

*Understanding the Late Effects
of Cancer Treatment:
A Medical Oncologist's Perspective*



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Overview of Presentation



- Sources of Data
- Physical & Medical Late Effects
- Psychological Late Effects
- Social Late Effects
- Existential and Spiritual Issues
- Case examples
- Recommendations

Sources of Data

- Expanding number of adult survivors, although systematic research is limited
- Breast cancer is most frequently studied
- Limited linkage to clinical trials databases
- Confounding of cancer-related changes, age-related changes, and comorbid conditions
- Problem of attribution

Physical & Medical Late Effects

- Body changes/scars
- Cardiorespiratory sx's
- Cognitive dysfunction
- Fatigue/low energy
- Immune dysfunction
- Infertility
- Premature menopause
- Lymphedema
- Osteoporosis & Fractures
- Chronic Pain
- Sexual dysfunction
- Urinary incontinence
- Second cancers
- Skin sensitivity to UV

Changes in Physical Functioning

- Cardiorespiratory symptoms – CHF, radiation fibrosis
- Fatigue – multifactorial
- Cognitive dysfunction - ?late effect of chemotherapy
- Sexual and urinary problems – local effects of treatment; secondary to chemotherapy or hormonal changes

Medical Late Effects

- Lymphedema – critical need for prevention and intervention strategies
- Premature menopause
- Infertility
- Osteoporosis/fractures – need for preventive strategies
- Chronic pain; scars; body changes

Second Cancers

- Account for a substantial number of new cancers
- May occur in the same organ site (e.g. breast, colorectal) – need for surveillance
- Radiation-induced sarcomas and epithelial cancers (breast, thyroid, esophagus, stomach)
- Chemotherapy related – leukemia, bladder
- Increased sensitivity to UV radiation – skin cancers

Psychological Late Effects

- Depression, sadness
- Concerns about the future or death
- Feelings of gratitude and good fortune
- Health worries
- Inability to make plans
- Sense of self-esteem and mastery
- Uncertainty and vulnerability

Positive Psychological Effects

- Many survivors function at high levels and do not report excess depressive symptoms
- They are often grateful and feel fortunate to be alive; an enhanced appreciation of life
- Increased self-esteem and sense of mastery

Negative Psychological Effects

- Concerns about the future
- Heightened sense of vulnerability – “my body has let me down”
- Sense of loss for what might have been, e.g. loss of fertility
- Increased health worries, hypervigilance

Social Late Effects



- Affinity and altruism
- Alienation and isolation
- Comparison with peers
- Social relationship changes
- Socioeconomic concerns: health insurance, job, return to school, financial impact

Existential and Spiritual Issues



- Appreciation of life
- New orientation to time and future
- Changed values and goals
- Concerns about death and dying
- Sense of purpose

Case Examples

- 38 y.o. woman, 6 yrs s/p high dose chemotherapy and radiation for stage III breast cancer
 - Chronic anxiety and depression for the first 4-5 years post diagnosis, now better on medications
 - New onset fatigue---hypothyroidism!

Case Examples

- 70 y.o. man diagnosed with prostate cancer 3 yrs ago, treated with radical prostatectomy
 - Troubled by urinary incontinence and erectile dysfunction since surgery
 - Hypervigilant about monitoring PSA, cholesterol and blood pressure
 - Has joined US-Too and assists other men who are diagnosed with prostate cancer

Case Examples

- 35 y.o. woman treated for Hodgkin's disease at age 17 with staging laparotomy and subtotal nodal irradiation
 - Nodule noted in right breast on self-examination; biopsy demonstrates cancer
 - Receives mastectomy for stage I breast ca
 - What is the role of chemoprevention?

Case Examples

- 65 y.o. woman treated with hysterectomy and pelvic/abdominal radiation for adenocarcinoma of the uterus 3 years earlier
 - cc: intractable diarrhea; severe anemia and malnutrition

Case Examples

- 55 y.o. man with AP resection and radiation therapy for rectal cancer 7 years ago
 - Intractable pain radiating from the posterior iliac area into the anterior thigh
 - Moderate lymphedema of the lower extremities

Case Examples

- 20 y.o. male who received combined modality therapy for Wilms tumor at age 5, including radiotherapy given to chest for lung metastases
 - cc: hemiatrophy of right chest wall musculature, scoliosis, decreased lung volumes

*Who is monitoring survivors
for late effects?*

- Role of oncology specialists
- Role of primary care physicians
- Role of survivors themselves
- Should there be specialized clinics?

*How should we prepare survivors
for late effects?*

- Provide survivors with information about their treatment and its late effects
- Openly discuss the need for long-term follow-up
- Encourage their participation in research studies when available

How to increase knowledge about late effects of treatment?

- Conduct systematic research
- Better use of the cooperative groups and cancer registries
- Establish survivor clinics and registries, with *research funding for medical and psychosocial evaluations*