

## **The Department of Urology in Uppsala—A Presentation**

Åke Fritjofsson

*Department of Urology, University Hospital, Uppsala, Sweden*

In 1984 the Department of Urology at Uppsala University Hospital had been established for 10 years. This issue of the Uppsala Journal of Medical Sciences has been compiled to commemorate that tenth anniversary.

### History

The University Hospital in Uppsala has traditions stretching back to 1708, when the town's first hospital, Nosocomium Academicum, was established. Its founder was Lars Roberg, Professor of Medicine. From its beginnings, the hospital was dedicated to medical care, education, training and research. In the succeeding years the Nosocomium periodically experienced serious financial strain, and many years were to pass before it evolved into a hospital in the modern sense. In 1867, however, a hospital constructed as a result of collaboration between the University and Uppsala County Council was opened as the finest and most modern of its time in Sweden.

In the following 60 years the hospital was successively extended and upgraded. Gradually, however, it became clear that more extensive reconstruction was required to satisfy the demands made on a modern university hospital. In 1950, after some years of preparation, a masterplan for Uppsala University Hospital was published. That plan included special units for thoracic surgery, plastic surgery and neurosurgery, but urology still had to bide its time within general surgery. Because of long construction times, organizational changes - including regionalization of health services - and the space requirements of expanding educational and preventive medical facilities, the masterplan was revised in 1958, 1964 and 1971.

The 1958 plan mentioned that at some other Swedish university hospitals special departments of urology had been established, and for the first time urology was included as an independent regional department in the masterplan for the development of Uppsala University Hospital. The 1964 plan included a detailed design for a urology department.

The most intensive period of hospital expansion was from 1960 to 1974, when great ward complexes were erected block by block. In one of these blocks the Department of Urology found a place among other surgical disciplines. The end of this long reconstruction period will be reached in the autumn of 1985, when the new block for gynaecology and obstetrics is opened.

### The Urology Department Today

In February 1974, new and well equipped facilities were provided for urology in Uppsala. The initial years can be characterized as a "running-in" time, during which the unit had to prove its identity and establish its position in the surgical family. Since 1976 the Department of Urology has been responsible for the renal transplantations performed at the University Hospital.

The component services of the Urology Department, i.e. in-patient and out-patient care, radiology and laboratory work, are concentrated in the same part of the hospital, which makes for easy running. The ward standard is very high as regards both patient care and patient comfort. The rooms - for one, two or four patients - are tastefully decorated and look out over forests and open countryside, with glimpses of the castle and cathedral in Uppsala and of a magnificent historical monument (Sten Sture Monument). The out-patient department and the operating and endoscopy rooms are of an equally high standard.

In accordance with the hospital's long tradition, the Department of Urology focuses on patient care, on education and training, and on research.

### Education and Training

The Department participates in both undergraduate and postgraduate training of medical students. During undergraduate training the departmental staff give lectures, conduct group and bedside teaching and supervise a two-week period of practical work. Postgraduate training, for specialist certification, is given to one or two graduates at a time. Since 1974 around 20 doctors have been or are being trained for certification at our Department. Several of them have thereafter done postspecialization study at the Department, thereby increasing their urologic proficiency. Ten are now heads of independent urology units, mostly within the Uppsala health service region.

Other personnel categories, mainly nurses and operating theatre technicians, receive basic and postbasic training at the Department.

## Research

From the outset, research has figured high among the activities of the Department, at which there is high potential for both clinical and experimental research.

Basic research on renal physiology and pathophysiology, done in collaboration with the Departments of Physiology and Medical Biophysics at the Biomedical Centre of Uppsala University, has been most rewarding. The renal transplantation work at the Urology Department has prompted extensive collaborative research, along with other clinical departments and laboratories involved in transplantation. These two research fields are presented separately in this issue of the Journal.

In clinical research, attention has been specially focused on problems in urologic oncology, especially testicular, prostatic and bladder cancer. Renal calculosis and functional disorders of the genitourinary tract are other fields of our research.

Much of the research at the Department has been done as postgraduate doctoral theses. Altogether 11 previous or present staff members of the Department have presented theses, and three more are currently engaged in such research.

## Patient care

The Department of Urology has at its disposal 46 in-patient beds, a few of which are reserved for transplantation cases. The remainder are used for specialist care of patients referred from county and district general hospitals within the health service region or for basic general urologic work. The out-patient department likewise is reserved primarily for specialist consultations. In 1984 the approximate number of in-patients was 1 700, and they underwent c. 2 000 surgical operations. The number of out-patient attendances was c. 6 600.

As elsewhere in medicine, the decade since 1974 has brought appreciable developments in urology. Progress in medical technology, biology and pathophysiology have considerably expanded diagnostic and therapeutic possibilities.

## Diagnosis

Urology has traditionally cooperated closely with diagnostic radiology. Diagnostic ultrasound (US) and computed tomography (CT) have revolutionized radiology, permitting greater precision of diagnosis and partly replacing

invasive techniques, which also have been increasingly refined. Both US and CT have found a place in urology, permitting greater precision of diagnosis and staging of tumours. In some cases the two methods provide almost identical information, while in others one or other method seems to be more accurate. Not infrequently they are mutually complementary. US has proved to be useful for recognizing obstruction of the urinary tract. It is also extremely helpful in guiding puncture to empty various cavities and in taking biopsy specimens.

In the past year Uppsala has pioneered use of magnetic resonance tomography (MRT). Its diagnostic usefulness is now under consideration. The full potential of MRT for urology is not yet known, but currently its very high resolution indicates that in many situations it may well be more informative than US or CT.

The laboratory for urodynamics has gradually evolved in collaboration with the departments of clinical physiology, neurophysiology and medical technology. This modern laboratory has provided means for accurate evaluation of functional disturbances in the upper or lower urinary tract, thereby providing a sound basis for treatment.

### Therapy

In the past 10 years, technical innovations, new remedies and altered attitudes have greatly changed the treatment of many urologic disorders. The following are only some examples.

Prostatic outflow obstruction. Nowadays about 90 per cent of patients with prostatic outflow obstruction are treated with transurethral resection. Ten years ago the figure was around 50 per cent. The main reasons for this change from open to transurethral procedure are the achievements in optics by Harold Hopkins of Reading University in England and progressive refinements in electromedical units, improving the quality of resection. For most urologists, however, there is a limit to the bulk of resectable tissue, and in some cases there is still a place for open surgery.

Renal stone. A special endoscopic instrument which permits removal of kidney stones under direct vision via a dilated nephrostomy channel was introduced about 5 years ago. It is now used by many urologic units in Sweden, and in the past year we have been able to testify to the great advantages of this instrument. Most impressive is the patient's rapid recovery after the operation.

Ureteral stone. Recent developments in percutaneous renal surgery and ureteroscopy have provided access to the entire ureteral lumen via the kidney or bladder. For some months now the Department has been equipped for transurethral treatment of ureteral calculi. Though our experience hitherto is limited, small

ureteral calculi have been successfully removed under visualization of endoscopic manipulations.

Prostatic cancer. This, the most common cancer in Swedish men, was for many years in Sweden routinely treated without regard to stage and grade. In recent years, however, the attitude to treatment has changed. "Wait and see" is now reserved for the highly differentiated T0 tumours without signs of metastasis, while other localized prostatic cancer is treated with radical prostatectomy or combined interstitial and external irradiation together with pelvic node dissection. Management of advanced prostatic cancer is individualized, the choice being between orchiectomy and medical antiandrogen treatment.

Testicular cancer. The prognosis in testicular malignancy, especially the nonseminomatous tumours, has changed considerably in recent years. Modern chemotherapy has achieved its greatest triumph in this disease. In early-stage cancer the 5-year survival without evidence of disease is almost 100 per cent, and even in advanced cancer the survival rate has improved remarkably. Retroperitoneal lymphadenectomy, which for years has been done as routine for nonseminomatous tumours, is now under debate. Our participation in the multicentre Swedish & Norwegian Testicular Cancer Project (SWENOTECA) has been most fruitful in maintaining our standards and offering our patients optimal therapy.

In the treatment of malignant diseases the Department of Urology has at all times had the rewarding cooperation of oncologists and pathologists at the University Hospital.

Another field in which rapid progress has been achieved is use of penile prosthesis in some cases of impotence and artificial urinary sphincters for treatment of urinary incontinence. Simpler and technically more reliable devices have been developed. In treating impotence, collaboration with neurologist colleagues has been most profitable, and hitherto about 40 men have had penile implants, with success rate comparable to other centres. In selecting patients for implantation of artificial urinary sphincter, preoperative evaluation at the urodynamic laboratory has been extremely important. However, our experience with these procedures is still limited.

An account of renal transplantation at the Department of Urology is given elsewhere in this issue of the Journal.

These gleanings from the field of urology have been presented to illustrate the rapidity of change within our speciality. Urology today differs greatly from the picture 10 years ago. The coming 10 years promise further fascinating developments. But there is a question-mark concerning the organizational and financial prospects for accomplishment of such progress and its utilization to benefit our patients.

Address for reprints:

Åke Fritjofsson  
Department of Urology  
University Hospital  
S-751 85 Uppsala  
Sweden

Acknowledgement

This issue has been prepared with assistance of Mrs Ray McVeigh Källqvist, who has also made the linguistic review. This is gratefully acknowledged.