Psychotherapy Extends Cancer Care Beyond the Physical

By Karen Stuyck

Sometimes a health professional, focused on a cancer patient’s physical well-being, overlooks the patient’s psychological distress, assuming that it’s “normal” to experience depression after a diagnosis of cancer.

But for cancer patients who are experiencing such distress, psychotherapy can offer major benefits, helping them cope with the depression, anxiety, stress, and other emotional reactions that often accompany a cancer diagnosis.

Anywhere from 20% to 70% of cancer patients suffer from depression and anxiety. Psychotherapy can improve these patients’ overall care.

Psychiatric clinical nurse specialist Mary K. Hughes (left) says cancer patients often suffer from depression and anxiety. Psychotherapy can improve these patients’ overall care.
survivors experience some level of depression and/or anxiety, depending on other stressors in their life; and the U.S. National Cancer Institute estimates that 25% of cancer patients experience major depression.

“Depression and anxiety are highly underdiagnosed in cancer patients, which is unfortunate since treatment for these conditions is readily available and can significantly enhance a patient’s overall care,” said Mary K. Hughes, C.N.S., a psychiatric clinical nurse specialist in The University of Texas M. D. Anderson Cancer Center’s Department of Psychiatry. “Providing help with their depression and anxiety helps them to get through their cancer treatment. It improves their compliance with cancer treatment and cuts down on their anxiety so they tolerate treatment better.”

**Risk factors**

A cancer patient’s risk of developing depression is associated with non-cancer-related factors as well as cancer-related ones. Factors unrelated to cancer include a personal or family history of depression or suicide attempts, lack of a family support system, other life events that cause stress, a history of alcoholism or drug abuse, and concurrent medical problems, such as heart disease, that can produce symptoms of depression.

Some anticancer drugs and prolonged or difficult cancer treatments also increase a patient’s risk of depression. In addition, certain types of cancer—including head and neck, lung, and pancreatic cancers—have been associated with an increased risk of depression. And oral, pharyngeal, and lung cancers have been linked to an increased risk of suicide. Other cancer-related risk factors for depression, according to the National Cancer Institute, include poorly controlled pain, an advanced stage of cancer, and increased physical impairment.

**Rating the distress**

At M. D. Anderson, patients may be referred to counseling based on how they rate themselves on a routine needs assessment that many fill out during clinic appointments. Patients are asked to rate their distress on a scale of 1 to 10 and to indicate if they are experiencing difficulties in coping with their cancer, trouble dealing with their emotions and relationships, practical issues that impact their care and access to resources, trouble with their support systems, and cultural or spiritual concerns.

Patients with an elevated distress rating are assessed by social work counselors, who identify the specific causes of the distress, provide brief counseling, and facilitate access to resources. “Our primary goal is to remove barriers to the patient’s care during their treatment here,” said Lakshmi Naik, L.C.S.W., a clinical supervisor in the Department of Social Work. “We want our patients and their families to have the best quality of life under the circumstances so that the patients are able to respond to their treatment with the least amount of stress.” Increase stress negatively affects the immune system, and it can also impact a patient’s ability to think clearly, follow instructions, maintain relationships, and perform daily functions, Ms. Naik said.

Social workers help patients and their families cope with the intense feelings of anger, grief, and helplessness that a cancer diagnosis may bring. They also teach relaxation techniques and help patients navigate uncomfortable topics, such as end-of-life issues, advance directives, applying for disability benefits, and transitioning to hospice care. This counseling focuses on crisis intervention, overcoming helplessness, encouraging self-mastery, reframing meaning, and providing resource information and linkage.

**More involved therapy**

A patient might also be referred for other mental health services. In M. D. Anderson’s Department of Psychiatry, patients can be assessed for depression, anxiety, adjustment disorders, sexual dysfunction, or substance abuse. This could require counseling or perhaps medication for depression, anxiety, or insomnia. If medication is indicated, receiving psychotherapy along with the drugs is usually the most effective treatment. Depending on the patient’s needs, therapists may employ a variety of approaches, including insight-oriented psychodynamic therapy, cognitive-behavioral therapy, and supportive therapy, and may even teach a patient self-hypnosis to control symptoms. The Department of Psychiatry provides counseling to about 240 patients each month.

In addition to mental health services in the departments of Psychiatry and Social Work, M. D. Anderson’s Place…of wellness offers a variety of complementary therapies to help manage symptoms, relieve stress, and enhance quality of life. Professionally led support groups are also available to provide education, group discussions, and supportive sharing for patients, their families, and friends.

**Dealing with grief**

Many cancer patients, Ms. Hughes said, need help dealing with grief issues. “Sometimes people are sent to me because their doctor thinks they’re depressed, but they’re not depressed; they’re grieving the things that they’ve lost—their health, perhaps the ability to work, important relationships, or financial stability. One of the losses they feel is a loss of control, feeling that the cancer or the treatment or the side effects have taken control of their life.”

Counseling can help patients with the grieving process. Naming the things that they’ve lost and recognizing that
Gefitinib Plus Hormonal Therapy Shows Promise for Treating Metastatic Breast Cancer

Gefitinib, a drug approved as a second-line treatment for lung cancer, enhances the effectiveness of hormonal therapy in treating specific types of metastatic breast cancer, according to the findings of a phase II clinical trial led by researchers at M.D. Anderson.

The study yielded the first positive findings for gefitinib and the entire class of drugs known as epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors in the treatment of breast cancer, said Massimo Cristofanilli, M.D., an associate professor in the Department of Breast Medical Oncology and the study’s principal investigator.

Ninety-three women—20 from M.D. Anderson—from 30 centers across the United States and Latin America were enrolled in the study. All patients were newly diagnosed with metastatic breast cancer and were hormone receptor–positive and HER-2–negative. Patients were randomly assigned to receive the aromatase inhibitor anastrozole (1 mg) and gefitinib (250 mg) or anastrozole and placebo daily. Progression-free survival was the primary endpoint.

Researchers were surprised to find that the women who received anastrozole and gefitinib had a mean progression-free survival of 14.5 months, while the women who did not receive gefitinib had a mean progression-free survival of 8.2 months. Of the women taking anastrozole and gefitinib, 47% had stable disease for more than 24 weeks, and 49% had a clinical benefit. In contrast, only 22% of the women taking anastrozole and placebo had stable disease for more than 24 weeks, and 34% had a clinical benefit.

Although the group of patients taking anastrozole and gefitinib had a higher rate of adverse events, Dr. Cristofanilli noted that gefitinib was well tolerated overall.

“To see such a difference in such a small subset of patients was tremendously surprising,” Dr. Cristofanilli said. “These findings show the possibility of adding a targeted therapy such as gefitinib or others in the EGFR drug class to improve the benefit of hormonal therapy, giving another option for women with metastatic disease that is hormone receptor–positive and HER-2–negative,” Dr. Cristofanilli will present the findings in June at the American Society of Clinical Oncology’s annual meeting.

Interleukin-12 Levels Predict Outcomes in Melanoma Patients

New data suggest that levels of interleukin-12 (IL-12), an immune system cytokine, are directly related to poorer prognosis in patients with advanced melanoma. Among patients with stage III disease, those with high IL-12 levels were five times more likely to die of melanoma than patients with normal IL-12 levels. The IL-12 findings also provide a potential molecular

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In the study, groups of mice were given one of four diets: a control diet; an obesity-inducing (high-fat) diet; and two calorie-restricted diets. A two-step chemical carcinogenesis regimen was used to induce skin papilloma formation in the mice. Subsequently, the mice on the calorie-restricted diets developed fewer skin papillomas than the mice on either the control or obesity-inducing diets. Additionally, the mice on the obesity-inducing diet had slightly more papillomas than the mice on the control diet, although this difference was not statistically significant.

In addition, the calorie-restricted diets reduced activation of epidermal Akt and mTOR, while the obesity-inducing diet increased activation.

“Calorie restriction and obesity directly affect activation of the cell surface receptors: epidermal growth factor and insulin-like growth factor. These receptors then affect signaling in downstream molecular pathways such as Akt and mTOR,” said Tricia Moore, a graduate student in the Department of Carcinogenesis and the first author of the study. “Calorie restriction, which we refer to as negative energy balance, inhibits this signaling. And obesity, or positive energy balance, enhances signaling through these pathways, leading to increased cell growth, proliferation, and survival.”

According to senior author John DiGiovanni, Ph.D., a professor and chair of the Department of Carcinogenesis and director of M. D. Anderson’s Science Park–Research Division, previous research suggests that a chronic positive energy balance, which can lead to obesity, increases the risk of developing a variety of cancers, while a negative energy balance consistently decreases risk.

“These findings provide the basis for future translational studies targeting Akt/mTOR pathways through combinations of lifestyle and pharmacologic approaches to prevent and control obesity-related epithelial cancers in humans,” Dr. DiGiovanni said. “These results, while tested in a mouse model of skin cancer, are broadly applicable to epithelial cancers in other tissues.”

Calorie Restriction Inhibits, Obesity Fuels Epithelial Cancer Development

A restricted-calorie diet inhibits the development of precancerous epithelial growths in a two-step skin cancer model by reducing the activation of two signaling pathways known to contribute to cancer growth, a team led by researchers in the Department of Carcinogenesis at M. D. Anderson’s Science Park–Research Division recently reported at the annual meeting of the American Association for Cancer Research. The researchers also found that an obesity-inducing diet activated those pathways.

Radical Trachelectomy: A Fertility-Sparing Procedure

By Virginia M. Mohlere

A diagnosis of invasive cervical cancer used to mean the end of a woman’s fertility. But for the past 13 years, doctors all over the world have been working to change this. For some women with small, localized invasive cervical cancers, there is now hope of pregnancy after treatment.

Each year, about 11,000 new cases of invasive cervical cancer are diagnosed in the United States, and about 3,500 women die of the disease. Most women with invasive cervical cancer undergo a radical hysterectomy and salpingo-oophorectomy. Depending on the stage of the cancer, women might also receive chemotherapy or radiation therapy.

However, 43% of invasive cervical cancer diagnoses are in women aged 45 years or younger—many of whom still wish to have children. Obviously, the standard treatment doesn’t preserve this option.

Enter radical trachelectomy. This fertility-sparing surgery was pioneered in France by Dr. Daniel Dargent, who published information on the first procedure in 1995. The procedure itself is tricky and difficult to master: the surgeon removes the cervix, parametrium, surrounding lymph nodes, and upper 2 cm of the vagina. The uterus is then attached to the remaining vagina. A cerclage is placed where the cervix used to mean pregnancy after treatment.

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In radical trachelectomy, the surgeon removes the cervix, parametrium, surrounding lymph nodes, and upper 2 cm of the vagina. This technique may allow preservation of fertility for some women with invasive cervical cancer.

The extents of resection in simple hysterectomy and radical hysterectomy (the most common surgical treatment for invasive cervical cancer) are shown for comparison.

Extent of Resection for Invasive Cervical Cancer

Radical Trachelectomy

Simple Hysterectomy

Radical Hysterectomy

Many oncologists initially expressed skepticism about radical trachelectomy because the potential risk of recurrence was not known when the procedure was developed. However, there are now 13 years’ worth of follow-up data on the nearly 550 patients around the world who have chosen radical trachelectomy, and rates of recurrence and death after recurrence (4% and 2%, respectively) are similar to those for the standard surgical procedure, radical hysterectomy.

Women who have undergone a radical trachelectomy must give birth via cesarean section, and they have a slightly

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Radical Trachelectomy
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Dr. Pedro Ramirez has been performing radical trachelectomies at M. D. Anderson since 2005. “We’re very selective about who undergoes this procedure,” he said. “There is a higher risk of recurrence or need for postoperative radiation therapy if women don’t meet the specified criteria.”

higher risk of miscarriage than women in the general population. Of the patients reported in the literature who have been treated with radical trachelectomy, about half have tried to become pregnant. Among these, 75% have succeeded naturally, and 60% have delivered full-term infants. To date, a reported 204 babies have been born to mothers who had trachelectomies.

In one pioneering instance, Dr. Ramirez performed a similar surgery—a simple trachelectomy, in which only the cervix is removed—on a patient who was already pregnant. The patient’s cervical cancer was diagnosed on a Pap smear at her first obstetric visit. Dr. Ramirez was able to remove the patient’s cervix and surrounding tissue without harming the fetus. Three years later, both mother and child are healthy, he said.

Efforts are being made to expand the population of patients suitable for less-invasive treatment of early-stage cervical cancer. A recent report in Canada showed the efficacy of chemotherapy for shrinking tumors to a size suitable for radical trachelectomy. Because as many as 60% of trachelectomy specimens have no residual disease—presumably because the entire tumor was removed during biopsy—tests are also under way to determine whether a large cone biopsy or a simple trachelectomy is sufficient to treat very small invasive cervical tumors.

At M. D. Anderson, Dr. Ramirez is working hard to promote radical trachelectomy among suitable patients. He teaches the procedure to his colleagues and is exploring the use of robotic surgery in performing this procedure.

To treat cervical cancer while maintaining a woman’s fertility is a significant breakthrough. With radical trachelectomy, Dr. Ramirez is hopeful that some women with invasive cervical cancer can have a good oncologic outcome while fulfilling their desire to have children.

For more information, call Dr. Ramirez at 713-745-5498.

By the Numbers

11,000
New cases of invasive cervical cancer diagnosed annually in the United States

3,500
U.S. women who will die of the disease this year

43%
Diagnoses in women aged 45 years or younger

550
Approximate number of patients worldwide who have chosen radical trachelectomy

204
Reported number of babies born to women who have undergone radical trachelectomy

Have You Taken the OncoLog Reader Survey?

A survey was distributed inside the May 2008 issue of OncoLog. If you haven’t answered this brief questionnaire, please take a few moments to do so. You can also fill out the survey online by visiting www.mdanderson.org/oncolog.

Your answers will help ensure that OncoLog provides the most accurate, useful, and timely information about the latest developments in cancer care. Thank you!
Understanding How Cancer Spreads

Cancer that has spread from one part of the body to another is called metastasis. Metastasis can invade major organs, such as the brain, grow so large that it disrupts the body’s normal processes, and press against vital structures like blood vessels or nerves. The result can be irreversible damage or even death.

How cancer moves through the body

Cancer occurs when cells become abnormal and multiply uncontrollably. These abnormal cells form a primary tumor. Metastasis occurs when cells break away from the primary tumor and enter the bloodstream or the lymphatic system, which produces, stores, and moves infection-fighting cells throughout the body. The bloodstream or the lymphatic system carries these malignant cells to other parts of the body, where they can become embedded in different tissues. Under the right circumstances, these embedded cells will divide, multiply, and develop into a new tumor.

This new tumor is called a metastatic tumor. A metastatic tumor is made up of the same type of cells as the primary tumor. If, for example, colon cancer spreads to the brain, the resulting metastatic tumor in the brain is made up of colon cancer cells, not brain cancer cells. The metastasis is not brain cancer; it is metastatic colon cancer.

Common sites of metastasis

Although cancer can spread to almost any part of the body, the lungs, bones, brain, liver, and lymph nodes are the most common sites of metastasis. Certain cancers tend to invade one or two areas in particular. For example, prostate cancer commonly spreads to the bones. Colon cancer, on the other hand, tends to spread to the liver.

Often, cancer spreads to the lymph nodes, which are small pockets in the lymphatic system that filter viruses and bacteria out of the body. The spread of cancer to lymph nodes near the primary tumor is known as regional metastasis. The spread of cancer to a part of the body far away from the primary tumor is known as distant metastasis. Usually, regional metastasis can be treated more effectively than distant metastasis. Cancer can spread to multiple sites in a single patient.

Occasionally, metastatic cancer is discovered before the primary cancer is found. Lab tests, imaging, and other methods will identify the type of primary tumor in most cases. When the primary cancer remains unknown, the patient is said to have a cancer of unknown primary origin. However, even if the primary cancer is unknown, the metastatic cancer may still be treatable.

Symptoms of metastasis

The symptoms caused by metastatic cancer depend on the size and location of the metastasis. For example, metastasis to the brain may cause headaches, dizziness, or seizures, while metastasis to the lungs may cause shortness of breath. Not all people with metastatic cancer have symptoms; in these cases, metastasis is usually discovered with x-rays or other tests.

Treatment of metastasis

The treatments available for metastasis depend on the type of primary cancer, the size and location of the metastasis, the number of sites of metastasis, the patient’s age and health, and the types of treatments the patient has already received. Treatment options may include one or more of the following:

• Surgery
• Chemotherapy (drugs that kill cancer cells)
• Radiation therapy (beams of energy that kill cancer cells and shrink tumors)
• Biological therapy (vaccines, antibodies, and other agents that enhance or restore the immune system’s ability to fight cancer)
• Hormone therapy (medications that interfere with the activity of or stop the production of hormones that stimulate cancer growth)
• Cryosurgery (surgery in which tissue is frozen to destroy abnormal cells)

The best way to prevent metastasis is to detect and treat the primary tumor early, while it is still small.

Sources: The National Cancer Institute and the American Cancer Society

For more information, talk to your physician, or:
• call askMDAnderson at 1-877-632-6789
• visit www.mdanderson.org
• visit the National Cancer Institute online at www.cancer.gov or the American Cancer Society at www.cancer.org.

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J. Munch

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The diagnosis was not good, but the couple held out hope that there would be a turn-around. Faith was important in their lives. The husband’s condition worsened. The wife held to the conviction that God was still at work. This belief sustained them at each negative lab report. The chaplain spoke with the wife, and together, they explored what it meant for God to be at work in the situation. Without dashing hope for a cure or remission, they acknowledged that God could be at work regardless of the outcome.

The wife and the chaplain prayed together several times before the husband was discharged.

It is important for patients and their families to consider sources of strength, meaning, support, and hope that will last throughout the cancer experience. Rachel Remen, M.D., writes, “Over time an illness can become a spiritual path.” This is particularly true today because of the advances in modern medicine; in many cases, cancer is no longer seen as an immediate threat to one’s life. Rather, the diagnosis and treatment of cancer are provided in the context of survivorship. A truly interdisciplinary model is called for—a partnership between medical care and spiritual care teams.

The first step for the physician in this process is to include an inventory of the patient’s religious background and spiritual resources in the initial patient interview. This will convey concern and empathy to the patient as a whole person and alert the physician to a potential need for referral to a chaplain. A clinically trained chaplain can assist the patient and family by helping them explore the meaning of their experiences. “Being able to talk about the meaning of an illness can empower the patient (and family) to become an active colleague in treatment,” writes Arthur Kleinman, M.D. A chaplain can also mobilize religious and/or spiritual resources to meet the challenges the patient and family face.

The chaplain may thus partner with the physician as a member of the care team. Such a partnership gives the physician the freedom to hear all the nuances of a patient narrative and respond accordingly, thereby enhancing the quality of treatment—and of life.

The Rev. Stouter is a chaplain in M.D. Anderson’s Department of Chaplaincy and Pastoral Education.

The Rev. Jenkins is director of the Department of Chaplaincy and Pastoral Education.
