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Underserved Topics in Oncology: The Role of Physical Activity in Improving Quality of Life and Decreasing Recurrence Risk in Patients With Cancer

Robert J. Morgan Jr, MD

Overheard conversation in a Medical Oncology Waiting Area:

Amy: “I’m glad that I’m here getting my chemotherapy. My doctor told me that the chemo will decrease the chances of my breast cancer recurring by about 2%, but I want to do everything that I can.”

Christina: “Me too. My doctor told me to keep active also. I wonder if being more active will help. I really just want to sit and sleep all the time.”

Amy: “Oh, all of that stuff is just complementary medicine. I don’t believe in those things. Just like acupuncture. But I like to take vitamins. I read in Woman’s Day that some actresses recommend them.”

The tools available to an oncologist for the purpose of treating cancer include surgery, radiation, and systemic treatments, including chemotherapy and, in the past decade, targeted therapy. There has been an explosion of new knowledge regarding the biology and molecular bases of cancer etiology and metastasis. One only needs to attend any of the national oncology meetings and saunter through poster sessions to understand that pharmaceutical companies and academic investigators are working feverishly to develop new agents that we hope will help our patients live better or longer.

Complementary and alternative medicine (CAM) treatments are also used by a large percentage of our patients. Studies show that up to 80% of patients are using some form of CAM, even if the treating oncologist is unaware of the use. Methods of CAM are legion, and classes of these interventions include whole medical systems, mind-body medicine (various forms of meditation), biologically based practices (often vitamins or unproven pharmaceuticals), manipulative and body-based practices (touch therapy or physical activity interventions), and energy medicine procedures. However, little convincing scientific evidence is available for most CAM practices.

Modern oncologists primarily use surgery, radiation, and systemic therapies to treat and prevent recurrences, and early-stage cancer often requires a combination of these modalities. Systemic adjuvant chemotherapy in many cancers is administered after surgery based on efficacy shown in randomized clinical trials. Interestingly, studies have shown that, after informed discussion, substantial proportions of patients will accept toxic adjuvant chemotherapy offering a benefit as little as 1% in overall 5-year survival.

However, “Western” allopathic and CAM medical practices can merge in some areas. One such area—which is an “underserved” area of treatment for patients with cancer and certainly underused and underencouraged in cancer centers—involves the implementation of physical activity therapy for patients with cancer. Much evidence has been published in the past decade documenting the benefits of physical activity for patients with cancer. Physical activity has been shown to improve quality of life during and after treatment, and remarkably increases survival and decreases recurrence rates at least in patients with breast or colon cancers who maintain a minimum activity level. Recommendations regarding the amount of activity suggest that only modest levels of physical exertion (as little as 30 minutes per day of brisk walking) are necessary to obtain large improvements in quality of life measurements and substantial decreases in hazard ratios for cancer recurrence.

Physical activity is measured in units of “metabolic equivalents of task” (MET). These measurements are an effort to quantify the amount of energy that is expended...
during a certain amount of exertion; a physiologic measure expressing the cost of physical activities during a defined physical activity. One MET is roughly defined as the amount of energy expended by an individual during rest. Increasing activity levels result in increasing energy being used and, therefore, an increased number of METs. For example, slow walking expends approximately 2 METs per hour; dancing about 4 METs per hour; moderate bicycling between 6 and 10 METs per hour; and running 8 miles per hour expends about 13.5 METs per hour.

Published studies suggest that physical activity of moderate activity (9 METs/h/wk) for 30 minutes 3 to 5 times per week is adequate to achieve benefits. This level of activity has been shown to decrease cancer-specific mortality in patients with breast cancer by more than 30% to 45%. The benefits of physical activity are present irrespective of the patient's prediagnosis activity level. These data suggest that oncologists should be directly referring patients to facilities that can impact their activity levels as a component of multidisciplinary care. Some national research and intervention programs such as the Gynecologic Group Protocol Lifestyle Intervention for Ovarian Cancer Enhanced Survival (GOG 0225) and the Survivorship Training and Rehabilitation (STAR) Program are ongoing, but these are not available to all patients with cancer.

Based on these and other data, perhaps oncologists, cancer centers, and payers should recognize the importance of lifestyle changes in the overall treatment plans for patients with cancer. Physical activity interventions will result in a decreased overall cost of care based on decreased cancer recurrences. Although definitive results of randomized trials are lacking, data shows that physical activity affects overall health-related quality of life, morbidity, and mortality during and after treatment. The benefits of physical activity are present irrespective of the patient's prediagnosis activity level. These data suggest that oncologists should be directly referring patients to facilities that can impact their activity levels as a component of multidisciplinary care. Some national research and intervention programs such as the Gynecologic Group Protocol Lifestyle Intervention for Ovarian Cancer Enhanced Survival (GOG 0225) and the Survivorship Training and Rehabilitation (STAR) Program are ongoing, but these are not available to all patients with cancer.

These multiple observations suggest that direct relationships between cancer care providers and providers of structured exercise therapy sessions (such as gymnasiums) should be organized. Payers should recognize that these interventions are as important as very expensive pharmaceutical agents and should reimburse for their use, and provision of personal trainers or structured classes should be covered by insurance plans. If exercise were a drug with results as promising as those reported, patients would be lined up for miles to participate. Therefore, oncologists and cancer centers should realize the benefits for patients with cancer, their families, and society, and ensure that this information is communicated to patients and that appropriate structures are in place to provide referrals for these therapeutic interventions. Furthermore, exercise physiologists, physical therapists, and even athletic trainers should participate in designing classes for patients with cancer that are appropriate for specific groups based on age, performance status, and ability level. No one should be left out.

References


