The Need for a Multidisciplinary Approach to Advance Research

The success of much advancement in urologic oncological clinical research at the Weill Cornell Medical Center has been attributed to the collaborative efforts of the respective backgrounds and departments dealing with genitourinary malignancies. As a fairly new development, the Genitourinary Oncology Team has worked with many institutions and renowned specialists to validate the need for a multidisciplinary approach to the management of cancer patients which directly advances clinical research endeavors between the respective departments.

The collaborative efforts of the numerous backgrounds including the Department of Urology, The Division of Hematology and Medical Oncology, the Department of Pathology, The Department of Radiation Oncology, and the Department of Radiology, have produced incredible developments in GU research which has yielded many achievements. Our institution has been among the first to establish such pursuits as the creation of anatomical basis for "nerve-sparing" procedures for bladder and prostate tumors, the successful implementation of the prostate vaporization (green light/KTP) laser used in prostatectomy procedures, and the use of microsurgical techniques to remove cancer with preservation of function. There has also been a continued breakthrough in Prostate Cancer research by the development of the 1st series of monoclonal antibodies (mAbs) to extracellular domain of prostate specific membrane antigen (PSMA).

The Genitourinary Oncology Team together with world-class research, exceptional collaboration, and the newest and on the rise treatment options ensures that not only patients receive the highest level of care for such cancers, but colleagues and peers are kept informed and inspired to contribute towards cancer research.
Anti-Prostate Specific Membrane Antigen Radioimmunotherapy

Despite recent advances, advanced prostate cancer is suboptimally responsive to current chemotherapeutic agents. Prostate specific membrane antigen (PSMA), the most highly established prostate cancer cell-surface protein known, is a non-secreted membrane protein which is over-expressed by nearly all prostate cancers. J591 is a deimmunized monoclonal antibody developed by Dr. Neil H. Bander at WCMC to target the extracellular domain of PSMA. Preclinical and early phase clinical studies utilizing radiolabeled J591 (radioimmunotherapy, RIT) have demonstrated efficient tumor targeting along with clinical efficacy. Radiolabeled J591 is well-tolerated, non-immunogenic, and can be administered in multiple doses. A phase 2 clinical trial of single dose 177Lu-J591 demonstrated that, at the optimal dose, the majority of men (71%) experienced some decline in PSA after a single injection, with nearly half (47%) of the men having at least the 30% drop that has been most associated with a survival benefit in chemotherapy trials. The dose limiting toxicity is reversible myelosuppression with little non-hematologic toxicity. For men with metastatic castration resistant prostate cancer, current studies include approaches to optimize patient selection and incorporation of novel strategies to improve the success of anti-PSMA RIT including dose-fractionation and combination with chemotherapy.

Clinically localized prostate cancer can be cured with either surgery or radiation, but approximately a third of such men will develop recurrence despite therapy (about 50,000 men per year in the U.S.). Some men may be cured or “salvaged” with radiation after PSA recurrence, but the majority of these men go on to suffer relapse because of microscopic deposits of cancer outside of the radiation field. Improvements in therapy are needed.

Based upon the initial results in metastatic CRPC and the known physical properties of 177Lu which are optimal for micrometastatic disease, this population of men may have significant long-term benefit from anti-PSMA targeted RIT. This method of “targeted radiotherapy” may be able to overcome the major flaw of salvage radiotherapy: its inability to target disease outside of the radiation field, in particular disease that is not yet visible by conventional imaging modalities (CT/MRI, bone scan). By selecting this optimal population for 177Lu-J591 with only micrometastatic disease, we hypothesize that the therapeutic benefit will be high, potentially leading to the delay or prevention of overt metastatic disease and improved long-term survival.

Further information about radiolabeled anti-PSMA studies can be found at: http://www.med.cornell.edu/cancercare/trials/solidtumors/prostate.html
Meet the Doctor: Shahrokh Shariat, MD, PhD

Bringing with him a reputation for cutting-edge research and practices in the field of Urologic Oncology, Dr. Shahrokh Shariat has twice been recognized as one of America’s Top Urologists by the Consumer Research Council of America. He has published more than 400 research papers, is the holder of five patents stemming from his research into prostate cancers and bladder cancers, and is the recipient of several national and international rewards.

Dr. Shariat is a sought after speaker and visiting professor. He is currently spearheading several collaborative multicenter groups and prospective clinical trials. He has mentored many students, residents, and fellows. Dr. Shariat has had continuous competitive funding from the NIH. He is a member of various academic societies and a journal, meeting abstract, and grant reviewer for numerous national and international organizations. He is an editorial board member of various journals including European Urology, BJU International, Immunotherapy, Oncology Reports, and Journal of Men’s Health. His research focuses on urologic oncology - molecular mechanisms, markers, early detection, natural history, treatment, translational and outcomes research. He has co-authored over 310 peer-review articles and a dozen book chapters.

Dr. Shariat completed his undergraduate training and medical school in Vienna, Austria. After graduating with highest honors, he did two postdoctoral fellowships in molecular biology (focus: gene and vaccine therapy) and urologic oncology (focus: outcomes research and biomarkers) at Baylor College of Medicine, Houston, TX. He held faculty positions at Baylor and University of Texas Southwestern Medical Center, Dallas, TX. In September 2010 he joined the faculty as an associate professor in the Department of Urology, Weill Cornell Medical Center, New York, NY. If you would like to make an appointment with Dr. Shariat or have any questions, please call 212-746-5562.

“I want to alleviate suffering, protect life, and to serve as an anchor for promoting health.”

-Shahrokh Shariat, MD, PhD

The New Biomedical Research Building: Collaboration is Key

The Department of Urology at Weill Cornell Medical College – New York-Presbyterian Hospital is very pleased to announce that the construction of the new Biomedical Research building has begun! Groundbreaking started on May 26, 2010, with plans for dedication in December 2011. This new space will provide 18 stories and 330,000 square feet of new research space, essentially doubling our current research space. This will not only include 54 of our current scientists, but will allow Weill Cornell Medical College to recruit 50 more top-tier researchers. The department of Urology will be a part of the innovative and shared laboratory space. We will have our own investigators working side by side with others in complimentary fields of medicine, in order to provide more comprehensive care and tackle the most pressing health issues of today. In fact, two floors of the new research structure will be dedicated to a Cancer Center, and our Urologic Oncologists will work together with other specialists in pediatric cancers, blood cancers (leukemia/lymphoma), breast cancer, gastrointestinal cancer, and thoracic cancers.

The facilitated communication and collaboration among multiple specialties will emphasize interdisciplinary research that strives to cure, treat, and prevent all cancers, and therefore reach the bedside as soon as possible.

When the building is completed, state-of-the-art equipment will be available to partnering institutions, therefore bringing together world-class scientists into a newly constructed and sophisticated work space that encourages their collaborative work.

Funding for this project was made possible by the Discoveries that Make a Difference campaign. Please see the website for more information:

www.weill.cornell.edu/campaign

A publication of the Multidisciplinary Genitourinary Oncology Team
Recent Publications in the field of Prostate Health by Weill Cornell


