Long-term Survival; Philosophy of Care of Cancer Patients in the New Millennium

Essay

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Abstracts

The population of cancer survivors is progressively increasing in numbers worldwide, this due to improvement in different aspect of cancer continuum. So many cancers can be cured or controlled. This lead to appearance of many problems associated with cancer or its management. This heightened the importance of looking past the time beyond cancer treatment to a patient's future, lead to survivorship research to fill the gap in the transition area. All available information result from researches undertaken in the advanced world. A lot of efforts are needed to start such work in the developing world.

Aim of this work to help to anticipate the late complications which may occur, so find methods to prevent or to detect them early, and to find the best ways to follow-up cancer survivors.

Keyword:

Cancer survival, long-term follow up, genetics HD Survivors.

List of Abbreviations

ABL	Abelson (tyrosine kinase gene)
ABVD	Doxorubicin, bleomycin, vinblastine, dacarbazine
ACE	Angiotensin converting enzyme
A-CHF	Anthracycline-induced CHF
AER	Absolute excess risk
AFP	Alph feto protein
AML	Acute myeloid leukemias
t-AML	Therapy-induced acute myeloid leukemia
APL	Acute promyelocytic leukeamia
ASCO	American Society for Clinical Oncology
BCR-ABL	Philadelphia chromosome
BCR	Break point cluster region gene
BEACOPP	Bleomycin, etoposide, Adriamycin, cyclophosphamide, procarbazine, and prednisone
B-HCG	Beta human chorionic gonadotropin
CCSS	Childhood Cancer Survivor Study
CDC	Centers for Disease Control and Prevention
CHD	Coronary heart disease
CLL	Chronic lymphocytic leukemia
CML	Chronic myeloid leukemias
CMF	Cyclophosphamide, methotrexate, 5-fluorouracil
CNS	Central nervous system
COG	Children's Oncology Group
CRC	Colorectal cancer
CT	Computed tomography
EUROCARE-	European care
EKG	Electrocardiogram
FDA	Food and Drug Administration
FEC	5-fluoro-uracil, epirubicin, cyclophosphami
FSH	Follicular stimulating hormone
GSTP1	Glutathione S-transferases, including glutathione transferase
Gy	Gray
HER 2 receptor	ErbB2 receptor (Epidermal growth factor receptor).
HL	Hodgkin lymphoma
HLSs	Hodgkin lymphoma survivors
IMRT	Intensity modulated therapy radiation
CHF	Congestive (Clinical) heart failure

IOM	Institute of Medicine
JSIO	Journal of Society for Integrative Oncology
LH	Luteinizing hormone
LTFU	Long-term follow-up
LVEF	Left ventricular ejection fraction
MBSR	Mindfulness based stress reduction
MI	Myocardial infarction
MOPP	Mustargen, oncovin, procarbazine, and prednisone
MRI	Magnetic resonance image
NCCS	National Coalition for Cancer Survivorship
NCI	National Cancer Institution
NCI's	National Cancer Institute's
NER	Nucleotide excision DNA repair
NHL	Non- Hodgkin lymphoma
NIH	National Institutes of Health's
OCS	Office of Cancer Survivorship
PFTs	Pulmonary function tests
POF	Premature ovarian failure
PTSD	Posttraumatic stress disorder
R-CHOP	Rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone
RR	Relative risk
RT	Radiation therapy
SCs	Second cancers
SEER	Surveillance, Epidemiology, and End Results
SIGN	Scottish Intercollegiate Guidelines Network
SIO	Society for Integrative Oncology
SMR	Standard mortality ratio
TC	Testicular cancer
TCSs	Testicular cancer survivors
TPMT	Thiopurine S-methyltransferase
TSH	Thyroid stimulating hormone
UKCCSG	United Kingdom Children's Cancer Study Group
USPSTF	US Preventive Services Taskforce
XPD	Xeroderma pigmentosum group D

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Introduction

Cancer survivors are the cancer patients who are live 5 years or more after initial diagnosis of cancer whether they are disease free or not **(Julia & Keith. 2008)**. In the past several years, there is increase in the attention being paid to the topic of cancer survivorship, new texts have appeared summarizing the advances in the field of survivorship research and promoting evidence-based care **(Feuerstein. 2007), (Ganz. 2007),** and there is even a new scientific journal to feature this new area of science **(Feuerstein. 2007).** Why all the attention for Survivors' (live 5 or more years) & survivorship? The answer is in the numbers.

In December 1971, there were an estimated 3 million cancer survivors in the United States. In this earlier period, the prospect for individuals diagnosed with cancer was bleak .Relatively few treatment options were available; of those that existed, many had serious side effects that were often poorly controlled, and few of these treatment were successful in curing or controlling the illness. It would not be until the late 1970s that 5-year survival rates for all cancers combined would pass the 50%mark. Further, in this earlier period limited resources existed to support patients and their families faced with cancer. Most psychosocial efforts were used to help patients who die from their disease and supporting their family members through the loss of a loved one **(Novack et al.1979)**.

Today, the picture is dramatically different. As we race into the new millennium, armed with information about the human genome, our ability to cure and control the many diseases termed ‘‘cancer’’ is beginning to make the dream of yesterday become the reality of the present. Many successes have been achieved in the war against cancer result in growing population of survivors. Cancer prevalence figures for the United States have been growing at a rate of approximately 3% per year, and are rapidly approaching 11

million **(Espey et al.2007),** representing approximately 3.6% of the population. Several factors have contributed to this trend. These include improvements in and broader use of newer cancer screening technologies, more effective—often multimodal and multiagent combination—therapies, greater application of adjuvant treatments, better supportive care, and growing attention to surveillance once treatment ends, these have resulted in treatments being more complex and the decisions regarding these often complicated. It has also made clinicians begin to ask question: At what cost to individuals, families, and society, do oncologists seek to cure or, as is the case for growing numbers, control these diseases which call cancer.

The growing population of cancer survivors reminders that there is an obligation to look beyond the search for a cure and to address the needs of, and provide hope for a valued future to, those living with and beyond a cancer diagnosis. This demand lent urgency to continue to develop the new field of cancer survivorship research **(Julia & Keith. 2008)**

In 2004, it was estimated that the number of cancer survivors in the United States was 10.8 million (Surveillance, Epidemiology, and End Results **(SEER Program. 2007)**, which represents a threefold increase from the 3 million prevalence estimate calculated for 1971. Of these 10.8 million, (63%) had survived more than 5 years beyond their original diagnosis, (39%) were survivors of 10 or more years, and (14%) were diagnosed 20 or more years earlier. In the absence of other competing causes, survival estimates for adults diagnosed with cancer indicate that 66% can expect to be alive in 5 years. For children (younger than 19 years of age) diagnosed with cancer 5-year survival is approaching 80% and 10-year survival is close to 75%. These numbers are in sharp contrast to the earlier period (1974–1976) when 5-year survival was only 50% for adults and 56% for children treated for cancer **(U.S. Department of Health and Human Services. 2000)**

The lengthening prospect for survival is credited in large measure to advances in screening for many cancers, such as breast, cervical, and prostate cancer, and progress in the discovery, development, and delivery of more effective treatments for many cancers. Specifically, this increase in survivors population, coupled with the emerging evidence regarding late and long-term medical and psychosocial health consequences of cancer and its treatment, highlight the importance of long-term follow-up and surveillance of the cancer survivor population **(Oeffinger et al. 2006).**

The previously documented risk for subsequent cancers, including multiple primary breast cancers in female breast cancer survivors, the increased incidence of thyroid cancer after prostate cancer, or elevated risk for subsequent colon cancer in patients who have colorectal cancer, is beginning to raise concern for the long-term health of this population **(Hayat et al. 2007)**. At present, roughly 16% of new cancer cases diagnosed annually occurs in individuals who are already cancer survivors **(Mariotto et al. 2007)**.

What are survivors themselves telling clinicians? First, as reflected in the other contributions to this special issue, being told they are disease free does not mean that survivors are truly free of their disease. Cancer has the capacity to affect all aspects of an individual's life: physical, psychological, social, economic, and existential. Some of cancer's effects are acute and resolve quickly once treatment ends, Others, however, can be more insidious; they may persist over time and become long-term or chronic problems, or late, effects may not show up until months or years after active treatment ends. Survivors of all ages may be adversely affected, and although some experience few effects, others suffer multiple complications **(Hewitt, Greenfield, and Stovall. 2006)**

Cancer's adverse sequelae contribute significantly to the personal and social burden of illness. Although fear of recurrence and the risk for second cancers are often of

most concern to survivors and their health care providers **(Baker et al. 2005)**, other co morbid conditions, especially among older survivors, may be of greater concern as a threat to longevity **(Oeffinger et al. 2006)**.

Despite its potential for adverse consequences, the cancer experience is not all bad. Cancer survivors show that the remarkable resilience of the human spirit **(Aspinwall& MacNamara. 2005)**, also, cancer for many represents a ‘‘teachable’’ moment **(Demark-Wahnefried et al. 2005)**. Research among survivors finds that many struggling to take back control of their bodies and lives, are interested in and striving to make changes in their lifestyles and behaviors in the hopes that this might lessen the risk for new or recurrent disease **(Demark- Wahnefried, Pinto, and Gritz. 2006).**

Aim of Work

To identify & control adverse cancer and treatment related outcomes (as pain, sexual dysfunction, lymphoedema, and 2nd primary); provide knowledge base regarding optimal follow-up, care & surveillance of survivors.

As the treatments are constantly changing, and there are new drugs, new combinations of these, and new ways to deliver them, continuous efforts will be required to evaluate: the potential for chronic or latent toxicities among newer generations of survivors, different psychosocial and economic problems generated by these changes.

To develop new tools and techniques to monitor and evaluate, cancer impact on individuals, their families, and society over time.

Collect and provide information which is critical for:

- Help patients make decision about treatment option that will affect their future.
- Understanding the action of and as needed modify therapies to maximize cure and minimize adverse treatment-related effects.
- Develop and disseminate evidence-based intervention that reduce cancer morbidity and mortality and facilitate adaptation among cancer survivors.
- Improve quality care and control costs.
- Equip the next generation of physicians, nurses, and other healthcare professional to deliver not just the science but also the art of comprehensive medicine.

Overview of Cancer Survivorship Researches

Based on cancer incidence rates in 2002 to 2004, it is estimated that 40.9% of men and women born today in the United States will be diagnosed with some type of cancer **(Ries et al. 2007)**. An even larger number of people know someone who has survived cancer, underscoring the impact of cancer on the public. The ranks of cancer survivors numbered 10.7 million in 2004, representing 3.5% of the United States population **(Ries et al. 2007)**. Since the institution of the National Cancer Act in 1971, the number of cancer survivors in the United States has tripled, and is growing by 2% each year **(Cancer survivors 2004)**. The burgeoning number of patients reflects improvements throughout the cancer continuum, including early detection, supportive care, and therapeutic approaches. Among all cancer patients, the 5-year relative survival rate is now 64.9% **(Ries et al. 2007)**.

In 1986, the National Coalition for Cancer Survivorship was founded **(Hoffman. 2004)**. Despite the small number of charter members (only 23), NCCS gave birth to an era in which a new term was added to the language of oncology, one that heightened the importance of looking past the time beyond cancer treatment to a patient's future. In 1996, the National Cancer Institute (NCI) established the Office of Cancer Survivorship (OCS) **(Institute NC. Available at http://dccps.nci.nih.gov/ocs/)** with mission to improve the length and quality of life of all people diagnosed with cancer.

OCS accomplishes its goals through activities in several areas: the provision of research support, the training of researchers and clinicians dedicated to studying and caring for cancer survivors, and the development of educational materials and outreach programs. The domains of cancer survivorship research **(Aziz & Rowland. 2003)**, include descriptive and analytic research, intervention research, follow-up care and surveillance, family and caregiver issues, economic impact, health disparities, and instrument development. This