A REPORT TO PHYSICIANS

OncoLog

THE UNIVERSITY OF TEXAS SYSTEM CANCER CENTER
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE

April–June 1983 Volume 28, Number 2

Advanced Staging Procedures Promote Survival in Patients with Hodgkin's Disease

Before 1950, almost all patients with Hodgkin's disease died within five years of onset of disease. Today, approximately 70% to 75% of the patients meet the criteria for cure. Advanced staging procedures and discovery of progressively more effective treatments are responsible for this improvement. Both play key roles in the management of Hodgkin's disease at UT MDAH, according to Fredrick B. Hagemeister, MD, Department of Internal Medicine.

The complex natural history of Hodgkin's disease may produce a number of variables that complicate staging and treatment. This malignant lymphoma, identified by the presence of Reed-Sternberg cells, usually begins as a unifocal involvement of a cervical or retroperitoneal lymph node. The disease may spread to other nodal groups through normal lymphatic channels, although exact means of dissemination are unclear. If uninterrupted, Hodgkin's disease may metastasize to the spleen, bone, bone marrow, liver, lungs, or other organs.

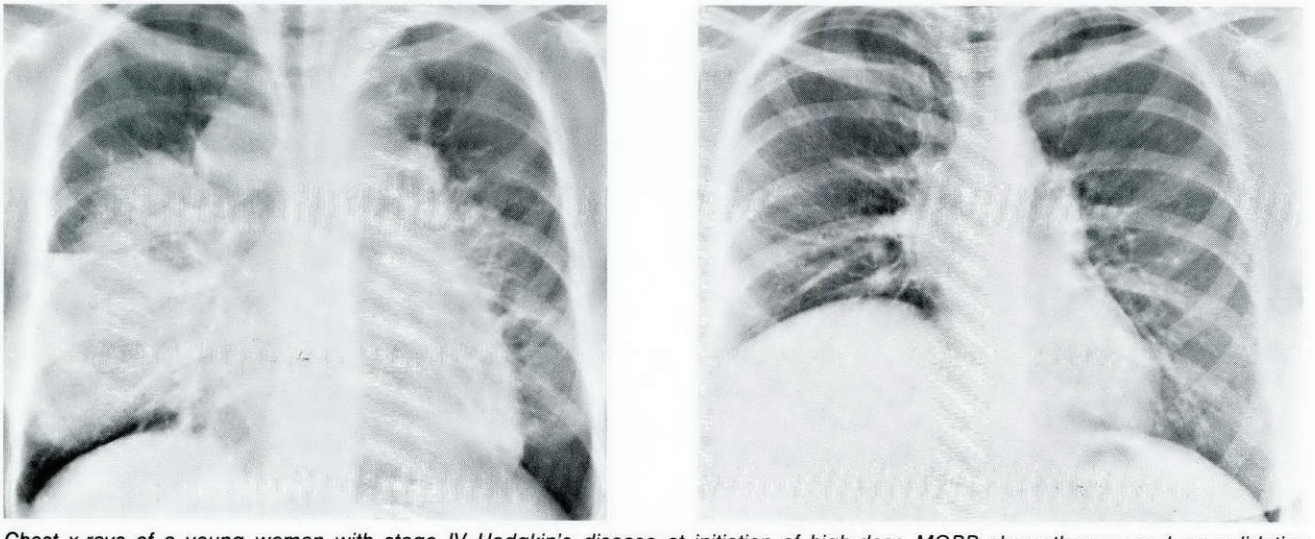
Determination of extent of disease is a primary concern of internists and radiotherapists at UT MDAH, who base treatment on disease stage, according to Dr Hagemeister. Because Hodgkin's disease may appear in diverse sites, each patient undergoes an extensive staging workup, including a detailed medical history and physical examination to detect outward signs of disease—fever, night sweats, pruritus, and more than 10% weight loss, as well as palpable, enlarged lymph nodes. Other procedures, including complete blood counts, blood chemistry tests, chest roentgenography, liver function tests, and liver-spleen scans, reveal evidence of early asymptomatic disease. Lymphangiography initially is used to determine the extent of abdominal nodal disease. If results of lymphangiography are abnormal, no further testing for abdominal nodal disease is necessary.

Laparotomy is performed for all patients with normal abdominal lymphangiogram results, except for those with minimal nodal disease in the high upper neck or inguinal regions only, because these patients may have more extensive disease than is clinically or radiographically evident. Biopsies of the liver, abdominal nodes, and bone marrow, as well as splenectomy, are performed at the time of laparotomy to detect extranodal disease as well as nodal involvement not found by lymphangiography.

Based on these staging procedures, appropriate treatment can be selected. Radiation alone has proved to be effective for treatment of stage I disease—involvement of one lymph node above or below the diaphragm—and most of stage II disease—involvement of more than one lymph node on one side of the diaphragm. More extensive disease is difficult to control with radiation alone; therefore, at UT MDAH a combination of chemotherapy and radiation or chemotherapy alone is used for the treatment of stage III disease—involvement of lymph nodes above and below the diaphragm—and stage IV disease—extranodal involvement in one or more organs, bone, bone marrow, or skin.

Although stage of disease is the primary indicator of treatment choice, disease location may complicate this decision. Stages I and II disease generally appear above the diaphragm and are

Continued on page 2



Chest x-rays of a young woman with stage IV Hodgkin's disease at initiation of high-dose MOPP chemotherapy and consolidation irradiation (left) and three years later (right) provide evidence of mediastinal disease regression after treatment.

A REPORT TO PHYSICIANS
OncoLog

Hodgkin's Disease . . .

Continued from page 1

controlled with radiation (3000–4000 rad total in four weeks) to the mantle, comprising the entire mediastinum, neck, and axilla. The inverted Y field, used in irradiating stages I and II disease occasionally found below the diaphragm, covers the splenic pedicle and the celiac, para-aortic, iliac, inguinal, and femoral nodes. Extensive mediastinal involvement in this group of patients is managed as stage III disease.

Patients with stage III disease receive two cycles of a combination of mechlorethamine hydrochloride, vincristine (Oncovin), procarbazine, and prednisone (MOPP). Radiation (2000–4000 rad in three to four weeks) is then administered to one or more of the following areas, depending upon disease site: mantle, upper abdomen, pelvis, and lungs (1200 rad in three weeks maximum to the lungs). Patients with widely separated areas of disease in the mediastinum and pelvis receive the same treatment as those with stage IV disease.

Chemotherapy alone is used to control stage IV disease. The vital organs involved at this stage of disease cannot tolerate the high doses of radiation necessary to arrest the cancer; therefore, maximum amounts of chemotherapy are administered.

Although results with MOPP have been superior in patients with one extranodal site of involvement, the required high doses cause severe complications, including acute leukemia and other second malignancies, peripheral neuropathy, sterility, and myelosuppression. In addition, MOPP rarely controls disease in patients with more than one involved extranodal site. For these reasons, other chemotherapy combinations for patients with stage IV disease are now used.

At UT MDAH, these patients receive a combination of cyclophosphamide, vinblastine, procarbazine, and prednisone (CVPP) alternating with Adriamycin, bleomycin, dacarbazine, prednisone, and lomustine (ABDIC) for approximately eight cycles or for two to four cycles after achieving complete remission. Although in use only since 1981, CVPP-ABDIC appears to control stage IV disease as effectively as MOPP alone without causing severe complications. In addition, CVPP-ABDIC has exhibited better control of disease involving more than one extranodal site.

Investigations of other chemotherapeutic regimens for stage IV disease are ongoing. Methyl GAG, isophosphamide, methotrexate, and etoposide (MIME) is now being evaluated in Hodgkin's disease patients at UT MDAH who have suffered relapse after MOPP chemotherapy. Early studies indicate that MIME may be one of the few effective drug combinations for patients resistant to MOPP.

The primary concern of physicians at UT MDAH is proper staging of Hodgkin's disease, according to Dr Hagemeister. Statistics show that patients with stages I and II disease now have a 95% cure rate, as opposed to 85% and 50% rates for patients with stages III and IV disease, respectively. These figures imply that treatment based upon exact staging, which prevents progression of undetected disease, can dramatically improve survival.

(Physicians desiring additional information should write or call Fredrick B. Hagemeister, MD, Department of Internal Medicine, MDAH Box 77, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-2860. Hodgkin's disease and other lymphomas will be the topic of the 27th Annual Clinical Conference, to be held in November 1983. Please see the conference announcement in this issue for additional information.—ED)

A REPORT TO PHYSICIANS
OncoLog

President, The University of Texas System Cancer Center:
Charles A. LeMaistre, MD
Vice President for Academic Affairs:
James M. Bowen, PhD
Associate Vice President for Academic Affairs:
Robin R. Sandefur, PhD
Head, Department of Scientific Publications:
Dorothy M. Beane, BA

Editor: Leslie L. Esen, BA
Writer: Margaret G. Small, MA
Art and Photography:
Department of Medical Communication

Published quarterly by the Department of Scientific Publications, Office of Academic Affairs, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030. Made possible by a gift from Mrs Harry C. Weiss.

Implantable Pump Allows Unlimited Treatment Without Extended Periods of Hospitalization

The use of an implantable pump in patients with hepatic tumors now allows unlimited drug treatment for these tumors. The Infusaid pump, developed at the University of Minnesota, has been surgically implanted in 12 patients at UT MDAH within the last year and has proved to be 100% effective in inducing tumor response.

Until recently, those patients with hepatic tumors who were not candidates for resection due to extensive disease underwent repeated percutaneous catheterizations for administration of chemotherapeutic agents. However, the repetition of these procedures at times induced arterial occlusion, preventing further treatment. "The beauty of the pump is that it obviates arterial trauma, allowing the patients to receive an unlimited number of repeated treatments," according to Yehuda Z. Patt, MD, chief of the Regional Therapy Service in the Department of Clinical Immunology and Biologic Therapy, who works with Arthur W. Boddie, MD, Department of General Surgery, to treat patients enrolled in the program.

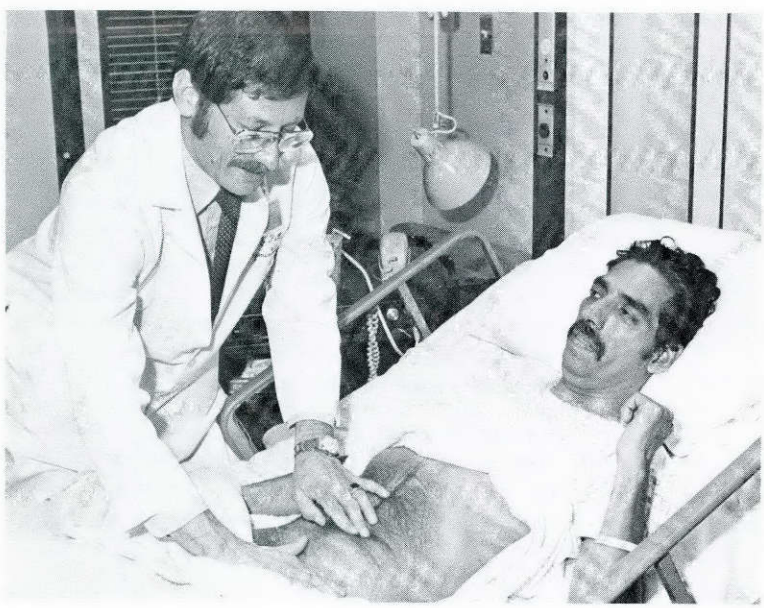
The cylindrical pump, which is implanted in a "pocket" formed under the skin, measures approximately four inches in diameter and one inch in depth. It contains a rubber diaphragm with a 50-ml capacity, which serves as a fluid reservoir. The pump is powered by gaseous freon, which at body temperature enters the liquid phase, creating vapor pressure; it is this constant pressure of the freon surrounding the reservoir that forces the contents out through a catheter into the hepatic artery at a steady rate. Access to the reservoir, for both the administration and withdrawal of drugs to be infused, is provided through a port in the center of the pump designed to accept the needle of an ordinary syringe. A second port, located on the side of the pump, allows drugs not appropriate for continuous infusion to be injected directly into the catheter.

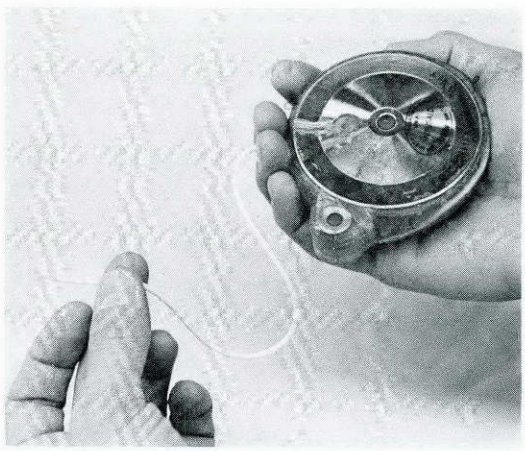
All 12 patients at UT MDAH in whom the pump has been implanted are being treated with fluorodeoxyuridine (FUDR) on a two-week-on/two-week-off regimen, according to Dr Patt. Following each two-week period of FUDR administration, bacteriostatic water is injected into the reservoir for delivery through the catheter to prevent clotting and blockage, the most frequent cause of pump failure, occurring in 2% to 3% of patients. With that type of regimen, he noted, the life of a pump would be approximately 20 years; at that time, the rubber diaphragm would become worn. "However," he said, "although a pump could remain in place for that length of time, we would most probably remove it when a patient was declared free of disease."

While several other types of portable drug delivery systems have been developed, such as a pump and IV bag carried externally in a vest, all have the potential for causing infection at the site of catheterization, and all are relatively noticeable. "Patients often are reluctant to let the world know they are being treated for cancer; I had one patient tell me that the vest was his 'badge of cancer,' " Dr Patt said. "With the Infusaid pump, however, the risk of infection is greatly reduced, and there is nothing external to indicate that the patient is undergoing chemotherapy."

Although the patients now have to return to UT MDAH every two weeks for fluid replacement, use of the new pump obviates the monthly week-long hospitalizations previously required for hepatic-tumor chemotherapy, according to Dr Patt. He and his colleagues have been anxious to free these patients from the constraints and high costs associated with lengthy, repeated hospital stays. "We have been reluctant to keep these patients in the hospital for long periods of time, because such forced 'imprisonment' gets to a person after a while, and nobody is sure

Continued on page 6





Yehuda Z. Patt, MD, exposes the outline of an implanted pump in a patient undergoing continuous-infusion chemotherapy (left). The pump has two ports, one leading into a central reservoir for continuous infusion of a drug and one on the side that provides direct access to the catheter (above).

A REPORT TO PHYSICIANS
OncoLog

Hypnotherapy Offers Relief from Discomfort and Anxiety for Receptive Pediatric Patients

by Donna R. Copeland, PhD, Clinical Psychologist, Director of the Mental Health Division, Department of Pediatrics

In the Department of Pediatrics at UT MDAH, treatment focuses on all aspects of care, extending beyond the purely physiologic problems to include emotional and social matters as well. One of the major problems that must be dealt with when treating children with cancer is pain—pain associated with disease and with tests and treatments. Most children undergo these with admirable stoicism; however, since tests and treatments are administered over a long period of time, most children, at one time or another, express their discomfort. Those who have problems coping with pain or anxiety may have difficulties, even from the beginning, and may possibly suffer long-lasting psychologic effects from the experience.

Members of the Department of Pediatrics take a number of measures to help children undergoing tests and treatments. Physicians and nurses prepare the children for the procedures by explaining their purposes and how they will be conducted. The staff members are extremely patient, and when it is possible, they allow the children, within limits, to choose the times of administration. These measures help reduce anxiety. Sometimes a numbing instrument or medication, such as sedatives and pain relievers, is prescribed, and it may help as well. However, many children do not like them because they involve a painful injection. Despite these measures, many children become tearful and frightened and require additional assistance.

Hypnosis is now being used by psychologists and other health care professionals to assist children who must undergo painful procedures and treatments that make them nauseated or cause vomiting. The primary mode used in hypnosis is fantasy; with the mind, the child can re-create sensations, such as the numbness of Novocain administered by a dentist. One child at UT MDAH, for instance, used hypnosis to keep her finger numb long enough for a blood sample to be withdrawn with little discomfort.

Substitution of one sensation for another is a standard technique in hypnosis and one that is tailored to the individual patient. As an example, this technique was used by a boy incapacitated with a brain tumor who enjoyed recalling an earlier time when he could ride his bike freely. One day, he became uncomfortable and annoyed with the gauze that had been placed in his rectum due to an unrelenting, painful sore. The suggestion to the child after hypnotic induction was to substitute the sensation of the bicycle seat for that of the gauze and to focus still more on his memories of riding his bike and the most pleasant sights, sounds, and sensations he could recall. According to his mother, he spent much of the afternoon resting quietly, without the anger he had expressed earlier in the day. It then was suggested to him that he could recall those memories anytime he liked. The use of hypnosis for this child demonstrates that it is a powerful "as if" experience that can be used to alleviate pain and sickness.

Physicians began using hypnosis at the end of the 18th century when Anton Mesmer's use of it was publicized. During the 19th century, Sigmund Freud reported on its effectiveness in a number of his studies. However, after that time, the use of hypnosis in medical treatment declined and was held in disrepute. Until the last 10 or 20 years, it was considered quackery by those in the medical profession and by the lay public.

Recently, the value of hypnosis has been documented not only for the effective reduction of pain but also for controlling body processes such as appetite increase or decrease, reduction of nausea and vomiting, and the control of bleeding in individuals

Continued on page 7

The University of Texas
M. D. Anderson Hospital and Tumor Institute
at Houston

National Large Bowel Cancer Project Workshop

1972–1982: A Decade of Achievements and Challenges in Large Bowel Cancer Research

June 23–26, 1983
Four Seasons Hotel Houston Center
Houston, Texas

Chairperson: Anthony J. Mastromarino, PhD, National Large Bowel Cancer Project

The goals of this workshop include review of significant progress in large bowel cancer research over the past decade, evaluation of current research efforts, identification of gaps in critical areas for future investigations, and the promotion of communication and collaboration among clinicians and basic scientists who share common research objectives and interests.

For registration information, write or call the National Large Bowel Cancer Project, HMB Box 210, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-3391.

Leukocyte Interferon Potential Therapy for Patients with Metastatic Renal Cell Carcinoma

by Jorge R. Quesada, MD, Department of Clinical Immunology and Biologic Therapy; David A. Swanson, MD, Department of Urology; Antonio Trindade, MD, Department of Internal Medicine; and Jordan U. Gutterman, MD, Department of Clinical Immunology and Biologic Therapy

This article is a summary of a paper that first appeared in Cancer Research *43:940-947, February 1983.*

An estimated 17,000 new cases of metastatic renal cell carcinoma were diagnosed in 1982. Because no effective systemic therapy currently exists, most of these patients will die within two years of diagnosis. However, in a recent preliminary study at UT MDAH, partially purified human leukocyte interferon induced regression of metastatic tumors in some patients with renal cell carcinoma, demonstrating that it is potentially active against the disease.

Nineteen patients with histologically proven diagnoses of metastatic renal cell carcinoma were entered into the study. At that time, performance status among the patients ranged from 60% to 100% (Karnofsky scale). The 15 men and 5 women, who ranged in age from 29 to 75 years, all had undergone nephrectomy with resection of the primary tumor, and all showed progression of the disease. Of the 17 patients with lung metastasis, 9 had additional skeletal metastasis, and 1 had additional liver metastasis, while 2 of the 19 patients had retroperitoneal and peripheral lymph node involvement only. Anticancer therapy was discontinued at least four weeks prior to entrance in the study for the 14 patients who had undergone previous treatment; 7 patients had received hormonal therapy, 3 had received combined chemotherapy and hormonal therapy, 2 had received chemotherapy and radiotherapy, and 2 patients had received palliative radiotherapy. Three of these patients had shown prior objective response to hormonal therapy or chemotherapy, and one patient had shown an objective response to localized radiotherapy with no effect on systemic metastasis.

The human interferon used in the study was obtained from the State Serum Institute, Finnish Red Cross Center, Helsinki, Finland, and was partially purified to a specific activity of 1×10^6 units/mg of protein. All patients received an initial dose of 3×10^6 units administered daily by intramuscular injection. In an effort to improve tumor response in several responding patients, the dose was increased to 18×10^6 units administered daily or 18×10^5 or 36×10^6 units administered twice weekly.

Within the study, complete response to interferon therapy was defined as the disappearance of all clinical evidence of active tumor for a minimum of four weeks. Partial response was defined as a 50% or greater decrease in the size of measurable lesions with no simultaneous increase in the size of any existing lesion or the development of new lesions. Minor response was defined as an objective reduction in measurable lesions of more than 25% but less than 50%. Mixed effect was defined as a 50% or greater decrease in the size of some lesions with simultaneous increase in the size of other existing lesions but with the absence of new lesions. Stable disease was defined as no change in measurable disease or less than a 25% increase in the size of measurable lesions with the absence of new lesions. Progressive disease was defined as an unequivocal increase of more than 25% in the size of measurable lesions or the appearance of new lesions.

Table 1

Tumor response to partially purified leukocyte interferon in patients with renal cell carcinoma

	No. of patients	Percent
Partial response	5	26.0
Minor response	2	10.5
Mixed effects	3	16.0
Stable disease	2	10.5
Progressive disease	7	37.0
Total	19	100.0

In the course of the study, five patients (26%) achieved partial responses, and two (10.5%) achieved minor responses (Table 1); these seven patients were considered to have responded to treatment. Of the remaining patients, considered nonresponsive, three (16%) demonstrated mixed effects, with evidence of biologic effect with regression of some tumors but progression of others; two (10.5%) demonstrated stable disease, one for more than five months and one for more than six; and seven (37%) showed progressive disease during the study.

Response to treatment was observed at sites of lung metastasis among the seven responsive patients, and mediastinal masses regressed in two of these patients. The duration of these responses, which were observed within 30 to 90 days of treatment, was from 6 months to more than 12 months.

Clinical characteristics of responsive and nonresponsive patients were compared, and it was found that differences in pretreatment performance status were statistically significant among patients in these two groups. Five of the seven patients who responded to interferon treatment had a performance status of 100%. In contrast, 8 of the 12 nonresponsive patients had a performance status of 80% or less. Other clinical characteristics such as age, sex, history of prior therapy, disease-free interval, or site of tumor involvement were not significantly different among patients in these two groups. However, it is interesting to note that 4 of the 7 responsive patients had disease-free intervals of more than 24 months, while 9 of the 12 nonresponsive patients had metastatic disease at the time of diagnosis or metastasis that developed within 24 months of diagnosis. Similarly, five of the responsive patients had lung involvement alone, while in only

Continued on page 6

A REPORT TO PHYSICIANS
OncoLog

Pump . . .

Continued from page 3

that 'more and longer' is indeed better," he said. In the future, patients or family members may be trained to refill the pump, reducing the ties with the hospital even further.

Patients with hepatic tumors are not the only possible beneficiaries of the new device. According to Dr Patt, its use is justified anywhere it is appropriate to give continuous infusion of a chemotherapeutic agent. "It could be considered for continuous delivery of a drug into the intracranial cavity for treatment of a brain tumor, or it could be used systemically for treatment of leukemia," he said. "The pump is going to allow us to expand the horizons of regional therapy."

(Physicians desiring additional information should write or call Yehuda Z. Patt, MD, Department of Clinical Immunology and Biologic Therapy, MDAH Box 41, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-3487.—ED)

The University of Texas
M. D. Anderson Hospital and Tumor Institute
at Houston

DEPARTMENT OF PHARMACY

Fifth Annual Pharmacy Symposium on Cancer Chemotherapy

October 3–5, 1983
Shamrock Hilton Hotel
Houston, Texas

Chairperson: William H. Puckett, Jr, MS, MBA, RPh, Department of Pharmacy

The symposium is designed to present principles of cancer patient care to the pharmacist and allied health professional. Areas to be discussed include the chemotherapeutic treatment of cancer, management of the various complications of the disease, and an update on the assessment of chemotherapeutic agent exposure.

For registration information, write or call the Office of Conference Services, HMB Box 131, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-2222.

Renal Cell Carcinoma . . .

Continued from page 5

three nonresponders was the disease confined to the lungs.

During the first 30 to 60 days of treatment, the median leukocyte and granulocyte counts in patients with clinical responses were significantly lower when compared with those of patients who did not respond, with p values of 0.04 and 0.01, respectively. (All p values of less than 0.05 were considered statistically significant.) These differences were more apparent when responding patients were compared with patients with progressive disease: Responding patients showed median leukocyte and granulocyte counts of 3.5×10^3 and 1.7×10^3 cells/cu mm, respectively, while patients with progressive disease showed median counts of 5.8×10^3 and 3.6×10^3 cells/cu mm, respectively. Similar findings were obtained when the nadirs of the leukocyte and granulocyte counts of responding and nonresponding patients were compared. The effects of interferon on the blood parameters were readily reversible within 24 to 48 hours when treatment was withheld or stopped.

The results of this study demonstrate that partially purified human leukocyte interferon can induce regression of metastatic tumors in patients with renal cell carcinoma. However, it must be emphasized that this preliminary report included only a small number of patients, and follow-up has been too short to estimate the full impact of this investigational treatment on survival and clinical benefit to patients.

The study revealed an important correlation between antitumor response and the ability of interferon to induce leukopenia and granulocytopenia: These effects were seen early in the course of treatment and suggest that leukocyte- and granulocyte-count suppression might have a predictive value. The antitumor effects of interferon also correlated with performance status and probably reflect differences in the tumor load of the patients.

No evidence of a dose-response effect was observed. All responding patients showed tumor response at a dose of 3×10^6 units, and only one patient seemed to benefit from dose escalation. The question of dose response is being addressed in an ongoing randomized study using recombinant DNA-produced leukocyte interferon, the results of which may determine whether a single species of leukocyte interferon is as active as the partially purified polyclonal preparation, which may contain other biologically active molecules.

The antitumor effects of interferon may depend on the biologic characteristics and heterogeneity of the metastatic tumor. Clinical observations suggest that relatively well-differentiated, slow-growing tumors might be more sensitive targets to the antiproliferative effects of this agent. The natural history of metastatic renal cell carcinoma is quite variable, and pulmonary lesions, in particular, may have prolonged periods of slow growth rate or growth arrest. Such biologic behavior may bear relationship to the sensitivity of renal cell carcinoma to interferon.

(Physicians desiring additional information should write or call Jorge R. Quesada, MD, Department of Clinical Immunology and Biologic Therapy, MDAH Box 41, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030 (713) 792-3527.—ED)

Hypnotherapy . . .

Continued from page 4

with hemophilia. Contrary to what many expect, pain that is of a physical origin is more responsive to hypnosis than pain associated with psychologic distress. The explanation for this is that if a person experiences pain as a result of psychologic conflicts or needs, there is a psychologic "investment" in keeping the pain: For instance, the pain might allow the person to receive sympathy and comfort from others that might not otherwise be obtained. Similarly, acute pain or pain of recent onset is usually more amenable to hypnosis than chronic, long-lasting pain that has acquired psychologic meaning for the patient.

To what extent a person may use hypnosis to alter body functions and processes is still unknown. Although some claim that cancer may be cured or its progress slowed by the use of mind-control techniques, these claims are based on anecdotal evidence of individual case studies and have not yet been subjected to rigorous scientific tests. Growing numbers of well-respected clinicians do agree, however, that those patients who are able to use hypnosis effectively while undergoing conventional medical treatment have made themselves feel better and have been able to prolong their lives.

For children with cancer, hypnosis may be used to decrease nausea and vomiting, increase appetite, develop a more positive self-image, and adapt to a changed life situation. Following is a case report, illustrating the uses and limitations of hypnosis with pediatric patients.

CASE REPORT

(The patient's name has been changed to protect her identity.)

Lana was a 10-year-old girl with stage IV Hodgkin's disease. She was treated for 9 to 10 months at another center but was referred to UT MDAH after she relapsed. At that time, she was suffering from sepsis and meningitis. She was treated and improved; however, a chest x-ray indicated extensive mediastinal and pulmonary involvement. Subsequently, she was treated with radiotherapy and chemotherapy, although chemotherapy was repeatedly interrupted due to myelosuppression and infections. An autologous bone marrow transplant was performed and was successful for a time. Two years later, progressive disease became uncontrollable, and Lana died.

Lana was referred to the Mental Health Division in the Department of Pediatrics soon after her admission because she was very depressed, bitter, and resentful. She resisted treatments and tests vociferously. Not only did she resist physically, but she was skillful in eliciting guilt feelings. She would say to her parents, "You don't know what it's like to have cancer."

During the initial psychologic assessment, she articulately expressed her feelings and experiences since the time of her diagnosis. She expressed anger at the injustice, fear at the thought of her family abandoning her, shame about the disease, guilt about having committed a sin for which the disease was punishment, and guilt over the increased financial and emotional demands her disease placed on her family. She was puzzled and angry that the disease had stricken her rather than her cousin, toward whom she had feelings of rivalry and superiority. Much to her parents' dismay, she would say she wanted to stop treatment. Lana's insight into the psychologic effects of cancer and her ability to verbalize her feelings and describe her problems was impressive and unusual for someone her age.

Psychologic intervention for Lana consisted of (1) providing a psychotherapeutic setting for her to vent her frustration and outrage and (2) relaxation and hypnosis training to help her cope more effectively with procedures, increase her appetite, and reestablish emotional stability and a positive self-image. Family sessions were held periodically to improve family communication and to provide comfort and reassurance for the parents.

Lana readily responded to psychotherapy and hypnosis. Five primary therapeutic goals were established, and her symptoms were addressed using various types of fantasy and suggestions.

The first goal was to develop a more positive self-image: Lana had expressed guilt about her disease as a result of transgressions she might have committed. Furthermore, she had lost a number of friends and had not been able to perform as well in school as she had previously. Thus, her self-esteem was very low, and she perceived herself as a helpless victim. Guided fantasy in hypnosis focused on Lana as an active participant in the company of others (e.g., exploring an underwater cave with friends). Frequently, the therapist made direct reference during the trance to her "goodness through and through," her "good intentions," and her ability to accomplish goals she set for herself.

The second goal was to increase Lana's tolerance of pain. A finger puncture for blood withdrawal was selected as the first procedure with which to try hypnotic anesthesia. The procedure went well, for the most part, and she managed to use hypnotic anesthesia frequently thereafter. During bone marrow aspirations and spinal taps, she still felt pain, but her tolerance was increased and she was much more cooperative.

An increased appetite was the third goal, as Lana was seriously malnourished when she came to UT MDAH. She regarded eating as another area in which others controlled her life. Initially, it was suggested to her to imagine eating her favorite food with friends and family present. The success of this fantasy was probably due to her being allowed to select the food for the meal. Later, when she was again feeling helpless and isolated, the suggestion was made that she imagine that she and the therapist were preparing a banquet for friends. Frequently, images such as this accomplished more than one goal. For example, this image was intended not only to increase appetite, but also to increase a sense of mastery and competency and reduce feelings of loneliness and isolation.

The fourth goal was to reduce Lana's nausea and vomiting. Probably the most successful hypnotic intervention was in diminishing this effect of chemotherapy. It was in this area that the psychotherapist learned that Lana was using autohypnosis. Her mother reported that after receiving a particularly potent drug, Lana liked to return home to her bed, above which she had hung a crystal ball. It was suspended from a string, and she would hit it with her foot and concentrate on it as a self-induction technique.

The final goal was to help Lana adjust to her chronic illness. The treatment for cancer involves a long process—in Lana's case, two and one-half years. During this time, there were long

Continued on page 8

Oncology
A REPORT TO PHYSICIANS

Address Correction Requested

Department of Scientific Publications
HMB Box 234
The University of Texas System Cancer Center
M. D. Anderson Hospital and Tumor Institute
6723 Bertner Avenue
Houston, Texas 77030

Nonprofit Org.
U.S. Postage
PAID
Permit No. 614
Austin, Texas

Hypnotherapy . . .

Continued from page 7

periods of hospitalization and restriction of activities. Lana liked to travel, but due to the necessity of being near a treatment center she could not do this. Fantasy "trips" while under hypnosis helped a great deal in restoring Lana's sense of freedom and discovery. Furthermore, these trips were refreshing for her and allowed her to endure long weeks in the hospital.

However, as Lana's disease progressed, her desire to undergo hypnosis gradually diminished. Two factors may have accounted for this. One is that Lana very likely had a progressive viral disease in the central nervous system that affected her capacity for symbolic thought and fantasy. She showed a number of organic symptoms toward the end of her life; e.g., confusion, disorientation, auditory hallucinations, emotional lability, disturbances in memory, headaches, numbness, and vomiting. This condition may have been associated with her decreased ability and interest in engaging in activities involving fantasy.

Second, it has been noted that children who are afraid they are going to die do not want to go to sleep. Hypnosis, being a dream-like state, may not be appealing to these children. Lana was keenly perceptive and so was quite aware of the imminence of death. She wanted to live and fought to stay alive. For children in this situation, therefore, hypnosis may increase their fears rather than provide comfort.

This case report illustrates the role of hypnosis in psychotherapy for the treatment of a variety of symptoms exhibited by children with cancer. It also points out its limitations. While there are a number of reported instances in which hypnosis has been used to ease the dying process, it is also true that some children who are fighting for their lives find the trance state somewhat threatening. Nevertheless, for those who are comfortable with it and develop skill in using it, hypnosis can provide a significant amount of relief.

(Physicians desiring additional information should write or call Donna R. Copeland, PhD, Department of Pediatrics, MDAH Box 87, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-6635.—ED)

Dial Access System Offers Oncology Series

Current information on cancer-related therapeutic and diagnostic techniques is now available to physicians through the Southern Medical Association's Dial Access System. Originating in Birmingham, Alabama, the system consists of taped presentations accessible to subscribers through a toll-free telephone line, used for the request and transmission of the recordings.

Staff members at UT MDAH developed the tapes for the oncologic discipline of the Dial Access System, with the intent of providing essential facts regarding a wide range of topics in a concise, problem-oriented format, according to Program Editor Joseph T. Painter, MD, vice president for planning and extramural programs.

As one of eight disciplines currently included in the system, the oncologic series includes more than 160 tapes, averaging eight minutes in length, on the diagnosis and treatment of cancer of the breast, central nervous system, endocrine system, gastrointestinal tract, genitourinary system, female reproductive system, head, neck, and thorax, as well as Hodgkin's disease, non-Hodgkin's lymphoma, melanoma, pediatric neoplasms, soft-tissue tumors, and tumors of the skeletal system. Tapes also address the use of chemotherapy, immunology in clinical oncology, diagnostic radiology, special techniques, supportive care, and rehabilitation.

The Dial Access System, which operates 24 hours a day, seven days a week, is offered to Southern Medical Association members at an annual subscription rate of $5.00 and to nonmembers at an annual rate of $25.00. A comprehensive catalog, containing titles and identification numbers of the tapes in all eight disciplines, is provided to all subscribers. Continuing medical education credit is granted for the completion of each tape.

(Physicians desiring additional information regarding the oncologic section of the system should write or call the Office of the Vice President for Planning and Extramural Programs, HMB Box 223, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030, (713) 792-2203. Those wishing to subscribe to the system should contact the Southern Medical Association, P. O. Box 2446, Birmingham, Alabama 35201, (205) 323-4400.—ED)