

leukemia, is an oral drug that inhibits tyrosine kinases, enzymes that are critical to the growth of cancer cells. Researchers are now searching for an even better “new Gleevec™” that could work for the most resistant cases. Gleevec™ has also been very effective in the treatment of an infrequent-type of cancer known as gastrointestinal stromal tumor. Gleevec™ is being tested in other tumors, such as leiomyosarcoma. New medications are also being tested in the treatment of these types of tumors, also known as soft tissue sarcomas. An investigational drug, trabectedin, a marine-derived alkaloid, has been found in preliminary studies to be effective in some patients with soft-tissue sarcomas.

Patients with myeloma now have new non-chemotherapy options for therapy with the advent of thalidomide. Thalidomide, which was banned for many years because it caused birth defects, has now found a place as an oral medication for the treatment of multiple myeloma, usually in combination with a steroid medication. When given in this fashion, research indicates that it is as effective as chemotherapy. In addition, new medications that are like thalidomide, but hopefully with fewer side effects, are being tested; and the preliminary results are encouraging. One such drug is Revimid™, and research with it is ongoing. Another area of research involves methods to overcome myeloma cell-resistance to certain drugs. These subjects were reviewed by Pacific Shores Medical Group’s Dr. Hank Yang in a recent paper in the *Journal of Clinical Oncology*. #20, Pg. 4

Hormone replacement therapy has been a major focus of research and news over the last year. The Women’s Health Initiative studied over 16,000 women who were either treated with estrogen and progesterone hormone replacement or given a placebo. After over five years of follow-up, the study was stopped because patients receiving hormonal therapy had increased risks of coronary disease, strokes, blood clots in the lungs, breast cancer, and abnormal mammograms. Furthermore, increased dementia was found in women over 65 years of age. There was a decline in the risk of hip fractures and colon cancers in the patients receiving hormonal therapy. Appropriately, however, it was concluded that the risks exceeded the benefits of this treatment, and therefore long-term hormone-replacement therapy is not recommended. Additional study evaluations are ongoing. Similarly, in separate studies, hormone-replacement therapy after a diagnosis of breast cancer has been associated with an increased rate of cancer recurrence. As a consequence of these findings, and subsequent to a 2003 FDA labeling change, there has been a 66% reduction of hormone therapy prescriptions per year in the United States.

Studies in ovarian cancer have focused on the optimal length of chemotherapy following surgery. Most patients with ovarian cancer need chemotherapy after initial surgery because of the high possibility of recurrence and the advantage provided with chemotherapy. However, the optimal length of the treatment is not clear. Recent studies, however, tend to indicate that prolonging the treatments may be associated with longer cancer control.

Bone complications of cancer are very frequent. Cancers can metastasize to and invade bones and can cause fractures and bone pain, and many treatments are associated with thinning of the bones, leading to painful fractures. At ASCO 2004, our team, in conjunction with other colleagues, presented three studies with the use of zoledronic acid (Zometa®) in the treatment of patients with lung cancer and other solid tumors who had bone metastases, and patients with prostate cancer with bone metastases. #46-48, Pg. 5 These studies further defined the role of Zometa®, an intravenous medication that reduces bone destruction, in patients with various cancers that invade the bones. #15, 18, 22, 23, Pg. 4 / #48 Pg. 5 / #49-52 Pg. 7 Our preliminary results indicate that ongoing long-term treatment reduces the risk of bone complications in these patients. Hormonal treatments for prostate cancer are often associated with loss of bone mass, bone thinning, and osteoporosis. We are testing new approaches to prevent bone deterioration in these patients.

The management of cancer-associated fatigue and anemia remains a major priority in order to improve the quality of life of patients. The use of new erythropoietic growth factors, intravenous iron preparations, and diagnostic techniques to determine the exact cause of anemia, have allowed us to successfully reverse anemia in the vast majority of patients. #2, 4, 6-9, 13, 16, Pg. 4 / #29, 37, 39, 40, 42, 44, Pg. 5 / #56, Pg. 7 As a consequence, patients feel better, regain their strength, and are able to function at a higher level and pursue their daily activities including appropriate exercise, which is so vital to their full recovery. Therefore, provided it is medically safe, we often advise increased activity rather than bed rest in order to fight fatigue and weakness. Inactivity contributes to loss of muscle mass and strength, bone loss, as well as poor cardiovascular function.

Oxaliplatin, a relatively new intravenous chemotherapy drug, was approved for the treatment of colorectal cancer and has rapidly become the first line chemotherapy option in conjunction with fluorouracil and leucovorin in the treatment of advanced colorectal cancer. Recent studies also indicate that the combination of oxaliplatin, fluorouracil, and leucovorin is more effective than fluorouracil and leucovorin alone when used after surgery for colon and rectal cancer in order to prevent the risk of recurrence.

Research is ongoing with vaccines and immune therapies for malignant melanoma, #24, Pg. 4 lymphomas and kidney cancer. Research to improve nutrition in cancer patients is ongoing. #11, 19, Pg. 4 / #54, 55, Pg. 7 Cancer research continues to advance. Currently, there are 100 new cancer drugs in phase III stage of clinical testing. Processes at the National Cancer Institute and the Food and Drug Administration are being pursued to accelerate the approval of drugs that prove to be safe and effective. In fact, the National Cancer Institute has set the goal of eliminating suffering and death due to cancer by the year 2015. For this 10-year target, the goal is not really to eliminate all cancer, but rather to be able to either prevent it or control it so that it becomes a chronic, non-fatal illness. Many researchers consider this a feasible goal.

The explosive growth and advance in many technologies that propel cancer research forward should help us change the meaning of the word cancer. In the old days, cancer often meant death. Instead, in the near future, we want it to mean an often curable and at times chronic but treatable condition.

In addition to our main goal of providing the very best and most current standard treatment options to our patients, we also want our patients to have access to clinical trials. Currently, we participate in clinical trials for many cancer types, including breast cancer, colon cancer, prostate cancer, malignant lymphoma, ovarian cancer, lung cancer, melanoma, kidney cancer, pancreatic cancer, and others. We also have studies focusing on breast cancer and colon cancer prevention, dietary supplements, anemia, pain control, and prevention of infection. For more information, call our doctors or staff at the phone numbers listed in the back page of this magazine.

## Additional Scientific Publications

- 49#** Zoledronic acid significantly reduced the occurrence of skeletal-related events (SREs) in patients with osteolytic bone metastases from non-small-cell lung cancer (NSCLC) and other solid tumors (OST). 3rd INTERNATIONAL CONGRESS ON PREVENTION AND EARLY DETECTION OF LUNG CANCER, Reykjavik, Iceland, Abstract, August 9-12, 2001.
- 50#** Zoledronic acid is effective in the treatment of bone metastases from prostate cancer: results of a large, phase III, double-blind, randomized trial. *New Discoveries in Prostate Cancer Biology and Treatment*; Naples, Florida, December 5-9, 2001.
- 51#** Zoledronic acid significantly reduces fractures in patients with hormone-refractory prostate cancer metastatic to bone. Presented at ANNUAL MEETING OF THE AMERICAN UROLOGICAL ASSOCIATION, Abstract. Orlando, Florida, May 25-30, 2002.
- 52#** Zoledronic acid is effective in the treatment of bone metastases from prostate cancer: results of a large, phase III, double-blind, randomized trial. Podium Presentation at CANADIAN UROLOGICAL ASSOCIATION, St. John’s Newfoundland, June 23-25, 2002.
- 53#** Zoledronic acid is effective in the treatment of bone metastases from prostate cancer: results of a large, phase III, double-blind, randomized trial. Presented at the 26th CONGRESS OF THE SOCIETE INTERNATIONALE D’UROLOGIE meeting, Stockholm, Sweden, September 8-12, 2002.
- 54#** Patients with aerodigestive tract cancer and pre-existing weight loss: weight, body composition, performance status, quality of life, and laboratory parameters with oxandrolone use. Poster Presentation at 44th Annual Meeting of the American Society for Therapeutic Radiology and Oncology (ASTRO), New Orleans, Louisiana, October 6-10, 2002.
- 55#** Anabolic agent oxandrolone increases weight and body cell mass in weight-losing patients with cancer or human immunodeficiency virus wasting. Poster presentation at American Society for Parenteral and Enteral Nutrition (ASPEN) 27th Clinical Congress and 2nd Annual Nutrition Week Scientific Meeting, San Antonio, Texas, January 18-22, 2003. (“Drug increases lean tissue mass in patients with cancer.” Featured in *THE LANCET Oncology*, Vol.4, March 2003.)
- 56#** Weekly darbepoetin alfa doses of 2.25 and 4.5 mcg/kg produce higher observed mean hemoglobin changes than three times weekly recombinant human erythropoietin at 150 or 300 U/kg. Abstract 1363. Presented at 13th INTERNATIONAL MEETING OF THE EUROPEAN SOCIETY of GYNAECOLOGICAL ONCOLOGY (ESGO), Brussels, Belgium, Abstract 1363, April 6-10, 2003.