A CAREER IN UROLOGY

Get to Know Urology Day

February 21, 2009  (0800-1200 hours)
Location:  Lecture Theatre
Room #1020, 1st Floor
Diamond Health Care Centre
VGH Site

(Breakfast/lunch: outside #1020, DHCC, VGH Site)

UBC MD Undergraduate

February 2009
The Department of Urologic Sciences is a tertiary and quaternary referral centre for advanced and challenging cases of urologic malignancies. With an emphasis in the cultivation of innovative therapies including laparoscopic and robotic procedures and novel systemic treatments, the vision of the Department is to provide state-of-the-art treatment of genitourinary malignancies today while developing what will be state-of-the-art in the future. The Department’s pioneering translational and basic science researchers are at the forefront in prostate cancer research as well as the development of many novel therapies for various genitourinary cancers. Several biological agents and inhibitors of critical molecular pathways have been brought from the “bench” to the “bedside” and are currently being tested. The large group of scientists and surgeons focusing on uro-oncologic research at the Department of Urologic Sciences provides for an optimal environment that brings advanced and up-to-date therapies for patients with genitourinary malignancies.

Postgraduate training program in Urology – Dr. Andrew MacNeily
The UBC Department of Urological Sciences provides a training program in all aspects of urology, and is one of a total of twelve such programs in Canada. The duration of residency is five years following graduation from medical school. This is comprised of two years of core surgical training followed by three years of exposure to all spheres of our specialty. Core surgery consists of rotations in allied specialties such as general and vascular surgery, intensive care, and radiology as well as rotations in urology. At the end of the core years, residents are required to write the Royal College Principles of Surgery and the LMCC II qualifying examinations. At the end of the PGY-5 year, trainees are required to sit the Royal College certifying examinations in Ottawa. This consists of a comprehensive two day series of multiple choice, short answer and OSCE examinations required for certification as a urological surgeon.

Required academic activities for residents typically include weekly city-wide grand rounds, and case-based and indication rounds conducted at each of the teaching sites. Friday afternoons are reserved for the resident’s academic half-day which consists of a blend of chapter reviews, resident seminars and presentations, radiology rounds, pathology reviews, and mock examinations. In addition, residents are expected to participate in a critical inquiry research project under the preceptorship of one of the faculty urologists.

Strengths of the UBC program include a very high volume of clinical and surgical exposure to all aspects of urology, and a well structured academic curriculum. As a result, a very high pass rate has been obtained on the Royal College examinations over the past 20 years. Approximately 50% of UBC graduates have chosen to pursue further fellowship postgraduate training in a variety of subspecialties including oncology, pediatrics, transplantation, andrology, and minimally invasive surgery.
Kidney stones are common (may affect up to 12% of adults in their lifetime) and cause much suffering, their pain considered worse than childbirth. Affected patients often present to an emergency room in extreme colic, sometimes associated with nausea and vomiting. It is the task of a urologist to diagnose stones quickly, and to determine whether immediate intervention is required or whether the stone has a high likelihood of spontaneous passage. Medications may also facilitate stone expulsion. In the event of intervention, the urologist can choose either to decompress the kidney and defer definitive management, or to treat the stone itself with either shock wave lithotripsy, ureteroscopy using various intracorporeal lithotripsy devices (including a laser), percutaneous nephrolithotomy, or rarely, open surgery.

Another task of the urologist is to address the metabolic issues that affect stone patients. Up to 57% of stone patients have recurrent stone disease, and up to 97% of stone patients have an identifiable metabolic abnormality on 24 hour urine analyses. Based on stone composition, urine testing, and blood analyses, the urologist can determine the specific metabolic abnormalities that underlie a patient's stone disease. With this information, future stone risk can be minimized either with dietary changes and/or medications.

In brief, kidney stones represent a challenging and rewarding aspect of urology. The urologist must be diagnostician, radiologist, endoscopist, surgeon, internist, nephrologist, and dietician to manage fully the stone patient. The rapid pain relief and freedom from future stone occurrences that the urologist can provide is also one of the more rewarding aspects of urology.

Community Urology – Dr. Omar Nazif

Community urologists in BC need a wide range of skills to manage the acute, chronic, and emergency care of their patient population. Many community urologists are fellowship trained in various subspecialty areas in the field. The majority of recent graduates that have entered community practice have advanced fellowship training beyond residency. Areas of subspecialty include oncology, laparoscopy, robotics, pediatrics, female urology, reconstruction, endourology, and infertility.

A wide range of procedures and techniques are offered at centers around the province. Almost every procedure offered at the academic center is offered in the community. For advanced procedures, urologists will work together as a team delivering state of the art care to their patients. Community urologists are responsible for the management of patients in areas of high population density and growth around the province including the lower mainland, Vancouver Island, Fraser Valley, and the northern parts of the province. Many community urologists are affiliated with the Department of Urologic Sciences at UBC.

Urologists in the community attend academics rounds, national meetings, and present and publish papers. Almost all urologists are able to access grand rounds from the Department of Urologic Sciences via video conference. Many of our community urologists are leaders in clinical research. State of the art operating rooms and equipment are also available to highly trained surgeons. Advanced equipment include integrated high definition MIS suites, advanced endourology, laser treatment of prostate and stone disease, advanced laparoscopy, and infertility. Significant portions of health care dollars are allocated to the community to provide better access to care and technology. A broad scope of pathology, clinical research, innovative techniques, and ever changing technology make community urology a diverse and rewarding practice.

Programs within Urologic Sciences

Pediatric Urology – Dr. Kourosh Afshar

Pediatric Urology is one of the strongest programs in the Department of Urologic Sciences. Three full time, fellowship trained pediatric Urologists provide tertiary care to the children of BC and Western Canada. Examples include complex genitourinary reconstruction (exstrophy, continent diversion etc.), advanced minimally invasive procedures (e.g. laparoscopic pyeloplasty and heminephrectomy) and state of the art urodynamics. We see approximately 6,500 patients per year only in our clinics. Our program is extremely active in teaching both undergraduate and postgraduate students. The head of our division, Dr. Andrew MacNeil is a well known surgical educator who has received multiple teaching awards. Our senior colleague, Dr. John Masterson has an extensive background in education and had been the program director of UBC residency program for over 19 years. Pediatric Urology rotations are consistently ranked high in students/resident evaluations. Our division is also active in research. Our areas of interest are clinical trial, surgical education and outcome assessment. Dr. K. Afshar has a postgraduate degree in clinical epidemiology and currently is leading several clinical projects at BC Children’s Hospital.
End stage renal disease (ESRD) leading to renal replacement therapy (hemodialysis or peritoneal dialysis) is a major cause of morbidity and mortality amongst Canadians of all ages. In Canada alone, over 25,000 patients are classified as having ESRD, however less than a third of those patients have been transplanted. The Renal Transplantation Group within the Department of Urologic Sciences provides the surgical oversight of the kidney transplantation process for the province of British Columbia. This program is based at three sites: St. Paul’s Hospital, Vancouver General Hospital and BC Children’s Hospital and is supported by the BC Transplant Society and Nephrology service.

The renal transplant program in British Columbia encompasses organ retrieval, deceased donor transplantation and live donor transplantation for the province. At any time, when a suitable deceased donor is identified anywhere in the province, a team is mobilized and transported to the local site for donor assessment and organ retrieval where heart, lungs, liver, kidneys, and pancreas are procured for immediate transplantation. Whether this call comes from Bella Coola or from Vancouver, the procurement team is always on call and ready to respond.

When the procured organs are transported back to Vancouver, the surgical renal transplant team within the Department of Urologic Sciences transplants the kidney or kidney and pancreas in the intended recipient. Typically these operations are performed within a 12 hour window from time of circulatory arrest of the donor, and are often done as soon as possible in order to minimize the inevitable slow deterioration of the donated organ while awaiting implantation.

Live donor renal transplantation has surpassed deceased donor transplants as of 2004 in Canada, and continues to account for the overwhelming majority of renal transplants performed in BC. The benefits of living donation include: scheduled surgery, better quality organs, lower cold ischemic times suffered by the kidney while awaiting implant, and better clinical outcomes in the recipient. We now use laparoscopy routinely to procure organs from living donors and will soon add the surgical robot to the armamentarium as yet another means to procure kidneys while reducing the surgical stress on the donor patient.

While the clinical arm of our surgical renal transplant group develops strategies for improving direct clinical outcomes, our members are also involved in research at a more basic level attempting to decipher the processes by which renal allografts are ultimately lost. These scientists are housed within the Jack Bell Research Center, a multimillion dollar, state of the art facility boasting access to strong interdisciplinary and international collaboration. With continued advances in areas of research including organ preservation, T cell regulation and chronic allograft nephropathy, our group intends on improving the lives of renal transplant recipients through the extension of allograft survival.

Ultimately, the goal of the renal transplantation group in the Department of Urologic Sciences is the betterment of life of both renal transplant donors and recipients in British Columbia.