

CLARK Urological Center

Winter 2004



YEAR-END REPORT

Jean B. deKernion, MD, Professor and Chairman

I am pleased to provide a brief report of some of the progress made in the Department of Urology during the past year. Our focus has remained on the classic responsibilities of an academic department: patient care, research, and education, and our success is measured by continued excellence in all three areas. Once again, we have been ranked as one of the top programs by **US News and World Report**.

Research Funding and Discoveries

Currently, our Department is one of the leaders in research funding. We are in our third year of funding in the Specialized Programs of Research Excellence (SPORE) in Prostate Cancer, as one of eleven institutions funded by the National Cancer Institute, with annual funding of \$1.4 million. Last year, the Grant distributed over \$300,000 for support of investigators beginning a career in prostate cancer research. The major funded projects in the SPORE have led to a promising monoclonal antibody against prostate cancer, and a clinical trial with one of the new and exciting categories of drugs which interferes with the molecular cascade that leads to malignant transformation of prostate cells to cancer cells.

Another project is developing drugs to interfere with certain growth factors to interrupt the growth of prostate cancer. A Phase I trial for treating hormone resistant prostate cancer with a combination of a new and innovative drug plus a chemotherapeutic agent is ongoing. Dr. William Aronson has shown that reduction in dietary fat decreases prostate cancer growth in experimental models, and a clinical trial will soon begin.

Research from Dr. Lily Wu's laboratory indicates that lymphatic vessels within prostate tumors provide a route of escape for metastatic cells. Currently, they are actively investigating the pathway of metastasis through the lymphatic system in animal models. Simultaneously, her group is also developing a gene delivery vehicle that is capable of producing an imaging signal in a prostate-specific manner, and a clinical trial has been proposed.

This past year, Dr. Robert Reiter's laboratory has identified a new gene called *reg-IV*, which is a secreted protein and appears to be associated with advanced cancer. He has funding from the Department of Defense to determine if this can be useful as a new serum test. In addition, a number of patents were awarded on PSCA antibodies this year and a biotechnology company is planning to take Dr. Reiter's PSCA antibodies into clinical trials in 2005.

Stem-cell research has gained great momentum in California. Dr. Larissa Rodríguez currently conducts research with stem cells arising from fat cells and is using the cells to reconstruct parts of the lower urinary tract as an innovative approach to problems

of incontinence and impaired bladder function. The new State Stem-cell Initiative offers her opportunities to collaborate with other investigators and further advance this field.

Dr. Bernard Churchill and Dr. Joseph Liao, in collaboration with the School of Engineering, have developed a rapid sensor for bacteria and are validating its clinical application in rapid detection of bacterial infections in humans. This is part of a research project funded by the National Institutes of Health.

Dr. Peter Schulam is currently collaborating with the School of Engineering on a nanotechnology project performing Micro-electromechanical systems (MEMS) research for measuring renal pelvis pressures and doing mathematical modeling of renal cell cancer to predict survival using the UCLA Kidney Cancer Database.

Dr. Mark Litwin was awarded a \$7 million grant from the National Institute of Diabetes and Digestive and Kidney Diseases for a study of "Urologic Diseases in America." They have already published the preliminary compendium and the national community is anxiously awaiting their full report, which will assess the impact of all urologic diseases on public health in the United States.

During the past year, Dr. Eric Vilain's laboratory has deciphered an important signaling molecule involved in sexual differentiation. Also, they found that male and female mammals' brains differ in the expression of specific genes, independent of hormone influence, demonstrating the importance of genetic factors in sexual behavior. These findings have gained national attention.

In the internationally prominent Kidney Cancer Program, Dr. Arie Beldegrun and Dr. Robert Figlin have clarified the role of vascular growth factors on kidney cancer, and for the first time, have identified molecular markers that predict which patients respond to aggressive therapy for advanced tumors.

Outcomes of medical care and quality of life are increasingly important issues in assessing the value of medical and surgical interventions, and the Department of Urology is a world leader in this field. During the past year, Dr. Litwin and his associates have documented new findings, among other things, the natural history of bone complications in men on androgen deprivation therapy for prostate cancer, quality of life after treatment for prostate cancer and patterns of prostate cancer practice in the United States. Dr. Litwin was also senior author on a landmark study that demonstrated the futility of prescribing antibiotics for men with recurrent chronic non-bacterial prostatitis.

As part of a \$6.5 million National Cancer Institute study, Drs. Arie Beldegrun, Allan Pantuck and Robert Figlin are investigating the use of Tarceva, an epidermal growth factor receptor inhibitor, and Erlotinib, a green tea polyphenol extract, as preventative agents against bladder cancer. This is the largest prevention study in the United States to focus on bladder cancer in current and former smokers.

Clinical Programs

Clinical programs continue to expand, with all of our subspecialty programs showing an increase in patient activity.

The Renal Transplant Program is now one of the largest in the nation, and we are one of the national leaders in laparoscopic minimally invasive, donor kidney removal, which has increased the pool of willing living donors; and we now are one of the national leaders in living-related kidney donors for transplantation.

A third generation of technology for cryotherapy of prostate cancer have been tested and shown to be associated with fewer side effects than previous freezing methods. Dr. Peter Schulam and Dr. Arie Beldegrun are utilizing the same new technology for the treatment of small kidney tumors, thereby sparing the patient surgical removal.

Dr. Jennifer Singer has joined our faculty in Transplantation and Pediatric Urology, and Dr. Gerald Lipshutz is a new Surgery Transplant Faculty member with a joint appointment in our Department. The Minimally Invasive Surgery Program continues to expand and a new faculty member is currently being recruited for that Division.

The anticipated move to the new hospital has been postponed until 2006, but we are planning for the relocation of our in-patient surgeries, and the move to the new Frank Clark Center in the Peter V. Morton Medical Building.

Educational Programs

Our educational programs attract some of the best and brightest internationally and from the United States. Once again, we successfully competed for the best resident applicants for our Residency Training Program. Currently, we have nine Clinical Fellowships which are among the most sought after nationally. A Urologic Oncology Fellowship is one of the few approved by the Society of Urologic Oncology. In addition, we currently have twenty foreign research fellows or postdoctoral students working in our research laboratories. Two of last year's residency graduates were awarded prestigious post-graduate fellowships, and two of our current Chief Residents, who complete their training in June 2005, have been admitted to competitive post-graduate fellowships and faculty positions.

Future Initiatives

We hope you are proud of your Department's accomplishments. These would not have been possible without your support. Growth is critical to our future success: growth in faculty, growth in research programs, and new initiatives. We owe it to your community to be on the cutting edge of all aspects of urologic treatment and research.

In 2005, we are anticipating a major initiative to develop the funding necessary to continue our tradition of excellence and maintain our position as a world leader. Our major priorities are: the establishment of a quasi-endowment fund for education and research; funding of Endowed Chairs for faculty in minimally invasive surgery, cancer research and stem-cell research; secure general support for expansion of research in all areas especially stem-cell research and application of engineering and nanotechnology to urologic research; and start-up support for new faculty and fellowships.

We will be calling on many of you, not only for your support, but, also, for your expert advice on how best to go forward. We hope that you will respond and partner with us in these important goals. We collectively thank you for your support during this past year and look forward to working with you in the future.

Quick Facts About Urology

- In Fiscal Year '04 we logged approximately 32,000 outpatient visits and performed 2,700 surgical procedures
- Dr. Gritsch and his team performed 318 kidney transplants last year, with more than 1,500 patients currently on the waiting list
- As of June 30, we had \$32 million in federal and state competitive grant funding; and \$2.2 million in competitive foundation grants, and, approximately \$500,000 in contracts for clinical trials.
- The California State Impact (Improving Access, Counseling and Treatment for Californians with Prostate Cancer) Grant was funded this year for \$6.2 million.
- We received 151 resident applications for our 3 coveted residency spots for the upcoming academic year.
- We are currently recruiting for six active clinical trials
- A recent study by Drs. Allan Pantuck and Arie Beldegrun showed that daily intake of pomegranate juice by men who have persistent prostate cancer following surgery or radiation decreases the rapidity of PSA rise and may have an impact on long-term survival.

Giving Opportunities

The Department of Urology welcomes your contributions throughout the year. To send a contribution in support of our research programs or as a tribute or memorial, please make your check payable to "Regents of UC" and mail it to Ms Rain Burch at the Department of Urology, Box 951738, Los Angeles, CA 90095-1738. For donations by credit card please call Ms Burch at 310-794-2159.