News & Views

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Long Island Cancer Center

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Newsletter of Long Island Cancer Center at Stony Brook

Director's Message

John S. Kovach, MD

Smart Medicine STONY BROOK UNIVERSITY HOSPITAL Expert Care

Medicine in the Genomic Era

It is just over four years since the public and private versions of the human genome were published. Since then, almost no discussion of the future of medicine, public health, drug development and even bioterrorism, fails to refer to the possibilities of molecular medical miracles in the post-genomic era.

There is no doubt that advances in basic sciences have altered the pace of discovering the origins of serious chronic disease. Illustrative of the power of the new biology is an elegant study reported in the March19-25, 2005 issue of *The Lancet*. Baxter and colleagues, Cambridge University, Cambridge, England, find that the same change in just one building block of one gene is highly associated with a well known but poorly understood group of blood diseases known as myeloprolifertive disorders. These serious diseases include polycythmia vera (uncontrolled red blood cell production), essential thrombocythemia (uncontrolled blood platelet production), and idiopathic myelofibrosis (failure of blood cell production and scarring of the bone marrow).

The authors point out that in 1951 one of America's great hematologists, William Dameshek, speculated that these three syndromes, although each possessing quite different characteristics, represent a spectrum of closely related if not identical diseases, the myeloproliferative disorders. Now more than fifty years later, by the clever analysis of a single gene in fewer than 200 patients, Baxter et al show that 97% of 73 patients with polycythmia era, 57% of 51 patients with essential thrombocythemia and 50% of 16 patients with idiopathic myelofibrosis have the same change in a gene called JAK2. None of these individuals were born with this gene variant meaning that the change was "acquired" during life.

It is simply extraordinary that virtually every patient with polycythmia vera has exactly the same acquired mutation (71 of 73 patients). The fact that only 50% or so of patients with the other two variants have exactly the same mutation implies that other factors are also involved. It is entirely possible, however, that some of several pathways regulated by JAK2 are disturbed in ways that have the same functional effects of the key mutation in JAK2.

This beautiful piece of work highlights two aspects of medical science critical to progress in understanding the causes of human disease: the astute curious physician and the power of molecular biotechnology. Dameshek was brilliant in recognizing commonality in three disparate clinical syndromes. He even speculated that these disorders were likely to be the result of a single growth-stimulating factor. Of course, Dameshek had no possibility of defining the underlying defect since it was to be two more years before Watson and Crick would publish their landmark paper in 1953 recognizing the structure of human genetic material yet alone the development of the techniques needed to analyze DNA. With the proper tools in-hand and by focusing on the right question, Baxter and his group produced compelling data by study of only a few patients. The product of the JAK2 gene was known to mediate the regulation of several genes under the stimulation of growth factors known to be important for blood cell development. Their informed guess as to the potential medical importance of a slight alteration in this gene led to its detailed sequencing revealing the molecular basis of a cluster of important diseases.

A particularly bright spot of their results stems from the fact that the JAK2 product is an enzyme of the same type as the disordered enzyme, BCR-ABL, associated with chronic myelogenous leukemia (CML). In CML, inhibition of BCR-ABL with an oral drug, Gleevec™, results in complete remission of the leukemia with little toxicity in almost every patient. It is to be hoped that a drug designed to affect the abnormal JAK2 enzyme might have favorable therapeutic effects on all three myeloproliferative syndromes.

Integrating the New Biology With Patient Care

The future of medical research has never been more exciting. Progress in medicine depends upon integrating the new biology, particularly human molecular genetics and molecular epidemiology, into our approach to the patient. With further strengthening of resources in human molecular genetics and expansion of the newly created frozen tumor bank in the Department of Pathology, translational research scientists at Stony Brook University have an unprecedented opportunity to contribute to the molecular understanding of human cancers. Such knowledge will provide the clues needed by synthetic and medicinal chemists, such as those in our new Institute for Chemical Biology and Drug Development (ICB &DD) created by Dr Iwao Ojima, Distinguished Professor, Department of Chemistry, for the rational design of new, more specific, and less toxic treatments for the patients of tomorrow. The next issue of *News & Views* will explore workings of the ICB & DD.

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HAPPENINGS

May 23 **Women's Health Lecture Series: Changing Technology in Women's Healthcare: "Ovacheck – Early Detection of Ovarian Cancer"**
7 PM to 8:30 PM
Sachem Public Library, Holbrook
Speaker: Adam Buckley, MD
Contact: HealthConnect® at 631-444-4000

June 1 **Breast Cancer Education & Support Group**
Topic: "Impact of Gynecological Care for Women with Breast Cancer"
7 PM to 9 PM
Holiday Inn Express, Stony Brook
Speaker: Eva Chalas, MD
Contact: Shirley Calhoun, LCSW, at 631-444-4970

Sponsored by the Carol M. Baldwin Breast Care Center, these lectures feature information on the diagnosis, treatment, and recovery from breast cancer, as well as other issues pertaining to the disease. The support group is for people who have already been diagnosed with breast cancer.

June 5 **"Children Helping Children" Walk-a-Thon**
9 AM Start of Walk
St. James Elementary School
Contact: 631-382-4455

Students from St. James Elementary School are hosting a Walk-a-Thon to benefit the Sunrise Fund at Stony Brook University Hospital. Participation in the 2-mile walk is open to all. Registration is $15 for individuals, $20 for a family, or free with a completed sponsor sheet.

June 6 **Look Good…Feel Better Program**
6 PM to 8 PM
Stony Brook University Technology Park, East Setauket
Contact: 1-800-862-2215

For women cancer patients undergoing treatment, this 2-hour beauty program includes tips on skin, hair care, and makeup, as well as demonstrations of wig, turban and scarf use. The program is facilitated by a licensed cosmetologist. Registration is required.

June 11 **GIFT for Kids**
Stony Brook University Hospital
Galleria (HSC Level 3)
9:30 AM to 2:30 PM
Contact: Linda Bily (631) 444-2390 /Cynthia Lombardo (631) 444-8035

GIFT for Kids is a program for children and teenagers (ages 5 to 19) whose mother, father or primary caregiver has been diagnosed with breast cancer and is undergoing treatment. The program is an addition to the GIFT (Giving Inspiration, Fighting Together) Program that provides support to women diagnosed with breast cancer. GIFT for Kids includes a group discussion led by social workers, a recreational therapy period, lunch, entertainment, and take-home educational materials. Registration is required.

LONG ISLAND REAL ESTATE GROUP SUPPORTS LICC LUNG CANCER RESEARCH

The Eastern Chapter of the Long Island Board of Realtors (LIBOR) raised $16,000 for the Long Island Cancer Center (LICC) during their annual fundraiser in 2004. The funds are earmarked for lung cancer research. Phyllis Singler, left, Past President of the Eastern Chapter, presented a check this year to LICC Director John S. Kovach, MD, center. Also pictured is Gary Knotoff, Executive Vice President of The Real Estate Store, Quogue, N.Y.

News & Views

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Cancer Committee Aims to Enhance Quality of Care, Strengthen Clinical Research

As the new chair of Stony Brook University Hospital's (SBUH) Cancer Committee, a multidisciplinary advisory group that plays a major role in overseeing and reviewing the development and expansion of cancer services at SBHU, Ted Gabig, MD, Chief, Division of Hematology/Oncology, says he expects the committee to build on its accomplishments over the past decade while under the leadership of outgoing chair Robert I. Parker, MD, Director, Division of Pediatric Hematology/Oncology. These include significant improvements in the important areas of community outreach, multidisciplinary patient management, and staging of cancers before treatment.

"Our mission is to continue improving quality of care," says Dr Gabig, who was appointed by Norman H. Edelman, MD, Dean of the School of Medicine, in his role as President of SBUH's Medical Board. Key to the mission is improving the breadth and quality of tumor boards, working groups of physicians involved in multidisciplinary care of patients with specific types of cancer. Plans to develop video conferencing of some tumor board meetings should widen practitioner participation and serve as an educational tool. In addition, Dr Gabig plans to bring the National Comprehensive Cancer Center Network practice guidelines to upcoming committee sessions. These guidelines will help the committee to better assess how the hospital's practice guidelines for cancer match up to National Cancer Institute-designated comprehensive cancer center guidelines and use it as a model to enhancing care.

"We also want to have more involvement with basic and translational cancer researchers to strengthen our clinical research base," says Dr Gabig. A multidisciplinary subcommittee charged with connecting research with patient needs, including prevention, treatment, and supportive care, is an initial step to involving lead investigators of clinical research protocols.

Dr Parker, who will remain on the committee representing Pediatric Hematology/Oncology, says that the committee's role in overseeing cancer care and services continues to evolve and that "cancer has become a more important component of what Stony Brook is all about."

> **"We also want to have more involvement with basic and translational cancer researchers to strengthen our clinical research base."**
>
> *—Ted Gabig, MD, Chief, Division of Hematology/Oncology*

The Cancer Committee provides leadership to plan, initiate, and assess the institution's cancer related activities, in accordance with the Commission on Cancer requirements for cancer program accreditation. Committee recommendations are made to SBUH's Medical Board, the governing body of the medical staff. Multidisciplinary representation within the committee includes physicians from all cancer disciplines, including medical and pediatric oncology, surgical oncology, urology, gynecologic oncology, diagnostic radiology, radiation oncology, hematology, and pathology. Other departments involved in the care of cancer patients are also represented on the committee, including chaplaincy services, chemotherapy pharmacy, nursing, social work, and physical and rehabilitative medicine.

Stony Brook University Hospital Celebrates "National Cancer Survivors Day"

On June 5 Stony Brook University Hospital (SBUH) will host its first National Cancer Survivors Day®, an annual worldwide event held in hundreds of communities throughout the United States, Canada and other countries. Approximately 500 survivors, guests, and physicians, administrators and employees from SBUH are already expected to attend the celebration at Ward Melville High School in East Setauket, which is intended to honor the lives of all Long Island cancer survivors.

"On this day we will celebrate the lives of our cancer survivors and their families with an afternoon of joyous fun," says Bruce Schroffel, Director and Chief Executive Officer of SBUH. "Communities across the country unite in a symbolic event to show the world that life after a cancer diagnosis can be a reality."

Called "Carousel of Life," the event will last from 1:30 to 4:30 PM (rain or shine) and include entertainment, refreshments and carnival games. All survivors will receive a T-shirt and a commemorative pin. A "Wall of Survivors" photo collage will be taken, and support and reference materials on cancer care and survivorship will also be available.

Although the day is dedicated and intended for cancer survivors, additional community support is welcome. Stony Brook University Hospital is seeking more sponsors and volunteers to host this first annual event.

The non-profit National Cancer Survivors Day Foundation supports hundreds of hospitals and support groups nationwide, and in 2005 the organization is celebrating its 18th year. National Cancer Survivors Day has become one of the world's largest cancer survivor events.

For more information on attending or becoming a sponsor, please call B. J. Isaacson at 631-444-9151 or HealthConnect® at 631-444-4000.

Outpatient Cancer Center Slated for 2006 Opening

By Greg Filiano

Cancer patients undergoing treatment and others in need of diagnostic imaging services will soon have access to complete outpatient care within one location adjacent to Stony Brook University Hospital (SBUH). Projected for completion in 2006, the Ambulatory Care Pavilion will be an outpatient facility that also houses the Long Island Cancer Center (LICC), including the Carol M. Baldwin Breast Care Center, outpatient medical and surgical oncology, outpatient pediatric oncology, an imaging center, and cancer support services. The facility will foster improved flow of patient care at a location where multidisciplinary clinical teams will collaborate on a daily basis.

Construction of the two-story Ambulatory Care Pavilion is underway. Its completion will be a timely one, as the LICC and SBUH are in the midst of three successive years of significant expansion of cancer programs. During this period, the LICC has hired more than a dozen new physicians and researchers specializing in cancer, created a full-service Blood and Marrow Stem Cell Transplantation Program for patients who have blood cancers, launched a database for researchers studying the causes of cancer, and initiated breast cancer education programs in medically underserved Suffolk County communities. In addition, the new building will provide needed additional space for established programs such as Pediatric Hematology/Oncology and the Breast Care Center.

Outside the lobby area will be the Community Resource Center, which will provide patient education materials and internet access for more information about specific forms of cancer.

"The added space will dramatically increase our capacity to provide ambulatory therapy on a schedule that will be more convenient to each family," says Robert I. Parker, MD, Program Director, Pediatric Hematology/Oncology. "The new building will also improve the logistics of providing care by having an on-site chemotherapy pharmacy and dedicated lab facilities to perform the most frequent lab tests for cancer patients."

Martin Karpeh, MD, Chief, Division of Surgical Oncology, agrees that patients will experience a process that provides an ease of care. "In many cases, this will be one stop for patients, a place where they can see a number of specialists and receive multimodality treatment if necessary," says Dr Karpeh. "This, along with quicker and enhanced communication between doctors, will facilitate faster service."

The availability of a single building for outpatient services will bring together much of the LICC and SBUH's clinical cancer programs, promoting integrated clinical care, a prerequisite to being designated as a National Cancer Institute (NCI) Comprehensive Cancer Center.

"Our goal is to become an NCI Comprehensive Cancer Center, and the new outpatient center will allow clinicians to interact more directly to achieve this goal," explains Ted Gabig, MD, Chief, Division of Hematology/Oncology, who will head the medical oncology and malignant hematology component of the outpatient center. "Interactions among clinicians from different disciplines, focused on specific types of cancer, will promote exchange of ideas and expertise, coordination of clinical research, and enhancement of our treatment capabilities and knowledge base in cancer."

Additionally, as Long Island's population continues to grow, so will the number of cancer cases, adding to the need for Stony Brook to develop more space, services, and additional expertise devoted to cancer care.

Centering on Coordination of Care

Multidisciplinary care will be the norm for cancer patients seen at the center. This builds upon multidisciplinary programs already in place, such as the Lung Cancer Evaluation Center and Breast Care Center. This single setting for outpatient care will improve coordination between surgical, radiation and medical oncologists, and other cancer specialists. For patients who require surgery, other invasive procedures, or need to be admitted to the hospital for additional testing, there will be immediate access to SBUH.

At the center patients will receive the most up-to-date treatments and have access to regional and national clinical trials of promising new treatments. As an academic medical center, Stony Brook University also has the capacity to cultivate collaboration between practitioners and cancer researchers. The expectation is that this leads to use of new targeted therapies for cancer. The outpatient center will also be a convenient referral resource for area physicians, and for patients, a Community Resource Center will provide educational materials on cancer and internet access.

State-of-the-Art Imaging and the Breast Care Center

An important aspect of outpatient diagnostic services at the Ambulatory Care Pavilion will be the use of sophisticated imaging systems, mainly radiographic imaging, ultrasound, magnetic resonance imaging (MRI), computerized tomography (CT), and positron emission tomography (PET) scanning.

"We will be using state-of-the-art systems in an atmosphere that will promote easy access and convenient care, as well as flexibility and more rapid patient turnaround," says Donald P. Harrington, MD, Chair of the Department of Radiology. He cites four specific systems – two (1.5 Tesla) MRI machines, one (64-slice) CT scanner, and one (16-slice) PET/CT scanner – as a core grouping of equipment that ensures the highest level of diagnostic capability.

Some of this equipment mirrors what Radiology currently uses for diagnosing patients in the hospital. But other systems will offer new imaging options for outpatients. For example, the 64-slice CT completes images more quickly, in more detail, and in three-dimensions, which allows imaging specialists to get a better view of abnormalities. Such sophisticated technology will further enhance the planning of surgery and other forms of treatment.

"There will be a balance struck between what is done at the hospital and what is done in the outpatient center, depending on the needs of the patient," emphasizes Dr Harrington. He adds that both settings will be used to treat outpatients. Patients in need of multiple tests or invasive procedures, such as CT- or ultrasound-guided biopsies, will have these done in the hospital.

Only physicians in the Breast Care Center will perform some invasive diagnostic and treatment procedures within the pavilion. The Breast Care Center will move from its current location in Stony Brook University's Technology Park in East Setauket to the pavilion as a stand alone facility on the first floor close to the diagnostic imaging area. Services such as mammography, ultrasound, MRI, sentinel node and image-guided biopsies will be completed at the breast care center.

Although not all cancer patients will be able to have all their care provided in an outpatient setting, Dr Gabig notes that as treatment for cancers advance, and molecular diagnoses for early detection take hold, more and more patients may be in need of outpatient care only – an aim for all cancer care programs.

The Ambulatory Care Pavilion will be a two-story outpatient facility that will include the Long Island Cancer Center (LICC), including the Carol M. Baldwin Breast Care Center, outpatient medical and surgical oncology, outpatient pediatric oncology, an imaging center, and cancer support services.

New Outpatient Cancer Center

FAST FACTS:

- **The outpatient cancer center will be located in the Ambulatory Care Pavilion, an outpatient facility under construction.**
- **State-of-the-art imaging services will include new and sophisticated MRI, PET, and CT scanning.**
- **Patients will receive the most up-to-date treatments and have access to regional and national clinical trials of promising new treatments.**
- **Multidisciplinary teams of physicians will coordinate patient care between the outpatient center and hospital.**

New Surgical Oncologist Appointed

Colette R.J. Pameijer, MD, will soon join the growing team of specialists at the Long Island Cancer Center (LICC) at Stony Brook University Hospital (SBUH) in the Division of Surgical Oncology, Department of Surgery. As a general surgical oncologist, Dr Pameijer will focus on the management of all patients with cancer, but she has a special interest in treating patients with soft tissue tumors, particularly melanoma, sarcoma, and breast cancer. Dr Pameijer will help to develop clinical programs for these diseases while at the LICC. She is scheduled to start during the summer of 2005.

Dr Pameijer comes to Stony Brook University Hospital from City of Hope National Medical Center, Duarte, Calif., a National Cancer Institute (NCI)-designated Comprehensive Cancer Center. At City of Hope, Dr Pameijer carried out research in cellular therapy, mainly in designing T-cells to target cancer. She will continue this research at Stony Brook.

Dr. Colette R.J. Pameijer

A goal at Stony Brook is for the LICC to evolve into an NCI-designated Comprehensive Cancer Center, of which there are only 39 in the nation. To move in this direction, the LICC has recruited numerous cancer specialists like Dr Pameijer during the past few years and will open a new outpatient center sometime in 2006 **(See "Focus On" Feature Insert)**.

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