



REPORT TO PHYSICIANS

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Oncology

Redefining Cancer Care

Cancer patients face myriad treatment complications and comorbid conditions. Increasingly, specialists in fields other than oncology are being tapped to provide sophisticated, comprehensive care.

By John LeBas

Every day in cancer care, outcomes are complicated—even determined—by side effects or comorbidities: A lymphoma patient develops a deep vein thrombosis. A woman who has undergone chemotherapy for breast cancer suffers abnormal vaginal bleeding and a loss of libido. A liver cancer patient has an ongoing viral hepatic infection that increases the risk of tumor recurrence.

At The University of Texas M. D. Anderson Cancer Center, the non-oncologic needs of such patients are often addressed concurrently with their cancer care. Many faculty members exclusively treat conditions *other* than cancer, working alongside patients' primary oncologists to treat or manage side effects and comorbidities. This model of comprehensive care has broadened the cancer center's role, reflecting changes in both patient expectations and best-care approaches.

"Physicians are looking at the whole patient in addition to the breast or colon or liver or prostate. Patients have demanded that," said Andrea Milbourne, M.D., an associate professor in the Department of Gynecologic Oncology's

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Dr. Andrea Milbourne of M. D. Anderson's general gynecology program is among the growing ranks of physicians at the institution who treat conditions other than cancer.



THE UNIVERSITY OF TEXAS
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Redefining Cancer Care

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general oncology program. “As survival rates improve, patients have desires or concerns that go beyond strict oncologic considerations because they want a fulfilling life after cancer. And we have also learned that non-oncologic care often works in concert with cancer care to produce a better outcome.”

Benign hematology

In some instances, the increasingly sophisticated understanding of how cancer and cancer therapies interact with the body has enabled clinicians to reduce side effects. “For example, every cancer patient is at risk of thrombosis, and probably close to 10% are affected,” said Michael Kroll, M.D., a professor in the Department of Pulmonary Medicine and chief of M. D. Anderson’s new Benign Hematology section. “Cancer itself triggers things that lead to hypercoagulability, which in turn leads to deep vein thrombosis and pulmonary embolism. However, chemotherapy often leads to thrombocytopenia, which creates a bleeding risk that is worsened by anticoagulants given for thrombosis. So we have to balance the risk of bleeding versus the risk of thrombosis, and by work-



ing with the patient’s oncologist, we try to find the right balance.”

The section of Benign Hematology is among M. D. Anderson’s more recent expansions into the non-oncologic aspects of cancer care. Launched this year, Benign Hematology provides clinical care for cancer patients with hypercoagulability, thrombosis, bleeding, and abnormal platelets, red blood cells, and white blood cells. The section also performs laboratory research on such conditions. “Over the long haul, our most important mission is to improve the standard of care for cancer patients who develop benign hematologic diseases,” said Dr. Kroll, who leads the effort with research director Vahid Afshar-Kharghan, M.D., an associate

“Over the long haul, our most important mission is to improve the standard of care for cancer patients who develop benign hematologic diseases.”

– Dr. Michael Kroll,
chief of the Benign Hematology section

professor in Pulmonary Medicine. Both are oncologists, as well.

For now, the section is focused primarily on improving the diagnosis and management of thrombosis. One type of thrombosis, stem cell transplant thrombotic microangiopathy (SCT-TMA), is especially vexing. SCT-TMA is the occlusion of small arteries by platelets following a stem cell transplant; at M. D. Anderson, about 50 cases occur each year, Dr. Kroll said. SCT-TMA can lead to kidney failure, and up to 80% of patients who develop SCT-TMA die within 3 years.

“Diagnostic guidelines exist, but they are somewhat vague, and effective therapy for SCT-TMA has been elusive,” Dr. Kroll said. “We understand very little about the basic science of the syndrome, and optimal prevention and treatment strategies need to be identified and elucidated. That’s what we hope to accomplish through our clinical and laboratory efforts in collaboration with members of the Department of Stem Cell Transplantation and Cellular Therapy.”

In addition to developing prevention and treatment strategies for SCT-TMA, the section’s goals include implementing institutional guidelines for the use of anticoagulants; developing continuing medical education programs on managing thrombosis in cancer patients; and building research programs aimed at understanding the complex relationship between cancer and thrombosis.

Gastroenterology and hepatology

In the Department of Gastroenterology, Hepatology and Nutrition, cancer patients are routinely screened and treated for Barrett’s esophagus. This precancerous condition caused by gastroesophageal reflux disease may go undetected for years, sometimes until cancer develops. Fortunately, many patients

Broadening Care

Certainly, supportive care has been an essential component of cancer care for decades. Such tasks as management of cardiotoxicity, treatment of opportunistic infections, and even reconstructive surgery have long been staples of oncology.

But the sheer variety of interventions now provided before, during, and after cancer treatment suggests that the term “cancer care” is broader than ever. A few examples of the non-oncologic services provided at M. D. Anderson illustrate how far cancer care has evolved from treating only the malignancy:

- The institution’s Brain and Spine Center specialists diagnose and manage neurologic disorders associated with systemic malignancy (so-called paraneoplastic syndromes) and manage brain and spinal radia-

tion necrosis, a late-occurring complication of radiation therapy for central nervous system cancers.

They also perform surgery to relieve carpal tunnel syndrome and other peripheral nerve entrapments resulting from the toxicity of chemotherapy.

- Department of Urology specialists treat M. D. Anderson patients for urine voiding dysfunction, incontinence, and erectile dysfunction resulting from prostate or bladder cancer surgery. They also treat disorders such as blood in the urine resulting from chemotherapy or radiation and obstruction of the ureters resulting from tumors.
- Physical rehabilitation and psychosocial counseling are provided on-site to help patients deal with the physical, mental, and emotional toll of cancer and its treatments. ●

receiving cancer treatment at M. D. Anderson are diagnosed with Barrett's esophagus early because they mention having frequent heartburn and are referred for an endoscopic screening.

"It is part of these patients' total health care, so providing screening and treatment for Barrett's esophagus supports our mission," said Marta Davila, M.D., an associate professor in and deputy chair ad interim of Gastroenterology, Hepatology and Nutrition. "Esophageal carcinoma is on the rise, and if we can diagnose and treat a condition that leads to esophageal carcinoma, then we can prevent major morbidity." Depending on the stage of a patient's Barrett's esophagus, Dr. Davila can choose to observe it or treat it with options including endoscopic photodynamic therapy, radiofrequency (heat) ablation, cryoablation (freezing), and endoscopic mucosal resection.

The Department of Gastroenterology, Hepatology and Nutrition also treats and manages hepatic infections in cancer patients. Hepatitis B and C infections are often present in patients with liver malignancies—and, in fact, may be what caused the cancer.

Patients with chronic hepatitis B infections usually receive antiviral therapy while they are receiving chemotherapy or radiation therapy for their cancer. The immunosuppression caused by such cancer treatments can allow a dormant hepatitis B infection to reactivate, so it's important that the antiviral therapy be given concurrently with cancer therapy. Hepatitis C, meanwhile, is unlikely to reactivate during cancer treatment, so antiviral therapy for that type of infection is often given after cancer treatment is completed. "In some cases, it is beneficial for these patients to receive treatment for the viral infection as well as for the cancer," Dr. Davila said. "Treating the hepatitis infection reduces the risk of cancer recurrence and improves patient outcomes."

In fact, the department recommends that patients with risk factors for viral hepatitis be screened for hepatitis B and C regardless of their cancer type. "In such patients, evaluation of liver function prior to cancer treatment may help us reduce future morbidity and mortality by



Dr. Marta Davila, associate professor in and deputy chair ad interim of the Department of Gastroenterology, Hepatology and Nutrition, provides gastroenterology care ranging from the removal of precancerous lesions in the esophagus to the treatment of viral hepatic infections.

treating viral hepatitis as appropriate," Dr. Davila said.

Gynecology

The general gynecology program, staffed by three full-time gynecologists, is only about 6 years old but has already carved out an important role at M. D. Anderson. "Many of our patients have gynecology problems but not gynecologic cancer," Dr. Milbourne said. "The need for our services has always existed, and we are meeting that need so the gynecologic oncologists can focus on oncology."

Female cancer patients can face many gynecologic and reproductive problems arising from their cancer or its treatment. Excessive or unusual vaginal bleeding is a common problem for patients receiving certain chemotherapy agents. Cancer therapy can also reduce libido and sexual

function, cause infertility, and cause premature ovarian failure (premature menopause), which leads to early onset of such problems as osteoporosis and coronary artery disease. M. D. Anderson's gynecology service treats and counsels patients who have side effects and determines whether a gynecologic symptom indicates an undiagnosed condition, such as a uterine polyp.

The general gynecology program is also available to help new patients who may be at risk of infertility from chemotherapy. "While we don't offer fertility programs per se, we can counsel those patients," Dr. Milbourne said. "We can't always give them the best thing in terms of fertility—a young woman with acute leukemia needs treatment right away, and there is no time for most fertility-sparing measures. But we may be able to protect her ovaries from toxicity with a drug that stops her menstrual period for the duration of chemotherapy. For other patients, we might be able to consult with the oncologist—if chemotherapy can be delayed for a few weeks, those patients may have a chance for in vitro fertilization."

When a patient is pregnant at the time her cancer is diagnosed, the gynecologists at M. D. Anderson can also serve as an interface between her oncologist and obstetrician. Such an interface is essential since M. D. Anderson does not provide labor and delivery care and because cancer treatments can harm the woman and the fetus. Guidelines for treating pregnant cancer patients, developed under Dr. Milbourne, assist oncologists and obstetricians alike, and high-risk obstetrics specialists at The University of Texas Health Science Center at Houston are available for consultation. "Many, many of these patients are told elsewhere, 'You have to terminate your pregnancy,'" Dr. Milbourne said. "But for the many women who do not want to do that, we may be able to provide them with another option."

And in cancer care, another option can make all the difference. ●

For more information, call Dr. Milbourne at 713-745-6986, Dr. Davila at 713-563-8906, or Dr. Kroll at 713-563-4258.

Early-Stage Laryngeal Cancer

Definitive Treatment Options That Spare Function

By **Sunni Hosemann**

Introduction

A patient who develops laryngeal cancer has a great deal at stake in terms of speech and swallowing function and thus quality of life. Fortunately, when laryngeal cancer is detected early, the patient has treatment options that can effectively control the disease, often without causing a significant loss of function.

Early-stage laryngeal cancer is defined here as a tumor that is confined to the larynx and has not invaded adjacent structures or spread to lymph nodes in the neck. The current standard treatment for such tumors is partial laryngectomy or radiation therapy. While both approaches provide similar medical outcomes, individual patients may find one approach more suitable than the other.

Understanding the larynx

The larynx is a delicate organ. "It has a complex, layered microanatomy of nerves and muscles that help it move in exquisite ways," explained F. Christopher Holsinger, M.D., an assistant professor in the Department of Head and Neck Surgery at M. D. Anderson. The larynx's intricate and complex arrangement of cartilage and muscle is responsible for voice and also partly for breathing. Additionally, the organ's sphincter makes swallowing possible, prevents aspiration, and stabilizes the thorax by shutting against exhalation during lifting.

The three anatomic areas of the larynx—the glottis, supraglottis, and subglottis—have differences in physical makeup, function, and lymphatic drainage. Accordingly, the symptoms of laryngeal lesions tend to vary depending on their location, as do the treatment and prognostic implications.

The glottis, the midsection of the larynx, contains the true vocal cords. Glottic lesions cause easily recognized symptoms, the most common being hoarseness. Because of that and because the area has relatively little lymphatic drainage, neoplasms in the glottis are often found at early, curable stages, before they have spread to lymph nodes.

The supraglottis, located above the glottis, contains the intricate muscle fibers that control the vocal cords; this area also includes the epiglottis, a cartilaginous flap that protects the airway by closing during swallowing. Supraglottic lesions often do not produce early symptoms. These lesions are also close to a rich lymphatic network, and many patients with supraglottic lesions present with lymph node involvement.

The subglottis comprises the throat tissue below the glottis that leads to the pharynx. As do lesions of the supraglottis, subglottic neoplasms often develop without early symptoms and tend to be more advanced on presentation than glottic lesions.

According to the National Comprehensive Cancer Network, 60%–65% of laryngeal cancers occur in the glottis, 30%–35% occur in the supraglottis, and about 5% occur in the subglottis. The majority are squamous cell carcinomas, arising from the tissues covering the structures in the larynx.

Initial evaluation

When a patient presents with a laryngeal neoplasm, careful evaluation by a multidisciplinary team is necessary. The pretreatment workup includes a comprehensive physical examination, laboratory and imaging studies, and an endoscopic examination of the larynx to fully assess the extent of the tumor.

At M. D. Anderson, the evaluation also includes laryngeal videostroboscopy, an endoscopic procedure in which video and sound recordings of the larynx are made while the patient vocalizes specific sounds. Videostroboscopy uses stroboscopic illumination that gives the impression of a slow-motion view when the recording is played, allowing the examiner to visualize the vibration of the vocal folds during phonation. Videostroboscopy provides a dynamic image of how the vocal folds close and the symmetry of structure and movement. It can also identify vibratory abnormalities that may not be visible to the naked eye, giving important information about the extent to which the tumor has invaded the vocal folds. "This information often helps predict the potential for retaining normal voice and voice quality after the cancer treatment," said Jan S. Lewin, Ph.D., an associate professor in the Department of Head and Neck Surgery and director of the Section of Speech Pathology and Audiology.

Laryngeal videostroboscopy and analysis of sound production are routine assessments for patients with tumors in the larynx. The examinations are performed at baseline, before treatment begins, and after treatment has been completed. Sometimes, the tests are also performed during treatment to help monitor the patient's response to treatment and the effect of treatment on vocal function. In any case, videostroboscopy and laryngeal function tests provide important information that helps determine the cancer treatment that will best preserve function in the long term. The tests help clinicians predict the effects of cancer treatment and identify rehabilitative strategies that will best preserve the voice, Dr. Lewin said.

Dental and swallowing evaluations are also part of the pretreatment workup. Such evaluations help identify a patient's risk for dysphagia and aspiration, which can affect treatment choice, and provide a guide for post-treatment rehabilitation. Like vocal function tests, a thorough swallowing evaluation will help determine which treatment might cure the disease while best preserving function. Testing should be completed before treatment decisions are made, as pretreatment swallowing abilities are often helpful in predicting long-term swallowing abilities beyond 1 year after treatment.

Treatment choices

Radiation therapy

For laryngeal cancers, radiation is typically delivered by external beam. At M. D. Anderson, three-dimensional (3-D) conformal or intensity-modulated radiation therapy (IMRT) is used. Both technologies finely focus radiation to a target area, sparing surrounding normal tissues and allowing the tumor tissue to receive higher doses of radiation. The 3-D conformal technique shapes the beam to the tumor target, while IMRT can vary (or modulate) the intensity of the beam as best suited to the target and surrounding normal structures. These technologies are particularly useful for patients whose tumors are near important structures that might be damaged by radiation. Damage to the salivary glands, for example, can result in long-term xerostomia.

According to David I. Rosenthal, M.D., a professor in the Division of Radiation Oncology, the radiation oncologist selects the delivery method based on the location and size of the tumor as well as patient factors, with the aim of optimizing tumor treatment while minimizing long-term effects. Patients typically have radiation treatments once, or in some cases twice, each day over a period of 5½–7 weeks.

Radiation therapy is considered a standard primary treatment for early-stage laryngeal cancer because it can cure 80%–90% of such tumors while preserving a high-quality voice. Also, patients who have a recurrence after radiation therapy can usually be treated successfully with surgery, boosting the overall cure rate for patients who receive primary radiation therapy to 95%.

Surgery

The standard surgical treatment for early-stage laryngeal cancer is partial laryngectomy with resection of the entire tumor. Conventional procedures include vertical partial laryngectomy and supraglottic laryngectomy; the choice of the specific procedure depends on tumor location. The preparation for and recovery from partial laryngectomy procedures are similar those for total laryngectomy, but partial laryngectomy requires only a temporary tracheostomy. Conservation techniques that can preserve laryngeal function may also be an option. Supracricoid partial laryngectomy is one such technique.

Another type of conservation surgery—transoral laser microsurgery (TLM)—has recently gained acceptance as an alternative to conventional surgery for early-stage (and intermediate-stage) laryngeal cancer. TLM is performed under di-

rect laryngoscopy using a surgical carbon dioxide (CO₂) laser beam and aided by a microscope. The use of a CO₂ laser is particularly important; water in the body absorbs the light energy in a way that minimizes collateral injury to adjacent neurovascular, mucosal, and muscular structures.

According to Dr. Holsinger, TLM represents a truly minimally invasive alternative for some patients. The larynx is accessed via a laryngoscope inserted through the patient's mouth, so a surgical incision is not needed. The surgeon “follows the tumor” along its anatomic boundaries to assess its margins. The laser vaporizes tissue so that the margins can be seen without carbonization from cautery. For selected patients, Dr. Holsinger points out, the tumor may be divided to identify the depth of invasion and to help the surgeon determine the appropriate extent of resection. This approach certainly challenges the long-held “en bloc” tenet of oncologic surgery, but it allows TLM to be used for larger tumors than would be possible with en bloc resection, given the restricted anatomical spaces of the neck and throat.

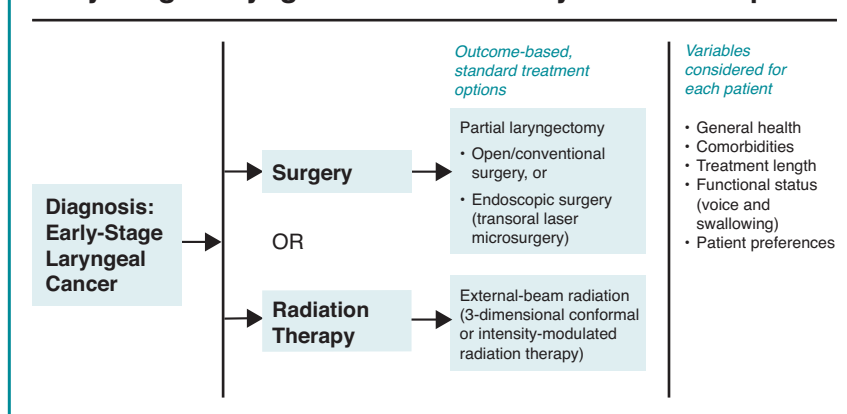
It should be clarified that TLM is not an ablative procedure but rather a true resection. The tumor can be studied pathologically—an advantage over radiation therapy.

TLM offers many other advantages: it is usually a one-time treatment, and it can successfully cure early-stage cancer, but it does not preclude future treatment options—patients can have radiation or additional surgery if the tumor recurs. “It does not burn a bridge,” Dr. Holsinger explained. Also, the recovery time is minimal compared to conventional surgeries; TLM is usually done as a day surgery when used as a primary treatment for early-stage cancers. Most patients are able to speak and eat immediately after surgery and can return to normal activities within a week.

Today, most TLM procedures for laryngeal cancer are performed for tumors that have recurred after primary radiation treatment; in such cases, TLM may be an alternative to total laryngectomy. Unfortunately, 70% of the patients with early- and intermediate-stage larynx cancer who have a recurrence after radiation will require a total laryngectomy.^{1,2}

Because of its significant advantages, TLM is now considered a primary treatment option for early-stage laryngeal cancer at M. D. Anderson, said Randal S. Weber, M.D., a

Early-Stage Laryngeal Cancer: Primary Treatment Options



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professor in and chair of the Department of Head and Neck Surgery. Despite those advantages, however, Dr. Weber pointed out that TLM may not be an option for all early-stage laryngeal cancer patients, including those with limited neck mobility or spinal issues that prevent the positioning necessary for the surgery. If a patient has a full set of natural teeth or cannot fully extend the jaw, the surgeon may not be able to use transoral instruments.

Treatment decisions

The goal of treatment for patients with early-stage laryngeal cancer is optimal cancer control with *functional* preservation of the larynx, said Dr. Rosenthal. The chosen treatment should be the one that is the easiest on the patient, he added. “Functional preservation” must take into consideration the jobs of this intricate organ: breathing, safe swallowing without aspiration, and voice. Ideally, early-stage laryngeal cancers should be treated with a single modality, either surgery or radiation therapy.

The choice between surgery and radiation therapy should be based first on the patient’s *medical considerations*. For example, patients with a significant comorbid illness are often better served by radiation therapy than major surgery. As noted earlier, anatomical factors may preclude TLM, and comorbidities that cause pulmonary insufficiency or poor healing may preclude all surgical options.

The other significant medical variables are tumor size and location. Tumors that are small and localized lend themselves to surgery; for larger lesions, radiation therapy and chemotherapy may provide superior voice results.

Patient preferences should also be considered, especially when the patient has no compelling medical considerations besides the tumor itself. More patients have opted for radiation therapy as it has become medically equivalent to surgery. Radiation therapy allows patients to avoid the substantial recovery and rehabilitation periods that follow surgery. Also, radiation therapy generally causes less deterioration in voice than surgery. For larger tumors that involve more structures, radiation therapy may have a significant effect on swallowing function. However, some patients are more comfortable with surgery than radiation therapy, and surgery offers a one-time treatment when it is not feasible to receive daily radiation treatments for up to 7 weeks.

The emergence of TLM has significantly altered the decision process for patients who are candidates for surgery or radiation therapy because it is noninvasive, requiring no surgical incision, tracheostomy, or complicated recovery—all reasons that some patients decided against surgery in the past.

Patients whose voice quality is important in their work or personal life may prefer radiation therapy to retain the best possible voice after treatment. For others, the time required for radiation therapy weighs more heavily than voice changes, and they may prefer TLM or conventional surgery, both one-time procedures. However, risk to voice depends

also on the tumor site. For example, while surgery for glottic cancer can sometimes result in voice changes, there is no voice alteration following TLM for supraglottic cancer.

Finally, patients and their physicians should consider the available technical expertise for any of the procedures discussed here. “TLM, for example, requires study, practice, and treating lots of cases,” Dr. Weber said. “It’s not a procedure one can excel at by doing it on an occasional basis.” Likewise, radiation therapy of the head and neck is complex. The National Comprehensive Cancer Network recommends a team consisting of a radiation oncologist, a radiation physicist, a dosimetrist, and a radiation technologist to achieve optimal results from radiation therapy, particularly 3-D conformal techniques. This recommendation is even more important to consider when the patient will not be receiving treatment at a comprehensive cancer center or a facility where multidisciplinary treatment decisions are made. ●

¹ Viani L, Stell PM, Dalby JE. Recurrence after radiotherapy for glottic carcinoma. *Cancer*. 1991;67(3):577–584

² Holsinger FC, Funk E, Roberts DB, et al. Conservation laryngeal surgery versus total laryngectomy for radiation failure in laryngeal cancer. *Head Neck*. 2006;28(9):779–784

SUGGESTED READING

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Trouble Sleeping?

Getting Help Can Improve Your Health

A good night's sleep is important for everyone, but for cancer patients, sleeping soundly can be a real challenge. An estimated 80% of cancer patients experience poor sleep. Unfortunately, it's a problem that can have a negative impact on cancer treatment.

Cancer patients who are not sleeping well may feel pain more intensely and may be less likely to handle some treatments. Because sleep affects the immune system, sleep disruptions can also reduce the body's ability to fight infection. Sleep problems can be made worse by many factors, including pain, anxiety or depression, side effects of treatment or medications, and overnight hospital stays.

Identifying sleep disorders

According to the M. D. Anderson Sleep Center, sleep problems fall into six main categories: insomnia, disorders of the sleep-wake cycle, disorders associated with sleep stages or partial waking, excessive sleepiness, sleep-disordered breathing (such as sleep apnea, in which the sleeper stops breathing at times), and sleep-related movement disorders.

You might have a sleep disorder if you frequently:

- have problems falling or staying asleep
- sleep restlessly
- snore loudly
- awaken gasping or choking for breath
- feel tired when you wake up in the morning
- fall asleep while driving
- experience sleep that is disturbed by such unusual behavior as nightmares, sleepwalking, tongue biting, kicking, or eating

While some cancer patients develop sleep disorders because of their cancer

Keys to a Good Night's Sleep

To ensure that you get a good night's rest, experts at the American Cancer Society recommend that you:

- Get as much sleep as you feel your body needs, and try to exercise once a day.
- Discuss any fears related to your illness earlier in the day rather than just before bedtime.
- Create a quiet environment for sleep.
- Create a bedtime ritual, such as reading or taking a warm bath.
- Use deep breathing exercises or have someone give you a massage to relax your body.
- Drink warm, noncaffeinated drinks.
- Keep sheets clean and neatly tucked in.
- Take any required medication at a regular time.



Most sleep problems can be successfully treated, which can improve cancer treatment and health problems such as high blood pressure.

treatment, others have had an undiagnosed sleep disorder for years. Patients with all types of cancer often suffer from insomnia, sleep apnea, and restless legs, but those with the highest prevalence of sleep disorders are patients with head and neck, lung, or breast cancer.

To determine whether a cancer patient has a sleep disorder, a doctor will give a physical exam and take a medical history, asking about daytime and sleep habits, exercise routines, and medications. Sometimes a sleep test called a polysomnogram will be given. The test, which is conducted during an overnight stay at a sleep center, provides information about the patient's sleep stages, blood oxygen levels, breathing, muscle tone, heart rate, and general sleep behavior.

Treating sleep disorders

Most sleep problems can be successfully treated, which can improve cancer treatment and health problems such as high blood pressure.

A person suffering from sleep apnea might be treated with a continuous positive airway pressure (or CPAP) face mask, a device that helps keep the

airway open during sleep. Treatments for other sleep disorders might include making lifestyle changes to promote better sleep or medically treating another illness that contributes to sleep problems.

Medications for sleep disorders are usually only a short-term solution. More effective in the long run are managing stress and anxiety and treating a patient's fatigue.

Changing the sleep environment or sleep habits can also help. "Going to bed at the same time every night or only when you are sleepy and not watching television in bed can make a big difference," said Dave Balachandran, M.D., medical director of the M. D. Anderson Sleep Center. ●

For more information, talk to your physician, or:

- visit www.mdanderson.org/departments/sleepcenter
- call askMDAnderson at 1-877-632-6789

Oncology, January 2009
K. Stuyck

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IN BRIEF

Common Pediatric Brain Tumor May Be Treatable with Chemotherapy Alone

Unresectable or progressive low-grade pediatric glioma—the most common brain malignancy in children—may be treated effectively with chemotherapy alone to spare the long-term effects of radiation therapy, a multi-institution study has found.

The Children's Oncology Group study, led by Joann Ater, M.D., a professor in the Children's Cancer Hospital at M. D. Anderson, compared two chemotherapy regimens in glioma patients who did not receive radiation therapy. A combination of thioguanine, procarbazine, lomustine, and vincristine (TPCV) yielded a 5-year event-free survival rate of nearly 50%, with patients ages 5–10 years experiencing a mean progression-free survival duration of more than 8 years.

Dr. Ater said the results of the phase III trial point to treatment alternatives for unresectable low-grade glioma, which has a worse prognosis than does resectable low-grade glioma. Among patients whose low-grade pediatric glioma is successfully removed with surgery, the overall survival rate is 95%. However, survival is worse when the tumor is in a location that precludes surgery or when the malignancy progresses after surgery. Unresectable or progressive low-grade gliomas usually can be successfully treated with cranial radiation, but the long-term side effects of such therapy—including mental im-

“If we can delay radiation for our youngest low-grade glioma patients, we may decrease the long-term side effects.”

— Dr. Joann Ater

pairment, hormonal deficiencies, and an increased risk of stroke later in life—lead some families and physicians to decide against treatment.

Given the positive results of the trial, it may be acceptable to delay or avoid radiation therapy for some patients, Dr. Ater said. “The results have confirmed the ability of chemotherapy to control the disease,” she explained. “If we can delay radiation for our youngest patients until they further develop physically, we may decrease some of the long-term side effects of radiation treatment. This trial at least gives parents more information and options when making decisions about their child's treatment.”

The study also found that the TPCV regimen yielded better survival than a combination of carboplatin and vincristine that smaller pilot studies reported to be effective against low-grade pediatric glioma. Also, study participants with neurofibromatosis had the best response among patients receiving TPCV.

Results were presented at the 40th annual meeting of the International Society of Pediatric Oncology. ●

OncoLog

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