This issue of CA—A Cancer Journal for Clinicians illuminates quality-of-life problems that face all cancer patients before, during, and after therapy. Experts in the treatment of colorectal, prostate, gynecologic, and soft-tissue and bone tumors outline specific management objectives and outcomes for patients with these solid organ tumors. Each author presents specific criteria to provide a measurable index of the patient’s self-esteem, perception of health, and satisfaction with life.

**Evaluating Quality of Life**

Quality of life refers to the psychosocial, emotional, and physical outcomes of healthcare treatment as perceived by the patient. Patients interpret their feelings of well-being using expectations, perceptions, experience, and religious or community beliefs. Each of these may vary, and each depends on the patient’s attitude after the specific therapeutic intervention. Quality-of-life perceptions are influenced by the patient’s education and knowledge about expected outcomes of therapy. Therefore, expectations and beliefs about outcomes translate an objective assessment into the perceived (and actual) quality of life that the patient experiences. The same patient may have disparate outcome results in the treatment of the same process at different intervals; patients also may feel variations in quality of life after the management of new primary tumors of different organ systems, although subsequent treatments may be less complex than was management of the original tumor.

Quality-of-life indicators typically include preservation of body image and form without compromise of essential organ function. Examples include preservation of organ function by using conservation therapies such as nerve-sparing prostatectomy and limb-salvage treatment of soft-tissue tumors. The concept of quality-of-life enhancement may depend on preservation of physiologic function while the risk of developing more widespread cancer is reduced.

The Table shows the evolution of site-specific therapies for solid tumors that may be used in multiple organ sites. Current therapies include surgery, chemotherapy, radiation, or a combination of these modalities. The next millennium may see the use of tumorectomy to ablate the majority of neoplastic cells, combined with genetic, immunologic, and antiangiogenesis agents that are highly specific to tumor destruction when compared with conventional chemotherapy and irradiation.

Although several prospective randomized trials are evaluating these additive therapies with surgery, the impact of these new anticancer agents on quality of life also must be assessed. The various anticancer therapies in evolution probably have significant toxicities and side effects that curtail their application. However, new biotechnology may permit use...
of these methodologies for preservation of quality of life.

Because quality-of-life parameters are dynamic, quality-of-life indices should be reassessed periodically. Short-term therapeutic results cannot be extrapolated from those expected over the course of many months of therapy. Although adjuvant therapies may enhance control of the primary tumor, the individual patient’s interpretation of these therapies and perception of quality of life vary because of the necessary increased hospitalization time; pain; loss of wages; loss of “quality time” with family and other personal interactions; the duration of time in the rehabilitation and recuperative process; and the added stress on

| Table Evolution of Therapies for Management of Solid Tumors |
|-------------------------------------------------------------|
| Past | Present | Future |
| Treatment | Treatment | Treatment |
| Radical surgery | Conservation surgery | Ultraconservation surgery |
| Chemotherapy for advanced disease | Adjuvant/neoadjuvant chemotherapy | Advanced neoadjuvant/adjuvant chemotherapeutic/pharmacologic therapies |
| Nonselective external-beam radiotherapy | Selective external-beam radiotherapy with or without brachytherapy irradiation | Selective external-beam and brachytherapy irradiation |
| | Focused application of biologic tumor modifier/immunotherapy | Biologic response modifiers |
| Examples | Examples | Examples |
| Halsted radical mastectomy | Conservation breast surgery | Selective tumor cytoreductive neoadjuvant therapies/irradiation |
| | Sphincter-sparing anorectal resections | | |
| Radical limb amputations | Limb-sparing surgery | Conservation/ultraconservation breast/colon/neck resection |
| Radical neck lymph-node dissection | Modified neck lymph-node dissection | Postoperative selective biologic or antiangiogenesis therapies |
spouse, family, and friends. Because these factors are interpreted differently at various times by each patient, common methods to evaluate quality-of-life outcomes are needed.

**Colorectal Cancer**

DeCosse and Cennerazzo\(^2\) address quality-of-life issues for patients with colorectal cancer, the second most common tumor in both men and women. Aside from the significant morbidity of surgery and the potential need for adjuvant therapies, the stage of presentation and the site of the colorectal carcinoma are the most important determinants of each patient’s subsequent quality of life. Psychological issues affect the severity of pain and the emotional stability of the patient. Psychosocial interventions are needed to help the patient cope with the distress of therapy for advanced colorectal carcinoma and the accompanying depression, anger, and anxiety. Treatment for colorectal cancer commonly requires follow-up evaluation and therapies by specialists other than the surgeon. When only palliative care is appropriate, pain control is the most important factor determining the patient’s perceived quality of life.

**Prostate Cancer**

Herr\(^3\) emphasizes that quality-of-life measures and outcomes for men with prostate cancer have been studied less than those of other solid tumors. As a result, little is known about the physical, social, and sexual functioning of these men. In the future, prostate cancer can be expected to affect more men and to be discovered in younger men. The latter stems from the introduction of the tumor biomarker prostate-specific antigen, which allows biochemical detection of the disease in blood samples before it can be detected by physical means or radiologic imaging.

Prostate cancer is a disease in which the stage at detection has dramatic physical, psychological, and social consequences. As with breast cancer, quality-of-life assessments can identify patients having problems in adapting to their illness and its therapy. Evaluation by a mental health professional is desirable and even necessary.

An important finding is that spouses report significantly greater psychological distress than do their patient-partners with prostate cancer—more than do the spouses of patients with any other solid tumor.\(^4\) The quality of life of the “significant other” needs to be addressed also so that both patient and spouse make a rapid transition to psychological stability.

**Gynecologic Cancer**

Anderson and Lutgendorf\(^5\) suggest that for most studies of gynecologic cancer, survival without major morbidity has been the principal outcome measure. Although the morbidity related to therapy obviously is a negative influence on quality of life, little is known about how these cancer survivors adapt to the side effects of this fourth most common cancer in American women.

For survivors of gynecologic malignancies, common quality-of-life concerns include reestablishing life roles in the family and the workplace, short- and long-term physical disability, financial constraints, insurability, the development of secondary malignancies, and, most important, curability of the primary neoplasm and survival. Changes in perception of body image, sexuality, and fertility may be less obvious in patients treated for gynecologic cancer than in patients treated for breast cancer. Variables such as age at diagnosis and type and duration of therapy contribute significantly to comorbidity, thereby influencing quality of life. The ablation of gynecologic organs also has profound emotional and psychological consequences on sexual function.
and spousal relationships.

At the heart of proper patient care is the physician’s effort to infuse humane qualities into interactions with the patient and family. Consultations with psychologists, psychiatrists, and Visiting Nurse Association services are essential for the patient to understand the personal and familial stress that accompanies emotional and physical pain. Only with proper monitoring of patient outcomes can the physician provide proper assessment for these cancer survivors.

Soft-Tissue and Bone Sarcomas

As Yasko and associates\(^1\) acknowledge, new technologies for surgical resection and reconstruction have altered the treatment of sarcomas of the extremities. These techniques make it possible for surgeons to salvage limbs and at the same time achieve local-regional control of cancer that is equivalent to the control achieved after radical resections and amputations. Preservation of the limb’s neurovascular function, length, and range of motion are most important in limb salvage. The physiologic, anatomic, and functional outcomes expected after limb conservation and soft-tissue therapy differ from those expected after therapies for colorectal and prostate cancers.

Patients undergoing multimodality therapy for extremity soft-tissue sarcoma have been reported to have a decreased quality of life.\(^6\) Overall results suggest that the quality of life decreases after surgery in all of these patients.

Quality of life after treatment of solid tumors of any organ site is predicated upon the type of therapy and the necessity to match patient expectations with appropriate treatments. Patients who undergo multimodality therapies should be placed in rehabilitation programs early in the course of treatment.

Summary

The importance of considering quality-of-life issues throughout the treatment of these cancers is evident. Although quality-of-life variables are being delineated for cancers of various organ systems, safeguarding the patient’s sense of well-being and self-esteem while preserving organ, endocrine, exocrine, and hormonal function, fosters the best possible quality of life for the patient in either a palliative or a curative setting. The next millennium will usher into practice more aggressive, targeted therapies that combine surgery, radiotherapy, and genetic and biologic agents. The proper sequencing, administration, and toxicity of these therapies will decrease morbidity and improve the quality of life for patients. Above all, the healthcare provider must be aware of the patient’s personal concerns and needs for a good quality of life. The dictum espoused by Hippocrates of “primum non nocere” (“first, do no harm”) is nowhere more appropriate than in the planning of individual therapies to achieve optimal quality of life.