transplant

Karen Harden MS, RN, AOCNS
Clinical Nurse Specialist
Where do the Hematopoietic Stem Cells (HSCs) come from?

1. Bone Marrow (sternum, femur, iliac crest)


http://www.aurorahealthcare.org/yourhealth/healthgate/getcontent.asp
Where do the Hematopoietic Stem Cells (HSCs) come from?

2. Mobilization of stem cells out of the marrow for collection from the peripheral blood – then collection by Apheresis

- Neupogen
- Chemotherapy (cytoxan)
- Mozobil

http://learn.genetics.utah.edu/content/tech/stemcells/sctoday/
Where do the Hematopoietic Stem Cells (HSCs) come from?

3. Umbilical Cord Blood

http://learn.genetics.utah.edu/content/tech/stemcells/sctoday/
How and Why does it work?

1. Transplantation allows for doses of chemotherapy and radiation to be administered at levels that would be lethal without the transplantation.

http://www.socool.com/chemo/
How and Why does it work?

2. A relatively small number of stem cells have the ability to proliferate and repopulate a patient’s entire hematopoietic system.

http://www.absoluteastronomy.com/topics/Megakaryocyte
How and Why does it work?

3. Once infused, stem cells have a homing ability in place that leads them from the peripheral blood directly to the marrow.

4. Marrow can be successfully stored in a frozen state allowing it to be used in the future (essential with autologous)
What diseases are treated?

- **Malignant diseases**
  - Leukemia
  - Lymphoma
  - Multiple Myeloma
  - Neuroblastoma
  - Sarcoma

- **Non Malignant diseases**
  - Hematologic Diseases
    - Anemias
    - Sickle cell
  - Immune deficiency or auto immune diseases
    - Scleroderma
  - Genetic disorders

- Unsuccessful attempts with breast
- Some programs successful with testicular
Types of Transplants

- Autologous
- Allogeneic
- Syngeneic
- Cord Blood
Power of the chemotherapy

- **Myeloablative**
  - Wipes out marrow
  - Traditionally given to patients younger than 60

- **Non-myeloablative (low intensity)**
  - Uses the concept of graft vs disease affect
  - Donor cells attack cells of the host including microscopic residual disease
Days -7 through -1  
Conditioning  
Chemotherapy/radiation

Day 0  
Transplant Day

Days +1 through +100  
• Managing potential complications  
• Managing potential graft vs. host  
• Awaiting engraftment (approx 14 days)
Graft vs Host Disease

- When the donor recognizes the host as a foreign invader and mounts an immune response against it.
  - **Acute** (skin, liver, gut)
  - **Chronic** (Sclerodermal changes, Eye/conjunctiva, Bronchiolitis Obliterans)

- Treatment with various immunosuppressive drugs to control the degree of GVHD

Liver

Skin

Gut

Lung

Liver:
http://www.humanillnesses.com

Skin:
http://www.nlm.nih.gov/medlineplus

Gut:
http://professionalpractitioner.blogspot.com

Lung:
http://www.topnews.in/health/regions
### Catagorizing Acute and Chronic GVHD

<table>
<thead>
<tr>
<th>Class</th>
<th>Time of Symptoms</th>
<th>Presence of Acute GVHD Features</th>
<th>Presence of Chronic GVHD Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic acute GVHD</td>
<td>&lt;= 100 days</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Persistent, recurrent or late acute GVHD</td>
<td>&gt;100 days</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Acute and chronic overlap</td>
<td>No time limit</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic</td>
<td>No time limit</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Based on NIH Consensus Development Project
Complete System Involvement

- Hematologic
- Gastrointestinal
- Hepatorenal
- Cardiac
- Pulmonary
- Neurologic
Psychosocial Issues

- Long hospitalization/repeat hospitalizations
- Management of ongoing medical complications of transplant
- Caregiver concerns
- Financial burdens
- Depression/Anxiety
- Return to social well-being (work, leisure, etc)
- Quality of Life issues
- Physical strength and stamina
- Hope
Resources