Survivorship!
What does this mean for Patients with Bone Marrow Failure Diseases?

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AA & MDS Patient Conference - Indianapolis

• What is “Survivorship”?

• What Does it Mean for me be a Survivor?

• How does being a survivor help me?
St. Peter's Science Fair 1982

Charlie and Will Mayo
“the needs of the patient come first”

Mayo Clinic Rochester - June
“Survivorship”
A definition

• SURVIVORSHIP
• Noun
  • 1. The right of a joint tenant, or other person who has a joint interest in an estate, to take the whole estate upon the death of other.
  • 2. The state of being a survivor.

Webster’s Online Dictionary

• Survivor
• Noun
  • 1. One who lives through affliction; "the survivors of the fire were taken to a hospital".
  • 2. One who outlives another; "he left his farm to his survivors".
  • 3. An animal that survives in spite of adversity; "only the fittest animals were survivors of the cold winters".
Traditional View of “Survivorship”

**Diagnosis**
Of a “Cancer”
(i.e. breast, colon, prostate, etc.)

**Survivor**

**Therapy**

**No Therapy**

**Not a Survivor**

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**Illness**

**Positive Spirit**
**Loving Support**
**Sleep**
**Fighting Back**
**Good Nutrition**

**Promoting Wellness**
**Being Active**

**LIVING!**

**Being Well**

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**Medical Treatments**
- Medicines
- Surgery
- Radiation
- Other

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TRI-ing for an MPD Cure

Ironman Wisconsin 2008 - 140.6 miles dedicated to MPD Patients

Fundraisers for MPD Research and Education
MPD Foundation
cMPD Education Foundation
Myeloproliferative Diseases
AML

Overlapping Syndromes
MDS
PNH
Aplastic Anemia

Non Malignant

Adapted from Young NS et al, Ann Intern Med. 2002;136:534.

Diagnosis of MDS/AA/PNH

Observ Care
Support Care

Curative Therapy
Therapy For Control
What is the science of “Survivorship”

The Changing Demography of Cancer Survivorship

- Over 80% of all cancer patients are treated in the community
- Cancer for many may be viewed as a “chronic” illness
- Cancer for most, affects the entire family, and often a community

What is the Purpose of Cancer Survivorship Research?

- Enhance the length and quality of survival for all cancer patients
- Understand, prevent, or reduce the adverse physiological, psychosocial, and economic sequelae associated with cancer and its treatment
- Educate health professionals about issues and practices critical to the optimal well-being of their patients who have survived cancer
Long Term and Late Effects of Cancer Treatment

- Physical/Medical (e.g., second cancers, cardiac dysfunction, pain, lymphedema, sexual impairment)
- Psychological (e.g., depression, anxiety, uncertainty, isolation, altered body image)

Kubler-Ross’s Stages of Coping

- Elisabeth Kubler-Ross published after interviews with 200 terminally ill patients in 1969
  - Denial
  - Anger
  - Bargaining
  - Depression
  - Acceptance

Kubler-Ross’s Stages of Coping-Actual
Long Term and Late Effects of Cancer Treatment

- **Social** (e.g., changes in interpersonal relationships, concerns regarding health or life insurance, job lock/loss, return to school, financial burden)

- **Existential and Spiritual Issues** (e.g., sense of purpose or meaning, appreciation of life)

Impact of Adverse Disease and Treatment Outcomes

- **Cancer Survivorship**, especially long-term, may act as a chronic stressor

- Variables affecting this chronic stress are multi-faceted, integrated, and cross various survivorship outcome domains

Impact of Adverse Disease and Treatment Outcomes

- "Cure" has a cost – damage to organ systems, long-term and late effects

- Therapies used against cancer can cause organ toxicity – which might manifest as a wide array of chronic diseases that become clinically evident at different periods of a survivor’s life
Why Do We Need to be Cognizant of this Issue?

- Lack of familiarity of primary care physicians or other specialists with health risks of the heterogeneous population of survivors
- Lack of evaluation for late effects that may be modifiable or amenable to early diagnosis and treatment prevent early detection and appropriate management

Lessons Learned From Ongoing Research

- Adverse outcomes are chronic or late occurring, and more prevalent and serious than expected among survivors of both adult and pediatric cancer
- The majority of individuals successfully treated for cancer report adequate to good health-related quality of life following treatment — Resilience!
- But...
Achieving the New Normal – What are the Challenges and the Facilitators?

Challenges to Recovery

- Physical
  - Long Term and Late Effects of Cancer and its Treatment
  - Symptoms
  - Medical Sequelae
  - Co-Morbidities

- Emotional
  - Fear of Recurrence, Depression, Uncertainty, Distress

- Socio-Economic
  - Isolation, Stigma, Altered Roles (work, Family)
Risk Factors for Poor Outcomes

- Medical
  - More advanced disease - intense or aggressive treatment
  - Other/multiple co-morbid medical conditions
  - Poor doctor/patient relationship

- Psychological / Personal
  - Rigid coping style
  - Multiple social stressors; Low income/education
  - Poor marital/interpersonal relationship
  - Younger age

- Social
  - Lack of social support
  - Limited access to service resources
  - Cultural mores, Social stigma

Positive Response to Challenges

- Resilence
- Coping
- Health and Help Seeking Behavior
- Benefit Finding (Post-Traumatic Growth)
Factors Associated with Good HRQOL Outcomes

- Access to (State of the art?) Care
- Having (and using) a social support network
- Coping and Adjustment
- Being an active participant in one’s care (and one’s health behaviors!)
- Finding or having a sense of purpose or meaning in one’s life

Unanswered Questions and Future Research

- Examining Emerging Late and Long-Term Effects of cancer and its treatment
- Examining the Barriers and Facilitators that affect achievement of the “New Normal”
- Are there ways one might go back to the “old” normal??
Continuing Scientific Needs

Why is this information important?

- Prevent, detect early, or intervene (medical, behavioral) to decrease morbidity and mortality
- Guide follow-up care and practice
- Consonant with our overall missions as scientists and care providers – This is what we are here to do!
  - Reduce the burden of cancer-related illness

How does survivorship relate to Bone Marrow Failure Diseases?

MDS and AA

Spanning a Spectrum

Young → Old
Feel Well → Feel Lousy
Severe → Mild
Treatment → None
Curable → Treatable
Challenges for AA/MDS/PNH Patients

**Medical**
- Side effects of low blood counts
- Side effects of treatments
- Risk of disease progression

**Non-Medical**
- Financial Challenges of care or Rx
- Stress of uncertainty with future
- Confusion over your illness with friends and family
What Tools can help YOU be a Survivor?

• Knowledge
• Partnership with your healthcare team
• Physical “Wellness”
• Emotional “Wellness”

Knowledge as a weapon

• Learning more about your disease
• Learning about what to expect in your future
• Teaching those around you in your circle
• Advocating on behalf of other patients with your disease
www.aamds.org

Aplastic Anemia & MDS International Foundation, Inc.

Are you a newly diagnosed patient? Call our toll-free Helpline to learn more about your diagnosis and treatment options. Call 800.747.2820 in the United States or call 515.278.7202 outside the United States. A new diagnosis—or the ongoing challenge of bone marrow failure—raises many questions. For you and your loved ones, this is a new chapter. As a patient, you are not alone. We have a community of health professionals who will share their knowledge and experience with you. To assist you in avoiding a sudden shock, we make every effort to provide all the information you need to know. You can trust us to keep you informed. 

What Tools can help YOU be a Survivor?

- Knowledge
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- Physical “Wellness”
- Emotional “Wellness”

The Medical Interview

- The most common procedure,
  - >100-200,000 scheduled visits, plus bedside, informal, family, telephone interactions
- Basis of all clinical work,
  - acute and chronic, birth to death
  - activities of curing, caring, changing lifestyles, prevention

THE MEDICAL INTERVIEW
“I'M ALWAYS READY TO LEARN, ALTHOUGH I DO NOT ALWAYS LIKE BEING TAUGHT.”
Information flow

Patient
What I say
What I understand or mean
What I hear

Physician
What I hear
What I understand or mean
What I say

Bridge

Ask-Tell-Ask

(Ask) About diagnosis, reason for biopsy, test, etc.
(Tell) In simple language what you understand
(Ask) Clarifying questions
(Tell) Your understanding, etc.
(Ask)............

Continue until feel adequate info.
What Tools can help YOU be a Survivor?

- Knowledge
- Partnership with your healthcare team
- Physical “Wellness”
- Emotional “Wellness”

<table>
<thead>
<tr>
<th>Disease</th>
<th>N</th>
<th>BFI Mean (SD)</th>
<th>FACT-An Mean (SD)</th>
<th>Codin LAS</th>
<th>P Value Compared to Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BFI</td>
<td>FACT-An</td>
<td>Codin</td>
<td></td>
</tr>
<tr>
<td>Controls (BFI)</td>
<td>275</td>
<td>2.3 (1.8)</td>
<td>----</td>
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<tr>
<td>Controls (FACT-An)</td>
<td>1078</td>
<td>----</td>
<td>77.1 (19.9)</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Controls (Codin LAS)</td>
<td>506</td>
<td>----</td>
<td>----</td>
<td>45.8</td>
<td>----</td>
</tr>
<tr>
<td>MPD Patients (All)</td>
<td>118</td>
<td>4.0 (2.42)</td>
<td>47.3 (9.8)</td>
<td>25.2</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Essential Thrombocythemia</td>
<td>400</td>
<td>4.7 (2.38)</td>
<td>51.6 (17.6)</td>
<td>25.5</td>
<td>(22.7)</td>
</tr>
<tr>
<td>Polycythemia Vera</td>
<td>397</td>
<td>5.1 (2.43)</td>
<td>46.5 (19.3)</td>
<td>25.9</td>
<td>(24.1)</td>
</tr>
<tr>
<td>Myelofibrosis with Myeloid Metaplasia</td>
<td>450</td>
<td>5.2 (2.42)</td>
<td>45.5 (18.7)</td>
<td>23.1</td>
<td>(24.8)</td>
</tr>
</tbody>
</table>

Mesa et al. Cancer 2007;109

Fatigue also an issue in “asymptomatic” patients

- 279 “Asymptomatic”
  - No anemia, clots, non aspirin meds, splenomegaly
  - PV 42%, ET 31%, PMF 27%
    - Over 70% self report fatigue
    - Worse than published “norms”
    - 3% medically disabled only from fatigue
What do we mean by QOL?

• While QOL is to large extent in the eye of the beholder, it is generally considered to have several domains:

<table>
<thead>
<tr>
<th>Presence and Severity of Symptoms</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to Function</td>
<td>Social</td>
</tr>
<tr>
<td>Quality of Interpersonal Interactions</td>
<td>Psychological</td>
</tr>
<tr>
<td>Sense of Well-Being</td>
<td>Emotional</td>
</tr>
<tr>
<td>Transcendence</td>
<td>Intellectual</td>
</tr>
<tr>
<td></td>
<td>Spiritual</td>
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</table>
MDS Health-Related QOL Study

Internet Based Quality of Life Study in 359 MDS Patients

Patient Recruitment
- Mayo Clinic MDS Patients
- MDS Foundation Centers of Excellence
- MDS Foundation and CMPD Foundation webpages

Administration
- Internet alone - anonymous

Survey Content
- Demographics
- MDS Features (subtype, treatments, blood counts)
- Co-Morbidities (Charlson Index)

Validated QOL Instruments
- Brief Fatigue Inventory
- FACT-AN
- Godin Leisure Time Activity Score (LAS)

Self Reported Fatigue in 359 MDS Patients
Internet Based Quality of Life Study in 359 MDS Patients

Results
- Most MDS patients have a reduced QOL and a significant symptom burden
- 90% of survey respondents complained of “excessive” fatigue
- QOL worse than published controls for both validated instruments (P<0.0001)

Does Fatigue Correlate With Anemia?
- Fatigue levels were independent of:
  - Hemoglobin levels
  - Transfusion Dependence
  - Not explained by co-morbidities

Some Specific Issues Facing Patients With MDS (1)
- Fatigue
- Specific symptoms related to low blood counts
  - shortness of breath, palpitations, leg swelling; recurrent infections; bleeding/easy bruising
- Specific symptoms related to treatments
  - Nausea/vomiting, poor appetite, rash, soreness at injection sites, catheter issues
- Inconvenience of doctor visits and treatments
- Financial challenges related to health care and loss of income

Some Specific Issues Facing Patients With MDS (2)
- Uncertainty about the future
  - Worry about family (e.g., their coping), job/company
  - Worry about paying the bills
  - Worry about being a burden
  - Worry about what else the disease will do... the indignity
  - Existential concerns
- People treat you differently than they did before
- Difficulty sleeping, restless legs - can lead to irritability/poor coping with stress, conflict with partner
- Fears related to intimacy, changes in sexual performance
- Having to cut back on, or being unable to participate in, things you enjoy
What more can I do to feel better?

...Medications are frequently not enough

Goals

• Optimize
  • Flexibility
  • Heart/lung function
  • Muscle tone
  • Improve strength
  • Improve sleep
  • Improve fatigue
Range of Needs

• Early stage:
  • Define limitations (or perceived limitations)
  • Needs may mirror those of all adults

• Moderate stages:
  • Overcoming barriers related to disease
  • Overcoming medication side effects

• Advanced stage:
  • Maximize mobility
  • Maximize flexibility

Evans et al. Oncology 2002;16 (9 Suppl 10):109-115
**Vicious Cycle**

- Fatigue
- Loss of Muscle
- Being Sedentary
- Deconditioning

**Evidence**

- Rehabilitation for “Cancer” patients
  - Correcting anemia
  - Aerobic conditioning to improve VO2 Max
  - Progressive resistance exercises
    - Improves fatigues
    - Decreases muscles wasting

Evans et al. Oncology 2002;16 (9 Suppl 10):109-115

**Exercise During Chemo for Hematologic Malignancy**

- Treadmill walking program beginning the day after completing chemotherapy
- Daily during hospitalization
- Patients were able to maintain physical performance despite hospitalization (mean of 30 days (10-49))

Dimeo et al. Support Care Cancer 2003;11:623
Exercise during Stem Cell Transplant

- **Hayes et. al. BMT 2004;33:553-555**

  - Randomized trial between exercise
  - Moderate intensity 20-40 minutes 3x/week (mixed)
  - Control group
  - Stretching
  - Exercise improved QOL (by metrics) prior to transplant (P<0.01)
  - Better QOL metrics in intervention group (P<0.05)
Aerobic Capacity and QOL

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Phase I (n=12)</th>
<th>Phase II (n=12)</th>
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<tbody>
<tr>
<td></td>
<td>Pearson</td>
<td>P-value</td>
</tr>
<tr>
<td>Global QoL*</td>
<td>-0.64</td>
<td>0.03</td>
</tr>
<tr>
<td>QoL, EP*</td>
<td>-0.46</td>
<td>0.19</td>
</tr>
<tr>
<td>QoL, AS*</td>
<td>-0.71</td>
<td>0.01</td>
</tr>
<tr>
<td>Physical QoL</td>
<td>-0.75</td>
<td>0.005</td>
</tr>
<tr>
<td>Physical QoL, EP</td>
<td>-0.62</td>
<td>0.03</td>
</tr>
<tr>
<td>Physical QoL, AS</td>
<td>-0.79</td>
<td>0.002</td>
</tr>
<tr>
<td>Psychosocial QoL</td>
<td>-0.20</td>
<td>0.52</td>
</tr>
</tbody>
</table>

*Quality of life (QoL): endored problems (EP); average severity of problems (AS).

Hayes et. al. BMT 2004;33:553-555

What Tools can help YOU be a Survivor?

- Knowledge
- Partnership with your healthcare team
- Physical “Wellness”
- Emotional “Wellness”
The challenge

- Realistic hope/faith
- Fatalism
- Denial

Recognizing

- Physical
  - Fatigue
  - Pain
  - Med side effects
  - Insomnia
  - etc.
- Emotional
  - Loneliness
  - Depression
  - Frustration
  - Conflict
  - Isolation
  - Etc.

The goal

Physical Health  Spirit/Soul Wellness

Mrs. B’s journal
“In 5 years we will have regrets and remorse for the things we did not do, rather than what we did.”
What have I learned?

- Don’t wait to go to Alaska

The Race (with No Finish Line)

Illness  Wellness

- Medicines
- Surgery
- Transplant
- Exercise
- Family
- Nutrition
- Spirituality

Quotes from Erma Bombeck
Written as she was dying from Cancer

- If I had my life to live over I would...

- Have gone to bed when I was sick instead of pretending the earth would go into a holding pattern if I weren’t there for a day
I would have...

• Burned the pink candle sculpted like a rose before it melted in storage

I would have...

• Sat on the lawn with my grass stains

I would have...

• Talked less and listened more
I would have...

• Invited friends over to dinner even if the carpet was stained or the sofa faded

I would have...

• Shared more of the responsibility carried by my husband

I would have...

• Never have insisted the car windows be rolled up on a summer day because my hair had just been teased and sprayed
I would have...

• Don’t worry about who doesn’t like you, who has more or who is doing what. Instead, cherish the relationships we have with those who do love us.

I would have...

• Never have bought anything just because it was practical, wouldn’t show soil, or was guaranteed to last a lifetime.

I would have...

• Instead of wishing away nine months of pregnancy, I’d have cherished every moment and realized that the wonderment growing inside me was the only chance in life to assist God in a miracle.
I would have...

- Taken the time to listen to my grandfather ramble about his youth

I would have...

- Cried and laughed less while watching TV and more while watching life

I would have...

- But mostly, given another shot at life, I would seize every minute... look at it and really see it... live it and never give it back. Stop sweating the small stuff.
Carpe Diem

Seize the day!

Mayo Clinic
Generations of MPD Focus

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International Colleagues

MPD Research Alliance
Mayo - Mt. Sinai - Harvard

CMPD EDUCATION FOUNDATION