

What is new in urology?

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Though surgery remains the major activity of most urologists, in 2005 most of the progress in urology was obtained in the field of diagnosis and medical treatment. To create a comprehensible picture, we divided urology in smaller subspecialties like kidney stones, urological oncology, incontinence, other voiding disorders and erectile dysfunction. Obvious improvements in the diagnostic approach and therapeutic planning are presented.

Kidney stones

CT scanning has become an important tool for the diagnostic work-up of renal and ureteral stones. Today, intravenous urography is stepping out of the picture. The switch from IVU to CT goes with some benefit and some disadvantages.

The CT images of the urinary tract (URO-CT) are created without the use of contrast agents, an important advantage for patients with contrast-allergy. As the whole abdomen is scanned, concomitant or extra urological pathology may also be demonstrated. This is also a big advantage in cases of obscure diagnosis like patients with renal colic or other type of pain in the emergency department.

But there are also some problems. First of all, there is a logistic problem as CT machines are not always available. Furthermore, good interpretation of the images is difficult and most of the time the assistance of a radiologist is appreciated. Some information with particular interest for the urologist, like the possibility of percutaneous access to the renal calyx or the exact location of a stone, may be missed. However, 3D-reconstruction can solve this problem and one should ask for this computed image reconstruction whenever necessary.

In the therapeutic area, a tendency towards minimal invasive surgery persisted. Kidney stones are treated by extracorporeal shock wave lithotripsy (ESWL) or percutaneous litholapaxia, both valuable techniques with an indication depending upon the exact location and the size of the stones. Smaller stones may also be treated through the ureterorenoscope with the help of Laser destructive energy. Ureteral stones are more frequently treated by ureterorenoscopy rather than ESWL. With ureterorenoscopy one needs general anaesthesia, but the cured rate in one intention to treat is quite higher and there are fewer postoperative problems.

Urological oncology

Most urologists agree that oncology is their most important subspecialty, with prostate cancer lonely at the top.

Rectal examination and PSA are “golden tools” for diagnosis and the remarkable role of PSA for an early diagnosis cannot be underlined enough. Unfortunately, its specificity is not perfect which leads to too many negative biopsies. PSA surrogates like PSA-density, PSA-transition zone and free PSA do not add additional information. Individual screening is useful for most men between 50 and 70 years of age. Hereditary prostate cancer exists and in men with familial predisposition for prostate cancer screening is recommended at the age of 45. To date, there is no evidence that population screening is of any use at all.

The treatment strategies remain pretty much the same. A localised prostate cancer is best treated surgically or with radiotherapy. Locally advanced cancer of the prostate responds well to a combination of radiotherapy and a 6 to 36 month course of hormonal withdrawal treatment. Advanced prostate cancer will be treated in the first place with anti-androgens or LHRH analogues or direct surgical castration in some elderly men. A combined therapy of LHRH analogues and anti-androgens has only little or no advantage and should not be recommended anymore, except in the first month of LHRH-therapy to prevent the flare up phenomena.

Some major questions remain unsolved.

- How long do we have to combine radiotherapy and LHRH-analogue in the treatment of locally advanced prostate cancer? The state of the art remains at 3 years, but many patients suffer from hot flashes and loss of libido. Data of the EORTC study comparing radiotherapy followed with either 6 months or 3 years LHRH treatment should be available this year.
- The application of intermittent hormonal treatment in patients with metastatic prostate cancer is another interesting debate. Upcoming data from the SWOG study should indicate the best strategy in this matter.

In the field of bladder cancer, the introduction of the PET-scan for local and distant staging was very helpful; especially the pet and CT fused combined images. This better selection of the patients that need to be operated, coupled with the technique of laparoscopic radical cystectomy, with remarkably less blood loss and smaller incisions, has a great impact on the prognosis of this dangerous disease.

A radical nephrectomy for benign or malignant renal disease is now almost invariably performed laparoscopically. A small incision, a quick recovery and an impressively shortened stay in the hospital are highlights of this refined surgical technique.

Incontinence

Most incontinence problems are categorized as genuine stress-incontinence or urge-incontinence.

The best therapeutic option for stress-incontinence remains the surgical intervention. Today, minimal invasive procedures like the transvaginal tension free tape (TVT) or transobturatorius tension free tape (TOT) resolves most of these problems. These interventions are very easy to perform, but many complications may occur. Once placed, the tape should really be tension free. Too many patients return to the hospital with voiding problems, sometimes acute urinary retention, and the only solution is transection of the vaginal tape. Other complications include infections of the prosthetic material, in which case the surgical removal of the tape is the only solution. These problems must be dealt with before these techniques definitely deserve the label minimal invasive.

Medical treatment for stress-incontinence is also available today. Duloxetine, an anti depressive agent, seems promising.

Primary urge-incontinence can only be treated by intensive physiotherapy and medication. Oxybutinin, tolterodine and solifenacin are popular and effective agents, with side effects as dry mouth and blurred vision. Lots of new agents are under investigation in phase II and III studies.

Voiding disorders

Transurethral resection of the prostate stays the golden standard, with a remarkable score of 95% of good results. The risk of glycine absorption and the associated TUR syndrome opened the door to resections with saline as the irrigation fluid (TURIS – transurethral resection in saline). TURIS is safer indeed but still has some disadvantages. The resection loops are single use and very expensive. Furthermore, they are quite small compared to the original TUR loops and a longer resection time is created.

Alternative techniques like transurethral microwave thermotherapy (TUMT) and transurethral needle ablation (TUNA) fail to become as successful as TUR.

Erectile dysfunction (ED)

Erectile dysfunction has become easy to manage in urology. An extensive diagnostic work-up is not needed at all anymore. The oral intake of fosfodiesterase-5-inhibitors is a safe and effective treatment in most patients with ED. Vardenafil, tadalafil and sildenafil seem equally qualified to achieve our goals. None of these three medications seems superior to the other ones.