**Urology Beyond Europe**

**Experts examine emerging trends**

By Look Keizer

Eleven Urology Beyond Europe (UBE) joint sessions marked the first day of the 27th Annual EAU Congress, with the Maghreb Union countries (see page 2 for full details) joining the annual congress for the first time.

The sessions enabled the EAU and overseas national or regional societies to jointly address crucial urological issues through presentations, debates and lectures that cover key issues and emerging trends. Prof. Didier Jacqmin (FR), EAU International Relations chairman characterised the sessions as “an important part of the Congress, which stresses the worldwide scope of the EAU and international cooperation.”

Prostate cancer and BPH

Jacqmin also co-chaired the Joint Session of the EAU and the Arab Association of Urology (AAU), together with Profs. Hassan Abdel-Enein (EG) and Saad Kepel (SY). The session was split into two themed blocks: “Prostate cancer and urinary stones,” and “Reconstructive surgery and how do I do it?” The latter provided practical advice to the participants, who took part in discussions. Many questions came from the inquisitive audience.

The session featured speakers from both associations, starting with this year’s winner of the Willy Gregoir Medal, Prof. Michael Marberger (AZ), who offered insights from his experiences in European practice.

Marberger spoke about the continued necessity for Trans-Urethral Resection of the Prostate (TURP) in treating Benign Prostatic Hyperplasia (BPH). He stated that although TURP had been written off ten and even 20 years ago, the low morbidity, continual improvement and the effective and durable solution that it provides are some of the positive aspects compared to laser treatment. HoLEP laser surgery also has a steep learning curve, taking up to 50 cases for urologists to master it.

In his concluding remarks Marberger said TURP remained a reference standard in the EAU Guidelines, and that its use is increasing compared to other surgical approaches for BPH in Austrian hospitals, the procedure having been used in 16% of cases in 2010.

Prof. Bertrand Tombal (BE) spoke in favour of a conservative approach to prostate cancer. His presentation stressed the Hippocratic oath of a surgeon’s responsibility not to do good, but also to do no harm, giving examples of refusing treatment when the patient’s quality of life is severely affected, or if treatment would be ineffective. Co-chair and AAU president Prof. Kayal reflected on what the EAU could learn from the AAU. “We actually learn more from the EAU! But each association deals with specific professionals, different languages, different issues, different health services and different cultures.”

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The aging population not only in Western and highly developed countries but also in other regions is expected to have a major impact on the rising cases of incontinence and related diseases, according to experts who gathered yesterday during the reporting sessions of the Committees of the ICUD-EAU International Consultation on Incontinence (5th IC).

“It’s a synthesis of all the evidence that there is about continence from epidemiology, through investigation to management,” said Prof. Paul Abrams, one of the chairpersons of the day-long meeting which continues today.

“What we aim to do is to make a current statement of all the scientific evidence and come up with consensus statements. As always we will produce the ICO algorithms of consensus management for the various groups, such as children, the elderly, women, men and neurogenic patients. We also cover fecal incontinence and pelvic organ prolapse in the same way,” he added.

The 5th Consultation is expected to publish their report within the next six months, collecting all findings and conclusions made by the various committees. A comprehensive range of issues were discussed yesterday and experts were one in saying that the elderly population presents a major challenge in many countries. “It is anticipated that with the overall aging of the population the prevalence of Lower Urinary Tract Symptoms (LUTS) will also increase,” said Ian Milson (SE) during his lecture on epidemiology.

Five other committees covering the areas of pharmacology, surgery in men and women, neurogenic patients and dynamic testing will present today their reports during the meeting of the EAU Section of Female and Functional Urology (BSFU) at 16.15 in Room Concord Paris, Level 4. [By Joel Vega]

**EAU-ICUD sessions**

**Aging population, key factor that impacts prevalence**

Kent Ebell, UK (Chair)

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Gambia’s Horizons project takes off
Collaborative efforts more crucial than charity, says Gambian urologist

One of the most important projects arising from the collaboration between the EAU and the Pan-African Urological Surgeons’ Association (PAUSA) is Horizons, a project initiated by Prof. James N’Dow which aims to improve the quality of health care in Gambia.

Based on the principles of self-sustainability and social impact, Horizons was initiated by N’Dow, who described himself as a “proud Gambian who is also part of the problem of Africa,” since he left for Scotland 25 years ago. N’Dow, who spoke yesterday during the joint EAU-PAUSA session, said he started working on the Horizons project out of frustration. The lack of improvement in the quality of Sub-Saharan health care that N’Dow witnessed prompted him to believe that charity alone has failed as a long-term solution. With more emphasis on collaborative efforts, Horizons started to take shape three years ago and since then has been supported by key stakeholders.

N’Dow: “The project has been awarded prime land by the Gambian government, is supported by a number of Gambian ministries, and has secured the support of the African Development Bank, which are all major milestones.”

Moreover, organisations such as WHO, Gambia, Global Health Workforce Alliance, and the University of Aberdeen have pledged their support. With the Gambian people, the business community and international philanthropic funding, construction of the Horizons Clinic can start later this year.

The Clinic will enable Horizons to meet its long-term goal of making a “major contribution towards increased access to affordable high quality healthcare for all Gambians.” It will deliver wide-ranging charitable activities focusing on maternal health, infant care, training of healthcare professionals, in-depth expertise and specialised training are needed by young urologists in the region. For instance, we hope to develop expertise in areas like renal transplantation and uro-oncology,” he said. “We definitely are interested to engage with our colleagues in Europe, learn from their experience and participate in the knowledge exchange that is happening now.”

Asked in what specific ways can associations like the EAU assist urologists in the Maghreb region, Joual said that already education and training programmes have been organised by the EAU through the European School of Urology (ESU).

“We certainly would like to see the strengthening of collaboration with the EAU because each year we organised ESU courses in the Maghreb countries, and these meetings have been very beneficial, particularly for our young urologists since these programmes provide high quality training,” Joual noted.

Meanwhile, the EAU and the Iranian Urological Association (IIAU) discussed salient issues in uro-oncology. PSA levels are crucial in the follow-up of prostate cancer patients, according to Professors S. Shakeri and H. Van Poppel during the joint session.

Colophon
No part of European Urology Today (EUT) may be reproduced without written permission from the Communication Office of the European Association of Urology (EAU). The comments of the reviewers are their own and not necessarily endorsed by the EAU or the Editorial Board. The EAU does not accept liability for the consequences of omissions. It is difficult to fact, finding and implementing relevant, cost-effective, and sustainable solutions for the immediate and long-term needs in Gambia can be possible," N’Dow noted. (By Monique van Hout)
Assessing progress, anticipating prospects
Urological challenges remain despite cutting-edge technologies

With the EAU Congress returning to Paris for the third time in the nearly three decades of this annual meeting, we are reminded that old friends and places provide not only reassurance but also imply that the bright prospects ahead can only be fairly viewed within the context of the past.

Paris has contributed to European urology, in particular, and to world urology in general. Well-loved in literature, the arts, business and politics, we are indebted to this city for its achievements in medicine. In the three editions of the EUT Congress Newsletter, you will find articles from our History Office colleagues that provide a fascinating glimpse on the experiences of pioneer surgeons and urology specialists who lived and worked in this city.

With the various congress activities in full swing, you will be in all likelihood bombarded with a vast amount of information, updates and miscellaneous materials—digital e-Newsletters, Tweets, website news and press releases. Mass communication, indeed, has evolved to a many-headed monster that constantly nuances, feeds and re-adjusts the way we view the world.

Like modern communication, urology has its fair share of technological wizardry, throwing new questions and obstacles for us to hurdle. This international meeting hopes to address precisely this challenge of considering new medical feats in a proper perspective, while re-examining the efficacy and reliability of older strategies.

Kidney donor: multidisciplinary process is key

Eugenia Starkova

A consistent percentage of potential donors—47% in the discussed series—are not considered suitable for donation, according to the results of a study by A. Breda and colleagues. The results highlight the need for an integrated multidisciplinary donor selection process.

With the aim to review the percentage and the causes of exclusion for kidney donation at a single tertiary institution, the group from Fundació Puigvert, Barcelona (ES), conducted a retrospective analysis of the institution’s database for the period of 2003 to 2011.

In the study, nephrologists were in charge of filtering the queries for donation by excluding donors with absolute contraindications such body mass index > 35, uncontrolled high blood pressure, diabetes, known medical history of malignancy or systemic disease and psychological issues.

Following this initial filter, potential donors were further evaluated by a multidisciplinary committee formed by urologists, nephrologists, cardiologists, radiologists and psychologists.

After the initial filter by nephrology was applied, 344 potentially ideal living kidney donors were identified from 2003 to 2011. Despite the initial filter, 42% (146 donors) of donors were considered not suitable for donation.

Further analysis revealed that 39% (64 donors) of donors regretted their decision to donate, and 50% (30 donors) were found to be ABO incompatible and/or had positive cross match. 7% (10 donors) had their recipient transplanted during the decision process from a cadaveric donor. 18% (27 donors) were excluded for anatomical reasons.

In this and the following two editions, you will find insightful contributions from colleagues not only in urology but also in medical oncology, radiology, gynecology and other disciplines, that elucidate various issues and research outcomes.

A printed newsletter may look anachronistic in this age of digital bytes and bits. But despite Internet speed, the printed word claims a place in a world where ease and rapid, on-demand fulfillment often take for granted the detailed accuracy only possible with a finer processing of information.

In urology we have the same challenge of assessing the new versus the old. In some, if not in most cases, we might not get the answer.

Rest assured, that in the big, wide forest of fast-changing developments, we as a group of committed professionals are keen to provide instructive guidance, if not a reliable beacon of discernment.

Welcome to Paris!
Male circumcision: Impact on HIV transmission

Studies and trials provide conclusive evidence documenting circumcision's health benefits.

Randomised controlled clinical trials

While statistically significant, observational studies cannot prove causality (i.e., that male circumcision is the critical factor responsible for decreased HIV infection risk). Four clinical trials were needed. Three randomised clinical trials were conducted among consenting, healthy men in South Africa (1999-2001), Kenya (2002-2003), and all three were stopped early following recommendations by independent Data and Safety Monitoring Boards when interim analyses found highly significant decreases in HIV infection risk among the circumcised men.

The three trials enrolled a total of 11,594 uncircumcised, adult men. Participants were randomly assigned (1:1) to circumcision or control for up to 2 years (Table 1). Retention rates were high (86-91%, Table 1). Subsequent meta-analysis using a random-effects model of the trial results, following the QUORUM statement recommendations found no evidence of heterogeneity among the trials. The overall rate ratio (RR) was 0.42 (95% CI 0.28-0.67), representing a 58% protective effect (C.I. 43-69%), identical to the finding found in the observational studies (58%, C.I. 46-66%).

The true protection provided by male circumcision may be better estimated by an “as-treated” analysis that assigns outcomes according to the actual circumcision status of participants. Some participants did not have their foreskin changed. The remaining participants were assigned to. Meta-analysis of the “as-treated” results of the three trials shows even stronger protection against HIV infection in the circumcision group (summary RR 0.35, 95% CI 0.24-0.51).

Thus, randomised clinical trials including more than 11,000 men found that male circumcision was associated with 58% reduction in HIV infection risk in the “intent-to-treat” analysis and 65% reduction in HIV infection risk in the “as-treated” analysis. These findings closely mirrored the observational study data.

Complications of male circumcision

It is difficult to directly compare adverse event rates in the observational and randomized clinical trials and across different adverse event definitions and criteria. In the Kenya trial, adverse events possibly, probably or definitely related to circumcision were reported in 2.5%, 3.4%, and 2.9% (possibly, probably, and definitely related to circumcision, respectively) of circumcised men (sum of 3.1%, 2.9%, and 2.9% of 1,334 circumcision events). These adverse events were mild or moderate and resolved quickly. In the South African trial, adverse events occurred in 3.1% (586 events) of 1,965 HIV-negative men. In the Ugandan trial, the surgery-related adverse events occurred after 23% (765 events) of 3,281 circumcision events. This may reflect differences in management. The risk of moderate adverse events related to surgery was 3% in the Uganda trial, including five surgical complications (0.2%). All of these complications were managed successfully. Thus, adverse event rates for mild adverse events were acceptable in the clinical trials.

Cost-effectiveness

Detailed analyses of the African trials indicated that male circumcision is likely to be very cost-effective, with cost savings of US$13 per SIV infection averted (0.3% CI US$12-15), with cost savings of US$5.5 per HIV infection averted (0.3% CI US$5.3-6.7).

The South African trial showed a significantly increased mean number of sex acts between 4 and 21 months among the circumcised men, but no increase in the number of sexual partnerships or change in condoms use.12 The Uganda trial reported a decrease in reported risk-taking behaviors during the 24-month study in both circumcised and uncircumcised men.

Combined analysis of data from the three trials found that most men delayed intercourse after circumcision and that early sex after circumcision was not associated with increased HIV infection risk, although condom use was limited.20 Despite these reassuring observations, circumcised men should be advised to delay intercourse to limit the theoretical risk of increased HIV risk until complete wound healing.

The trial findings are reassuring but these data may not be generalizable to other settings in the developing world. The trials provided the highest standards of preventative care plus intensive counseling to make the message传达 persuasive.

Participants did not know that circumcision reduced their risk of HIV infection. The challenges of expanding services within already overstretched health systems must now be faced.

Conclusions

Male circumcision may be the oldest, and certainly the most common surgical procedure. The positive findings in the male circumcision trials show that circumcision reduces a man’s risk of HIV infection by approximately 2/3. There is a need to provide safe male circumcision services for high-risk populations because this is one of very few proven HIV prevention strategies. In addition to health benefits, male circumcision provides a much-needed addition to the limited HIV prevention armamentarium. The evidence from biological studies, observational studies, randomised controlled trials, and meta-analyses suggests that cost-effectiveness studies is conclusive. The challenges to implementing safe male circumcision services in resource-limited settings must now be faced.

References

ESUT-Live Surgery: navigated video-assisted surgery

EAU Section of Uro-Technology (ESUT) Meeting in cooperation with ERUS, EULIS and ESIU

"For the first time, the use of 3D-computerised tomography (Dyna-CT) is demonstrated to get access to the kidney"

Following a more than 10-year tradition of live-surgery sessions, the EAU Section of Uro-Technology presents today an ambitious programme focusing on novel techniques in percutaneous, endourological, laparoscopic, and robotic-assisted procedures.

This year, with the theme “Navigated video-assisted surgery and beyond” we want to focus on novel techniques in percutaneous, endourological, laparoscopic, and robotic-assisted procedures.

Primarily, we also want to celebrate the 50th anniversary of laparoscopic radical prostatectomy in a city from where this revolutionary procedure was first promoted and later on gained world-wide popularity. Furthermore, we will demonstrate how new fluorescence techniques (i.e. photodynamic diagnostic using isocyanine green and 5-aminolevulinic acid) may improve the quality of our endoscopic procedures.

New access techniques

During laparoscopic and robot-assisted cases, we will compare new access techniques (such as LESS versus NOTES) as well as new instruments and devices (3D-imaging, ETHOS) improving the ergonomics of laparoscopy.

Moreover, the latest digital developments diagnosis i.e. narrow band imaging, high definition technology) for the endoscopic treatment of benign prostatic hyperplasia (BPH) including ablative and enucleating laser technologies (i.e. Green light XPS, Thulium XPS, vaporesection) are demonstrated.

Expert faculty

The ESUT-faculty consists of internationally well-known experts serving as surgeons and moderators.

A split-screen will allow the delegates to follow the uncommented procedures.

Traditionally, the format of the ESUT-Live Surgery will allow all delegates to directly communicate with the surgeons to ask questions and to discuss every aspect of the procedure. Moreover, the ESUT session will be recorded and made available on-line.

Supported by unrestricted educational grants from ETHOS-Surgical, GE-Healthcare, LISA-Laser, Intuitive Surgical, Karl Storz GMBH & CO.KG, Olympus, Staba Biotec, Siemens, Terumo.

Saturday, 25 February

10.15 – 12:15: Meeting of the EAU Section of Uro-Technology (ESUT) in cooperation with ERUS, EULIS and ESIU eURO-Auditorium

### Time Schedule

<table>
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<tr>
<th>Time</th>
<th>OR-1 (Storz)</th>
<th>OR-2 (Olympus)</th>
<th>OR-3 (Intuitive)</th>
<th>OR-4 (Endourology)</th>
<th>OR-5 (ERUS)</th>
<th>OR-6 (EULIS)</th>
<th>OR-7 (ESIU)</th>
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<tr>
<td>10.00–12.00</td>
<td>Laparoscopic radical prostatectomy with indocyanine green</td>
<td>NBI-assisted ureteroscopy with pelvic lymph node dissection</td>
<td>NOTES - nephroscopy, transperineal</td>
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<td>13.00–15.00</td>
<td>3D-assisted laparoscopic nephrectomy</td>
<td>NOTES - nephroscopy, transperineal</td>
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<td>16.00–18.00</td>
<td>Robotic nephrectomy</td>
<td>NOTES - nephroscopy, transperineal</td>
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**Participants and Presentations**

- **Prof. Jens Rassweiler**
  - Department of Urology
  - Heilbronn SLK-Kliniken, Heilbronn (DE)

- **Prof. Claude Abbou**
  - Department of Urology
  - Heilbronn (DE)

- **Prof. Matthias Janetschek**
  - Department of Urology
  - Mannheim and Aalst (DE)

**Live transmission from on-site surgical operations using split-screens at the ESUT meeting during the EAU Congress in Vienna last year**

**Supported by**

- Supported by unrestricted educational grants from ETHOS-Surgical, GE-Healthcare, LISA-Laser, Intuitive Surgical, Karl Storz GMBH & CO.KG, Olympus, Staba Biotec, Siemens, Terumo.

**Saturday, 25 February**

10.15 – 12:15: Meeting of the EAU Section of Uro-Technology (ESUT) in cooperation with ERUS, EULIS and ESIU eURO-Auditorium
Case-based update on the optimal management of bone metastases from prostate cancer

Saturday 25 February 2012, 17.45–19.15, Room Bleu
Le Palais des Congrès de Paris, Paris, France

Chair: Professor Matthew Smith, USA

Programme

An innovation in bone-targeted therapy for clinical practice
Matthew Smith, USA

Expert opinion on clinical challenges in the management of bone metastases
Alberto Briganti, Italy
Stephane Oudard, France
Andrea Tubaro, Italy

Is prevention of bone metastases possible?
Matthew Smith, USA
Traditionally, JJ-stents are used for the conservative management of ureteral strictures, especially in high-risk and elderly patients who are unfit to undergo major reconstructive surgery.1 However, JJ-stents should be exchanged every 8 to 12 months and are associated with potential complications, such as encrustation, stone formation, pain, bleeding, irritative bladder symptoms, infection, vesicovascular reflux, and migration.2

Furthermore, JJ-related lower urinary tract symptoms (LUTS) lead to a reduced quality of life. Therefore, segmental metal stents have recently been introduced to alleviate the above adverse effects, without the need for regular exchange.3 In this article, we present our experience with the technical issues, safety and efficacy of a novel long-term-indwelling thermo-expandable ureteral stent for the minimally invasive management of malignant and benign ureteric strictures.

The thermo-expandable ureteric stent

The Memokath™ 051 stent (Pnn Medical AG, Winterthur, Switzerland) is a thermo-expandable nickel-titanium alloy spiral ureteral stent (Figure 1). The structure of one of these components is floppy, while the other one is rigid, resulting in a thermo-sensitive “shape memory”.4 A deformed piece of alloy softens and uncoils, and it is removed as a non-traumatic procedure, which then rests on the stricture, anchoring the structure.5

We have modified the removal technique, because we have experienced difficulties in grasping the base of the stent, especially when using a flexible ureteroscope for a migrated Memokath in the kidney6. We advance a 0.035” diameter guidewire through the Memokath and insert a balloon dilatation ureteral catheter halfway into the Memokath. The balloon is then inflated with saline. The balloon exerts pressure on the stent (Figure 2). After cold water is injected, the stent softens and uncoils, and it is removed as a non-traumatic procedure.

Institutional results

Memokath stents were inserted in 146 patients (28 women and 78 men), of mean age of 68.9 years, with 18 ureteral strictures.7 The causes of the strictures were benign in 126 (87%) cases and malignant in 21 (13%) cases. Twenty-seven patients (21.8%) underwent insertion of bilateral Memokath stents. All stents were inserted as planned. Mean operative time was 25 minutes (range 15–52 min) and the average hospital stay was 1.5 days. After a mean follow-up period of 23 months (range 3–60 months), 121 patients (89%) had a successful outcome, 12 patients deceased from several other causes, while their stents were in situ. In 28 cases, spontaneous resolution of the stricture was revealed after a mean indwelling time of 9 months. In 61% cases, stent manipulation was necessary because of stent displacement and/or blockage.8 Treatment failures were managed with reinsertion of JJ stents and/or open reconstructive surgery. Urinary tract infection occurred in 20 patients, who needed short hospitalisation and intravenous antibiotics. In the cases of Memokath blockage because of encrustation (after a mean period of 6 months), the patients were known stone formers. The encrusted Memokath was removed with ureteroscopy after stone fragmentation with the lithoclast. In one case in which we used the holmium laser, the Memokath fragmented; hence, the use of a laser is not recommended because Memokath is thermosensitive. Regarding the cases of spontaneous stricture resolution, the Memokath was expelled into the bladder. Stricture resolution was confirmed with retrograde contrast studies and did not recur during the follow up.

Economics

We calculated that in the NHS, a JJ stent costing £371?/stent is the most economical option and two outpatient follow-ups with radiography of the KUB per year, the total costs to manage a ureteral stricture with JJ stents is £819 per year. The insertion of a Memokath necessitates the same infrastructure with the JJ stent. Additional costs arise from the price of 11 x 33 cm Memokath sheet and the usage of the Memokath assembly set and infuse warm water via a ureteral catheter that is positioned in the proximal end of the Memokath. The total cost for the insertion of a Memokath is £911. Since 2004, we are growing up our experience with the thermo-expandable ureteral stents and we observe any cases of encrustation. The results of our comparative studies between double-ended and single-ended metal stents were known stone formers. The encrusted Memokath was removed with ureteroscopy after stone fragmentation with the lithoclast. In one case in which we used the holmium laser, the Memokath fragmented; hence, the use of a laser is not recommended because Memokath...
Muscle invasive bladder cancer
Current status of neo-adjuvant and adjuvant chemotherapy

Patients with muscle invasive bladder cancer have at best 90% overall survival depending upon their pathological stage and lymph node status. However, despite the progress made with the use of cisplatin-based combination chemotherapy in metastatic disease, chemotherapy is seldom used for infiltrating bladder cancer in the pre and post-cystectomy settings.

Clinical trials have been fraught with difficulties. There is currently more evidence available from randomized clinical trials in favor of upfront, neo-adjuvant chemotherapy. In the adjuvant post-operative setting, many clinical trials have been closed early due to poor accrual. Due to the methodological issues in many of the studies in the peri-operative setting, the only conclusions that can be drawn are from meta-analyses combining the results of randomised trials.

Neo-adjuvant chemotherapy trials in bladder cancer
Results of a recently published EORTC-MRC neo-adjuvant randomised clinical trial will be highlighted. Prior meta-analysis of Phase III randomised trials with cisplatin-based combination chemotherapy has suggested a 5% benefit for cisplatin-based chemotherapy in the neo-adjuvant setting.

Nonetheless, most patients are not offered chemotherapy prior to surgery. When presented with the all too common upstaging and/or more definitive chemotherapy prior to surgery. When presented with the all too common upstaging and/or more definitive chemotherapy prior to surgery. The optimal timing and intensity of chemotherapy in the adjuvant setting remains to be determined. Accrual to trials of adjuvant therapy in urthelial cancer represents a major challenge. A formal meta-analysis including the recent adjuvant trials will be of great interest.

Given the small incremental benefit to adjuvant chemotherapy, the demonstration of a survival advantage may require a trial with more patients unless patients accrued can be stratified for risk benefit by clinical or pathological parameters, and/or biomarkers predictive of relapse risk and/or chemotherapy benefit.

Challenges
The body of evidence supports the use of peri-operative chemotherapy; however, the best evidence is currently in favor of neoadjuvant rather than adjuvant therapy.

“...the body of evidence supports the use of peri-operative chemotherapy; however, the best evidence is currently in favor of neoadjuvant rather than adjuvant therapy”

Since this analysis, four additional phase III studies have been closed: the Spanish Oncology Genitourinary Group-SOUG U 99/01 trial, a CAGIB trial, an Italian Multicenter study and EORTC trial 19999. These trials have all suffered from poor accrual, but may contribute when examined prospectively together in the future.

Results of randomised trials.
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Nonetheless, most patients are not offered chemotherapy prior to surgery. When presented with the all too common upstaging and/or more definitive evidence of risk of relapse in the surgical pathology report, many clinicians and patients have preferred post-operative treatment despite deficiencies in evidence to support this approach.

Adjuvant chemotherapy trials
A meta-analysis demonstrated a benefit with adjuvant cisplatin combination chemotherapy. The analysis is somewhat difficult to interpret, as there were only 141 patients from six randomised controlled trials. The overall hazard ratio for survival of 0.76 (95%CI 0.50-1.16) was suggested a 29% relative reduction in the risk of death for chemotherapy compared to control.

Since this analysis, four additional phase III studies have been closed: the Spanish Oncology Genitourinary Group-SOUG U 99/01 trial, a CAGIB trial, an Italian Multicenter study and EORTC trial 19999. These trials have all suffered from poor accrual, but may contribute when examined prospectively together in the future.

Most recently, a large cohort analysis assessing the effect of adjuvant chemotherapy from several large centers suggested the greatest impact of adjuvant chemotherapy is seen in patients with extravesical extension or N+ disease.

Challenges
The body of evidence supports the use of peri-operative chemotherapy; however, the best evidence is currently in favor of neoadjuvant rather than adjuvant therapy. Several studies have suggested a 5-15% absolute advantage for chemotherapy in the post-operative setting.

Given the small incremental benefit to adjuvant chemotherapy, the demonstration of a survival advantage may require a trial with more patients unless patients accrued can be stratified for risk benefit by clinical or pathological parameters, and/or biomarkers predictive of relapse risk and/or chemotherapy benefit.

The optimal timing and intensity of chemotherapy in the adjuvant setting remains to be determined. Accrual to trials of adjuvant therapy in urthelial cancer represents a major challenge. A formal meta-analysis including the recent adjuvant trials will be of great interest.

Source: J Clin Oncol 29:2171-2177, 2011
Welcome and opening remarks: the rationale for focal therapy of prostate cancer:
a unique opportunity today:
C. Stief and P. Scardino

Suitability of focal therapy for PSA-detected localized prostate cancer in the UK:
F. Hamdy (Oxford, UK)

Urology evolving. The essentials of the Mechanism of Action of TOOKAD® Soluble:
exploring optimal treatment conditions by targeting the tissue’s vasculature
A. Alcaraz (Barcelona, Spain)

Phase II Meta-analysis Data revealed on TOOKAD® Soluble and Long term follow-up:
the new treatment option for the management of Low Risk Localized Prostate Cancer in the era of targeted therapies:
S. Joniau (Leuven, Belgium) and J. Trachtenberg (Toronto, Canada)

Urologists, Minimally invasive therapy and targeted agents: Applying clinical evidence
to clinical practice: the Phase III program:
G. Ahlgren (Malmö, Sweden)

Establishing Focal Therapy on a firm foundation: design of the US phase III clinical trial
P. Scardino

Panel discussion with question and answer session
**XGEVA®:** THE FIRST AND ONLY APPROVED RANK LIGAND INHIBITOR TO PREVENT SKELETAL-RELATED EVENTS (SREs)

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**PRECISE ACTION.**
**SUBCUTANEOUS INJECTION.**

XGEVA® is indicated for the prevention of SREs in adults with bone metastases from solid tumours

XGEVA® is administered as a subcutaneous injection of 120 mg once every 4 weeks

*In clinical studies, XGEVA® was superior to zoledronic acid in the delay or prevention of SREs in patients with bone metastases from advanced breast or prostate cancer*


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**NEW**

**XGEVA®** (denosumab) Brief Prescribing Information

Please refer to the SmPC (Summary of Product Characteristics) before prescribing XGEVA®.

**Pharmacological Form:** 1.7ml solution for injection presented as vial containing 120mg of denosumab. Contains sorbitol (E420).

**Indications:** Prevention of skeletal related events (pathological fracture, radiation to bone, spinal cord compression or surgery to bone) in adults with bone metastases from solid tumours.

**Dosage and Administration:** Single subcutaneous injection of XGEVA® 120mg is given once every 4 weeks. No dose adjustment for renal impaired patients. Patients must be supplemented with at least 500 mg calcium and 400 IU vitamin D unless hypercalcaemia is present. XGEVA® is not recommended in paediatric patients (age < 18).

**Contraindications:** Severe, untreated hypocalcaemia.

**Special warnings and precautions for use:** Pre-existing hypocalcaemia must be corrected prior to initiating therapy with XGEVA®. Patients must be supplemented with at least 500 mg calcium and 400 IU vitamin D unless hypercalcaemia is present. XGEVA® is not recommended in paediatric patients (age < 18).

**Pharmaceutical Precautions:** Do not mix with other medicinal products. Store in a refrigerator (2°C–8°C). Do not freeze. Keep the vial in the outer carton in order to protect from light. XGEVA® may be stored at room temperature (up to 25°C) for up to 30 days in the original container. Once removed from the refrigerator, XGEVA® must be used within this 30 day period.

**Adverse reactions derived from clinical trials examining the efficacy and safety of XGEVA® versus zoledronic acid in preventing the occurrence of skeletal related events:**

- Common (≥ 1/100 to < 1/10): Osteonecrosis of the jaw; uncommon (≥ 1/1,000 to < 1/100): Cellulitis, Drug hypersensitivity.

**Pharmacological Precautions:** Do not mix with other medicinal products. Store in a refrigerator (2°C–8°C). Do not freeze. Keep the vial in the outer carton in order to protect from light. XGEVA® may be stored at room temperature (up to 25°C) for up to 30 days in the original container. Once removed from the refrigerator, XGEVA® must be used within this 30 day period.
René Küss - a transplant pioneer in Paris

War experience and support for artists extend Küss’s achievements beyond the operating table

Many of the crucial innovations facilitating kidney transplantation have been made in France. The initial impetus came from the surgical school in Lyon, where Alexis Carrel (1873-1944) under the guidance of Mathieu Jaboulay (1860-1903) introduced modern vascular anastomosis with sutures in 1902, which 10 years later earned him the Nobel Prize in medicine.

In 1908 Jaboulay tried to graft animal kidneys to the elbow of two patients and Carrel performed a successful watertransplantation in a dog in 1908. After World War I, Sergé Voronoff (1866-1951), a French surgeon of Russian origin, performed a variety of transplantation experiments in his research laboratory at the Cochin and de Paris hospitals, who played a pivotal role for French nephrology by performing the first homotransplant in France in 1955 and by contributing to modern transplantation immunology.

A career in urological surgery

René Küss was born in Paris on May 3, 1913, the son of a career surgeon of Russian origin, performed a variety of transplantation experiments in his research laboratory at the Cochin and de Paris hospitals, who played a pivotal role for French nephrology by performing the first homotransplant in France in 1955 and by contributing to modern transplantation immunology.

In 1950 on Paris became one of the world’s leading centres for kidney transplantation mainly by achievements of the urological surgeon René Küss (1913-2006) and the nephrologist Jean Hamburger (1909-1992) from the Necker Hospital, who played a pivotal role for French nephrology by performing the first homotransplant in France in 1955 and by contributing to modern transplantation immunology.

Kidney transplantation in Paris

With the introduction of successful homotransplantation with an “artificial kidney” by the Dutch nephrologist Willem Kolff (1911-2009) in 1944, there was an increasing interest and new possibilities to treat acute and chronic renal insufficiency. A first homotransplant operated by Küss was carried out unsuccessfully in 1945 at the Bingham Hospital in Boston. The same clinic succeeded in transplantation of a kidney among homogentics twins in 1954, which is considered the first successful living donor kidney transplantation worldwide. There were many similar efforts in the following decade, which often ended in disappointments.

After the war, Küss, together with several other surgeons in Paris, actively engaged in vascular surgery and transplantation of the kidney and performed several experimental operations in 1948. Following another report of a short-term success of cadaveric donor kidney transplantation in Chicago in June 1950, these three surgical teams in Paris, guided by Küss and two cardiac surgeons, Charles Dubost (1912-1990) and Marcou Serelle (1952-2002), started a series of operations themselves.

The organs were either taken from living donors or from prisoners sentenced to death who had agreed on having their kidneys removed soon after decapitation. In January 1951 the first transplantsations were performed at Broussais Hospital (Debost) and at Cochin Hospital (Küss). It was with these operations that Küss perfected the retroperitoneal placement of the donor kidney into the iliac fossa and anastomosis to the iliac vessels, which remains the standard kidney transplantation procedure up to this day (Figure 2).

After a series of eight unsuccessful operations (five performed by Küss himself) the team decided to abandon this operation, and Küss summarised in 1952: "...in the present state of knowledge, the only rational transplantation would be an exchange between monogenic twins." This was then the rare case of the abovementioned milestone transplantation at Bingham Hospital in 1954. Following these disappointing attempts Küss focused on plastic and reconstructive surgery of the urinary tract and perfected techniques for ureteral anastomosis that would later be useful for establishing routine kidney transplantation in the 1960’s.

Only with the introduction of an immunosuppressive regimen did Küss again enter the field of transplantation and performed a series of six living donor operations at Foch Hospital in 1956 and 1957, where the recipients were initially treated with total body irradiation and later administered steroids and the new drug 6-mercaptopurine for immunosuppression (Figure 3).

Küss continued his pioneer work in transplantation for years and received many awards for his work.

Art connoisseur and collector

Küss had been introduced to the world of art by his father and built up a huge and outstanding collection of paintings during his life. Since 1933 he was attracted to the city of Honfleur at the northwestern coast of France, where artists Gustave Courbet, Eugène Boudin and Claude Monet had formed the Ecole de Honfleur (Honfleur school) which later on became engaged in the “Société des Artistes Honfleurais.” Besides collecting old masters as Cranach, Rubens, Watteau, and Tiepolo his private painting collection also consisted of works from Boudin, Jongkind, Toulouse-Lautrec, Vuillard, Sisley, Gauguin, Renior, Rouault, Bonnard, and Monet (Figure 5) that were auctioned after his death by Christie’s in Paris in December 2006.

Medical historian

During the last two decades of his life René Küss was also active in the field of medical history and published “Histoire illustrée de l’urologie de l’Antiquité à nos jours” in 1993 together with the urologist Willy Gregoir (1920-2000) and “Une histoire illustrée de la greffe d’organe” in 1992 together with the medical journalist Pierre Bourget.

Saturday, 25 February 10.25-11.45: Meeting of the EAU Section of Transplantation Urology (ESTU) Standardised and individualised approaches in renal transplantation - aiming for the optimum 10.25 – 11.45 Past and Present in Renal Transplantation

Electrosurgery

Bipolar resection

Safe  ♦  Fast  ♦  Effective

The high-end electrocautery unit maxima® has special types of needles for bipolar resection. They reduce bleeding impulses for immediately starting the cutting process, making it possible to use large cutting loops. Since they exhibit a high resection rate, they are particularly advantageous for TUR® applications. Using the booster pulse, the cutting process can be initiated quickly and without compressing the tissue with the loop wire.

General advantages of bipolar resection

• Resection can be performed with saline solution
• Less risk of causing a TUR® syndrome
• No time limits for the intervention
• No neutral electrode required

Special advantages of bipolar resection by KLS Martin

• Excellent cutting effect due to “booster” impulses
• Larger loops possible for faster resection
• Longer service life of the loop electrodes
• No warmed saline solution necessary

Figure 1: Surgical unit of Prof. Robert Proust (dressed in coat) at Broca Hospital in Paris from 1932 showing René Küss (marked with arrow) as a young medical student

Figure 2: Sketch outlined by René Küss on the first representation of the iliac retroperitoneal positioning of a kidney transplant with end-to-end iliac arterial anastomosis (sketch dated November 6, 1940).

Figure 3: René Küss between M. Camey (to his right) and J. Poisson at Foch Hospital (1958) reviewing the first 10 transplantsations

Figure 4: Claude Monet’s L’Entrée de Giverny sous la neige (oil on canvas, 65 x 81 cm, 1885).

Figure 5: Claude Monet’s L’Estaque de Gaimarni au bec marée (oil on canvas, 65 x 81 cm, 1885).
Interstitial cystitis: going into the very background

ESU Course 11: painful bladder/chronic pelvic pain

Underlying the development of IC, as infection, genetic, anatomic, physiologic, neurologic and immunologic, but the precise etiology of IC remains elusive at present. It is probable that there is not one all-encompassing etiologic mechanism and the IC symptom syndrome represents different diseases.

The clinical expression is very different amongst patients and a strict correlation between symptoms, histological and cystoscopic findings has been shown not to exist (Scan J Urol 2009:43:471-475; 2011;45:20-23).

Evidence to suggest the possible involvement of neurobiological factors includes altered patterns of bladder innervation. For example, it has been demonstrated that levels of tyrosine hydroxylase (the rate limiting enzyme for catecholamine synthesis) are elevated in bladder tissue from patients with IC when compared with normal controls, and that a greater increase is seen in patients with the classic form of the disease.

Such changes are consistent with an increased sympathetic outflow; it has also been suggested that a defect in the epithelial permeability barrier that is formed by the cell surface glycoconjugans (IGs) may contribute to the pathogenesis of IC, by exposing the submucosal layer, including the intramural nerve fibres, to the noxious substances of urine. This would trigger different mechanisms involving activation of inflammatory mediators on the peripheral terminals of nociceptive neurons.

Sensitisation would be through direct cation channels and depolarisation of the neurons towards the voltage for action potential initiation and indirectly through activation of intracellular pathways. Sensitisation increases the probability that a given stimulus (ligand or voltage) will activate the target receptor or ion channel by removal of tonic inhibition (TRPV1) and change of levels of protein expression.

Examples of pain mediators are bradykinin, arachnoid acid metabolites, G protein s, serotonin et al. Other influences can come from e.g. low pH. Immune cells modulate pain processes not just by the release of mediators into peripherally damaged or diseased tissues, but also by the release of the same mediators into the central nervous system.

An inflammatory component mediated by mast cells is characteristic of classic IC, and would explain many of the symptoms of the disease. It has been suggested that alterations in nitric oxide (NO) metabolism are linked to immunologic responses in IC. Stabilizing the inactivation of c-arginine (the substrate for NO production) increases the concentrations of NO-related enzymes and metabolites in the urine of patients with IC and also decreases symptoms of the disease.

Finally, evidence to suggest that the aetiology of IC involves a complex neuroimmunoneuroendocrine axis comes from studies in which the activity of mast cells located in the urinary bladder and nerve terminals was influenced by both oestradiol and corticosterin releasing factor and thymosin.

Cystoscopic appearance of non-ulcer interstitial cystitis (Photo: European Urology)
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**Skills Simulator™**
Support for Skill Development

**EndoWrist® One™ Suction/Irrigator**
Wristed, Console-Enabled Instrumentation

**Single-Site™ Instrumentation**
Single Port Access

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**Test Drive New Innovations for the da Vinci® Si™ System**
Booth 2M90, Level 2

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Schedule subject to change. While clinical studies support the use of the da Vinci Surgical System as an effective tool for minimally invasive surgery, individual results may vary. Before performing any clinical procedure utilizing the System, physicians are responsible for receiving sufficient training and proctoring to ensure that they have the requisite training, skill, and experience necessary to protect the health and safety of the patients. For technical information, including full cautions and warnings on using the da Vinci System, please refer to the System User Manual. Hardware instructions only. Failure to properly follow instructions, notes, warnings, and danger messages associated with this equipment may lead to serious injury or complications for the patient. Presentations are not intended to substitute for formal medical training or certification. Intuitive Surgical retains sole rights on the use of its products. Clinical information and opinions expressed, including any inferences or inferences, belong to the individual participants and not necessarily Intuitive Surgical, Inc. © 2011 Intuitive Surgical. All rights reserved. Realistic cadavers, da Vinci, da Vinci S, da Vinci Si, da Vinci, da Vinci-E, da Vinci Pro, da Vinci Prime, da Vinci Prime+ and da Vinci are trademarks or registered trademarks of Intuitive Surgical. All other product names are trademarks or registered trademarks of their respective holders. PN 874784 Rev B 12/11

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Firefly™ Fluorescence Imaging
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**da Vinci® Si™ System**
Booth 2M90, Level 2
Synthetic materials for managing POP and urinary incontinence

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We live in an era in which synthetic materials are used extensively in medicine. Pelvic organ prolapse (POP) repair and the treatment of stress urinary incontinence using traditional surgical techniques is associated with a high rate of recurrence. Currently, synthetic tapes and meshes are frequently used in these types of surgery with very good clinical outcomes. At the same time, there has been an increase in the number of mesh-associated complications. Although rare, these complications can have serious consequences.

During the past several years, many reports of complications associated with synthetic meshes have been published in the literature. The most frequent complications include vasoconstriction, mesh shrinkage, infections, pain, urinary tract disorders, and a recurrence of prolapse. There have also been reports of rare complications, such as bowel, bladder, and blood vessel perforation during insertion. In 2002, the joint committee of the ICS-IAUA published a standardised terminology and classification for complications related to synthetic and biological materials in female pelvic floor surgery. This classification is designed to comprehensively cover complications in both insertion and healing. The POP-Q has been used widely around the world for the classification of prolapse and serves as a good example; we hope that this new classification of prolapse complications will achieve similarly prominent usage.

Surgical exploration confirmed complete ureteral obstruction at the level of the tension-free vaginal tape insertion (Figure 2). The patient underwent nephroureterectomy with full symptomatic resolution.

Urinary incontinence in young women who have been toilet trained may be due to ectopic ureter insertion under the pubic arch. This diagnosis is frequently delayed until adolescence, it is psychologically distressing, and it may be missed at physical examination. According to the current literature, renal duplication with associated complete ureteral duplication can cause continuous incontinence in young women if the ureter draining the upper pole moiety inserts ectopically below the external urethral sphincter[10]. Ideally, the diagnosis of this condition should be made in early childhood.

In this case, an unrecognised ectopic dysplastic kidney mimicked stress urinary incontinence, which led to the insertion of tension-free vaginal tape via a transobturator approach; the synthetic tape then caused an obstruction of the vaginal ureter. This case demonstrates that a thorough and attentive approach is mandatory in order to identify congenital abnormalities prior to surgery.

Ureteral trauma

A 70-year-old woman with stage III cystocele was admitted to our urogynecological clinic for pelvic organ prolapse (POP) mesh surgery. Anterior transvaginal mesh implantation of a four-armed anterior implant inserted using four trocars passed through the obturator foramen was performed. At the second day post-surgery, the patient noted moderate edema and pain in her right hip. Her temperature was 32.2°C, and the blood tests revealed normal white and red blood cell counts. A contrast CT scan showed urinary leakage on the right side (Figure 4A) extending to the interfascial space of the right hip (Figure 4B). The patient was taken to the operating room. A retroperitoneal approach revealed complete injury of the right ureter at the level of the right posterior arm of the mesh. Unresectable stump was found in the bladder. Blood loss was minimal, and the operation lasted 75 minutes.

Anatomical landmarks are essential in pelvic organ prolapse repair. During hands-on training for mesh surgeries, it is necessary to pay special attention to safety landmarks and anatomical topography. The ureters are always in close proximity to the cervix, and ureteral injury should be considered as a potential risk in patients with extensive prolate.

Small bowel evagination after POP surgery

A 56-year-old multiparous female was referred to the centre in May 2008 with the chief complaint of pelvic pain and bladder emptying problems. She had undergone vaginal hysterectomy and the simultaneous insertion of trocar-guided mesh for pelvic organ prolapse (POP) six months prior to referral. Physical examinations revealed that the dyspareunia and emptying abnormalities were caused by significant shrinkage of the mesh. She opted for surgical repair and asked that proper sexual function be preserved.

After consultation with a pain specialist, a decision was made to proceed with the excision of the vaginal mesh. The foiled and shrunk mesh was successfully removed, and the patient was discharged within several days (Figure 5).

Discussion

Postoperative complications are the management of stress urinary incontinence and pelvic organ prolapses are presumed to be a minimally invasive with almost no complications. At the same time, it should be emphasised that the implantation of surgical mesh is permanent, that some complications associated with the implanted mesh may require additional surgery, and that even surgery may not correct the complication.

There are some obvious measures that can help reduce the rate of complications. First, each surgeon must obtain specialised training for every mesh placement technique to ensure that he or she is aware of its specific risks. This seems to be particularly important because all synthetic surgical kits are based on different techniques.

Specific risk factors for complications associated with mesh positioning have not been properly determined. Contributing factors may include the overall health of the patient, the mesh material, the size and shape of the meshes, the surgical technique itself, the occurrence of simultaneous procedures, such as hysterectomy, and other factors.

A special attention should be paid to complications associated with the trocars for transvaginal placement, especially in the bowel, bladder, and blood vessels. However, even close attention to these issues cannot prevent all complications.

The European School of Urology is providing an annual master class on Female and Functional Reconstructive Urology in Berlin to provide a high level training programme for European specialists. Specialised longer-term training for specialists in centres of excellence and additional knowledge and urgent need in EAU postgraduate programs.

References


Sunday, 24 February 2010 10:46:04主人公 Session 2, Functional urology Case discussion: Complications of sling and prolapse surgery

The patient was taken to the operating theatre, where she was prepared and placed in the lithotomy position. The prolapsed small bowel was repositioned after cautious irrigation and cleansing. Subsequent investigation revealed a defect on the posterior vaginal wall and peritoneum of the cul-de-sac, which was not properly closed after the previous hysterectomy.

The patient recovered from anaesthesia uneventfully and was discharged the next day. She was re-examined at one month and three months postoperatively, and vaginal cuff peyewas used to reposition the vaginal cuff (Figure 3A). A laparoscopic sacrocolpopexy was performed to reduce the prolapse of the vaginal cuff. The postoperative period was uneventful (Figure 3B).

Discussion

Postoperative complications for the management of stress urinary incontinence and pelvic organ prolapses are presumed to be a minimally invasive with almost no complications. At the same time, it should be emphasised that the implantation of surgical mesh is permanent, that some complications associated with the implanted mesh may require additional surgery, and that even surgery may not correct the complication.

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References

To transect or not? - a controversy in bulbar urethroplasty

Experiences at the Sahlgrenska University Hospital

Prof. Lars Grenabo
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The treatment of bulbar urethral strictures has dramatically changed during the last decades. While most patients with strictures were dilated 20-30 years ago, in most cases now they are cured with open urethroplasties, sometimes after 1-2 internal urethrotomies.

Urethral reconstruction is nowadays an important topic at most urological meetings all over the world. However, there are still some controversies regarding the optimal treatment. One reason for this is the lack of controlled randomised studies in this field.

One issue is the consequences of transecting urethra, followed by an end-to-end anastomosis. Some authors argue that an on-lay procedure without resecting part of the urethra is to be preferred because of risks of sexual dysfunction and decreased filling, and sensitivity of glans at erection after transection.

Using buccal mucosa

At our institution, 169 patients had an open bulbar urethroplasty performed during 1999-2009, because of bulbar strictures up to 3 cm long. All patients were operated by the same two surgeons. During the first five years almost all patients had an on-lay procedure (Table 1). In the beginning we used foreskin for ventral on-lay. Gradually we have changed our technique using buccal mucosa put in as a dorsal patch. From 2005 most patients have had a stricture resection followed by an end-to-end anastomosis. The dissection was performed dorsally and the bulbospongious muscle was left intact whenever possible. All patients have been followed routinely for two years and longer if needed. Apart from voiding function, all patients were asked about erectile dysfunction (ED), erectile quality and function of the glans at erection. Failure was classified as a need for dilatation, internal urethrotomy, or a re-urethroplasty.

Table 1: Bulbar urethroplasty during 10 years

<table>
<thead>
<tr>
<th></th>
<th>onlay</th>
<th>end to end</th>
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<tbody>
<tr>
<td>1999-2004</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>2005-2009</td>
<td>17</td>
<td>37</td>
</tr>
<tr>
<td>2009-2009</td>
<td>75</td>
<td>94</td>
</tr>
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Results

Because most resections were performed during the second half of the period, these patients had a shorter follow-up than the on-lays. Mean follow were 42 and 69 months respectively. All patients had a minimum follow-up of 18 months. We found a significant and better success rate for the resections compared to the on-lays, 95.5% versus 70.3% (p<0.002) (Figure 1). When analysing the failures, our impression was that the failures in the on-lay group mostly were patients with proximal strictures while the failed resections were more severe cases with longer strictures and more severe fibrosis.

One patient in each group complained of aggravation ED. In the resection group five patients reported a more “straight” penis at erection after the operation, however not interfering with their sexual ability. Instead of directed upwards at erection their penises changed penile angle at erection was probably explained by a distally located anastomosis thereby causing slight penile shortening. Sexual dysfunction is seldom reported after this type of surgery. Further prospective studies evaluating this are needed.

The sexual complication found in our patients that underwent transection was not severe and did not obviously impair their sexual function. The risk of a changed penile angle at erection was probably explained by a distally located anastomosis thereby causing slight penile shortening. Sexual dysfunction is seldom reported after this type of surgery. Further prospective studies evaluating this are needed.

We have verified the good result with stricture resection followed by an end-to-end anastomosis. The technique is relatively easy to perform with good access after transection and proximal dissection and adapting the graft at this level. More complicated to perform especially regarding the outer layer with a running suture.

Definitively the proximal dissection was easier after transection and proximal dissection on the dorsal side up to the membranous part of urethra. Shorter bulbar strictures (< 2 cm) are suitable for this technique.

Longer strictures and strictures located in the distal part of bulbar urethra are probably best handled by an on-lay procedure. In these cases we prefer a dorsal approach. By including even shorter strictures located distally hopefully we will see less erectile problems.

In severe stricture patients with long strictures and deep fibrosis sometimes an augmentation procedure has to be performed where the two techniques are combined. These patients were not included in this report.

References

New trends, learning tools at Education and Innovation

Dedicated module presents innovative technologies, digital-based tools

By Joel Vega

To offer congress participants and delegates a comprehensive overview of the newest learning tools in urology, the EAU’s Education and Innovation module has lined up some of the latest innovations in training and technology developed by various research groups and specialised companies.

One of the well-attended sections during the five-day annual congress, Education and Innovation has selected six participants to offer a preview of their newly developed learning programmes. Among the new participants this year are iURO and the Heilbronn University team led by Dr. Oliver Kalthoff, with both groups presenting their digital-based technologies.

From 3D animation to computer-aided simulation techniques designed specifically for doctors and urological specialists, below is a list of the six participants with a short description of the educational learning tools and activities they have developed:

German Cancer Research Center

During the EAU congress in Vienna last year, the German Cancer Research Center (Heilbronner Krebsforschungszentrum, DKFZ) attracted enthusiastic visitors with its pioneering research projects. The largest German biomedical research institute in Germany, the DKFZ is a member of the Helmholtz Association of National Research Centers.

This year the DKFZ will present its initial experience of an iPad-assisted percutaneous access to the kidney using marker-based navigation. Based on algorithms developed for inside-out tracking via the laparoscope using marker-based navigation. Based on algorithms initially developed as a box-training. The training comprises two levels required for the OR. The training comprises two levels required for the OR.

The researchers said the approach is applicable to transrectal as well as perineal biopsy protocols.

Simbionix

Simbionix provides comprehensive educational solutions for urology surgeons including: Laparoscopy skills and suturing training followed by full procedures practice on the LAP Mentor; Endourology training including essential skills, and diagnostic and therapeutic procedures on the URO Mentor; TURP basic skills and procedures on the VirtuMed HyptSim; TURP Sim platform; Pelvic floor repair, including anatomical recognition and mesh placement on the PEtvSim Mentor. Hands-on training is enhanced by using a variety of didactic educational aids including step-by-step instructions, 3D anatomical maps, real life and expert performance videos, followed by state-of-the-art simulation of complete procedures.

Mimic Technologies

Mimic Technologies is a pioneer and leader in robotic surgery simulation. Founded in 2001, Mimic combines virtual reality and surgical robotics to create revolutionary products and unique services. In 2007 Mimic unveiled the dV-Trainer™, the first simulator to recreate the look and feel of the da Vinci® Surgery System.

In 2009 Intuitive Surgical introduced the Unity Simulation System, a virtual reality simulator for the da Vinci Si System, developed jointly by Mimic Technologies and Intuitive, and based on Mimic’s simulation technology. The Seattle-based group continues to develop next generation learning tools and curricula that will advance robotic surgery training and improve patient safety.

Epona Medical

Epona Medical provides training and simulation for the look and feel of the da Vinci® Surgery System.

Richard Wolf, as the leading manufacturer of application instruments and devices for laser therapy of the prostate, presents the new version of the successful TUR-P set. In the meantime, laparoscopic procedures for BPH, in particular, laser enucleation or laser vaporisation performed via tissue vaporisation is growing in popularity. At Richard Wolf we thought this method was promising years ago and developed a complete laser TUR-P set consisting of a laser resectoscope, morcellator, suction, and tissue morcellator. Due to our long experience in this sector, we can now present our brand new set with an even more effective laser morcellator that impresses by its ease of operation. Because of its speed and efficiency, we coined the system “Piranha”. It makes the surgical method much simpler and faster. The quality of the intervention is therefore significantly improved.

We are looking forward to your visit at our booth 2M50 on Level 2.

A surgeon determines the puncture site using the iPad and two-dimensional fluoroscopy (Photo: Department of Medical and Biological Informatics, German Cancer Research Center, Heidelberg, Germany)

Section of Urotechnology (ESUT) and Catharina Hospital Eindhoven in the Netherlands.

E-BLUS offers training residents and urologists who want to master the basic skills in laparoscopy required for the OR.

“E-BLUS offers training to residents and urologists who want to master the basic skills in laparoscopy required for the OR”

Heilbronn University

Prof. Dr. Oliver Kalthoff of Heilbronn University (DE) and his team have developed a prostate capsule model to achieve spatial visualisation of prostate biopsy cores. “There is still a lack of adequate spatial visualisation of prostate biopsy cores, and thus of cancer foci detected within the gland,” said Kalthoff. Kalthoff’s team developed an individual capsule model to locate biopsy cores within the prostate volume and used ultrasound volume datasets of a prostate biopsy performed with a General Electric Vivonix 730 scanner in life mode. The researchers were able to compare the MRI images with the in vivo prostate capsule model achieved via a virtual simulation system.

“Epona Medical provides training and simulation for the look and feel of the da Vinci® Surgery System.”

One of the well-attended sections during the five-day annual congress, Education and Innovation has selected six participants to offer a preview of their newly developed learning programmes.
Molecular prognostic factors for bladder cancer

Improving NAC patient selection by integrating prognostic markers into the MIBC treatment paradigm

By incorporating a ‘molecular-based’ approach, prognostic genetic or molecular markers could be combined with current clinical and pathological features to enhance patient selection. Furthermore, by discovering these prognostic markers, insights into critical pathways regulating MIBC progression may be identified which may yield targets for novel chemotherapeutics.

MicroRNAs and EMT

To progress to metastatic disease, epithelial-derived tumour cells must first gain access to the lymphatic or vascular space, travel and implant at a distant site, and then begin self-renewing proliferation. Tumour cells of epithelial malignancies, such as bladder cancer, must become ‘mesenchymal’ during the process of invasion and invasion is characterized by mesenchymal transition or EMT. A subsequent mesenchymal-to-epithelial transition (REMT) must then occur at a distant site to resume the epithelial properties of proliferation and differentiation.

mRNA’s, which are small non-coding RNAs that regulate gene and subsequent protein expression, have been implicated in regulating the relative ‘epithelial’ and ‘mesenchymal’ nature of cells in both carcinogenesis and development.

In particular, the miR 200 family (miR 141/200a/200b/200c/429) modulates several transcription factors (ZEB1/2, SNAIL, TWIST, FOXO) directly linked to EMT. mRNA’s are known to regulate expression of homotypic adhesion proteins such as E-cadherin.4-6

“Bladder cancer is the ideal solid tumour for translational research. The natural history of disease progression is understood, and is readily observable through cystoscopy and radiologic studies. Urine and tissue, both prior and after therapy, are easily available for investigation with minimal morbidity in most cases. Despite these favorable features, there has been no substantial progress in advanced bladder cancer therapy since MvAC was introduced decades ago. Current technology can bridge this gap. Innovations in high-throughput array based studies have allowed for both gene sequencing and expression has permitted the possibility of ‘personalized’ medicine based on molecular profiling. These tumour-specific signatures can be utilized to stratify disease aggressiveness and inform clinical decisions.

Application to the NAC Paradigm

NAC is an effective therapy compared to cystectomy alone in several studies and has been shown a 5-9% overall survival benefit at 5-years. Patients with CT-4L receive a greater relative benefit in median survival compared to CT-1 (a 13 month improvement vs. 30 month improvement, respectively).7

The SOG (patients who are Downstaged to pT1 by NAC) will have a favorable 5-year survival rate of 85%. In contrast, patients with residual disease after NAC have a 5-year survival rate of 52%. Despite these promising characteristics, NAC has limitations. Not every patient will benefit from NAC and it is associated with morbidity.

Clinically organ confined MIBC with favorable risk factors (absence of lymphovascular invasion, hydroureteronephrosis or abnormally shaped ureter) has a ~85% 5-year overall survival when treated with cystectomy alone (unpublished data from MD Anderson).

In patients who are non-responders to NAC, the delay in cystectomy could translate into worse oncologic outcomes, or at best, have questionable benefit at the expense of intensive chemotherapy. Unfortunately, we presently lack predictive tools for NAC response and are unable to selectively treat patients who will benefit from therapy.

Given our current limitations in selecting patients for NAC, we are forced with the dilemma of treating all patients with systemic chemotherapy prior to cystectomy or optimising our current preoperative ‘staging’ by identifying patients that would respond to therapy and receive a durable survival benefit.

In brief, our group has also investigated the role of the miR 200 family in predicting in vivo response to chemotherapy. In response to epithelial growth factor (EGFR) receptor inhibition correlated directly with miR 200 family expression in human bladder cancer cell lines. Forced miR 200c expression was able to confer novel sensitivity to EGFR blockage in previously resistant cell lines.8

In our study, patients with high p63 expression had a 20% 5-year disease specific survival compared to 55% in the low p63 group.

Redefining ‘Staging’

Our current means for pre-treatment staging, namely radiographic and pathologic, are inaccurate and do not adequately reflect the biologic disease process. By integrating prognostic molecular or genetic markers into the MIBC treatment paradigm, we can improve NAC patient selection in several ways. For one, we will be able to tailor NAC regimens based on the primary tumour’s molecular profile which will improve the rate of pathologic downstaging and long term survival.

In addition, uniformly chemoresistant tumours could be identified and these patients could be spared ineffectual chemotherapy and proceed directly to cystectomy. Since NAC is woefully underutilised, a greater awareness of tumour subtypes exhibiting distinct genetic and molecular signatures, and clinical practice of treating these molecularly heterogeneous cancers similarly.

Several groups have investigated miR 200 family expression patterns in bladder cancer primary tumours. When analysing a population including both MIBC and non-MIBC, high miR 200 family expression (relatively ‘epithelial’) strongly correlates with non-MIBC and improved survival.

We have recently focused on miRNA 200c expression levels within the MIBC cohort. We hypothesised that low miR 200c expression (relatively ‘mesenchymal’) would reflect an aggressive, invasive phenotype which would correlate with adverse patient outcomes.

Surprisingly, the opposite trend was observed. The high miR 200c expression group had a median survival of 8 months compared to 42 months in the low 200c group.

On univariate analysis for disease specific death, high miR 200c expression was the strongest risk factor (HR 2.3) compared to pathologic lymph node involvement (HR 1.2) and age>65 years (HR 2.4). In this group, MIBC 90% negative regulation of known targets was confirmed by correlating its expression to ZEB1 and ZEB2 expression as well (Figure 3).

p63 is a member of the p53 family of cell cycle regulators and is expressed in the basal layer of normal urothelium. Loss of p63 has been recently implicated in regulating EMT in squamous cell carcinoma cell lines.7-9

In human bladder cancer specimens, invasive disease and adverse cancer specific outcomes have also been associated with loss of p63.10-11 In findings that parallel miR 200c, we have identified an association between high p63 expression (relatively ‘epithelial’) and worse clinic outcomes in MIBC. In our study, patients with high p63 expression had a 20% 5-year disease specific survival and compared to 55% in the low p63 group.

These findings, along with miR 200 c, suggest that a subset of advanced MIBCs may continually express both epithelial and mesenchymal features, priming them for both invasion and proliferation. Alternatively, after the mesenchymal process of invasion into adjacent lymphatic or blood vessels, a partial or complete MET event may occur to facilitate further proliferation and tumour growth.

References

13. Dacic S et al., Loss of p63 expression is associated with higher compliance amongst urologists and medical oncologists. Further, as promising markers are continually identified we will need to be discriminatory and prospectively validate their utility.

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Highlights on urogenital tuberculosis

Diagnosing prostate TB remains a challenge due to non-specific clinical features

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Tuberculosis (TB) and HIV/AIDS have reached such proportions worldwide that the development of civil societies is seriously endangered. Extrapulmonary TB (EPTB) is not well-known, but presents the same threat. The World Health Organization (WHO) recognizes TB as a global problem, but generally considers this disease as only pulmonary TB.

Urogenital TB (UGTB) has not come to the attention of the WHO, although UGTB is the second most common form of TB in countries with a severe epidemic situation and the third most common form in regions with low incidence of TB. 17% of men who died from tuberculosis of all localizations had prostate tuberculosis which had mostly been overlooked during their life time. In actual figures, this means about 12,000 men, yearly, in Russia. Prostate TB has an importance due to the following: 1. it is a sexually transmitted disease; 2. it leads to infertility; 3. it results, like any prostatitis, to chronic pelvic pain that significantly reduces a quality of life; and 4. it decreases sexual function which in turn reduces quality of life.

The main reason for late diagnosis is an atypical clinical feature of UGTB: it progresses under the guise of another disease. Kidney tuberculosis (KTB) has non-specific clinical features and mimics other urological diseases such as urethritis, cancer, pyelonephritis, cystitis, etc... Moreover, clinical features are not stable for ages, they change rather quickly. In fact, nephrotuberculosis, like any other infectious disease, potentially, can be cured by chemotherapy. But this statement is valid only for early diagnosis; actually more than 60% of new patients are diagnosed late, in complicated cavernous stage, when surgery is indicated.

Current trends of extrapulmonary TB in Siberia

Incidence and spectrum of EPTB were estimated on the basis of the statistical reports for 1999 - 2009 in Siberia - one of the regions with TB epidemic. During the last decade the incidence rate of TB in Siberia increased up to 20% (from 156 per 100,000 inhabitants in 1999 up to 283 in 2009). Every year in Siberia there were about 1,000 new EPTB patients.

Within the last decade the spectrum of EPTB has changed significantly, TB of the central nervous system almost doubled from 4.9% to 8.5%, mostly due to co-morbidity with HIV.

Bone and joints TB increased by about half from 20.3% to 30.8%, and among this group, especially TB spondylitis with neurologic disorders, the most debilitating form of the disease. The proportion of UGTB decreased from 42.9% to 33.9% with change in gender distribution from male : female of 1.2 in 1999 to 1.1 in 2008.

In contrast, there was a decrease of peripheral lymph nodes TB from 12.5% to 1.0% with furious disease still frequent. At the end of the last century ocular TB in Siberia accounted for 7.4% and in 2008 in [non-informative text deleted] in “other” for 4.4% of the patients with EPTB. Accordingly, in 1999 other form of TB accounted for 7.8% and in 2009 for 15.8%.

Thus, in Siberia there is still, as of today, a severe epidemic situation. Low living standard, poverty, as well as poor knowledge and ignorance of EPTB both by the medical service and population have led to late diagnosis of EPTB with complicated multi-organ forms.

Kidney TB in last century and now - the same disease?

Our study's aim was to assess the role of a prostate biopsy: diagnosing prostate TB.

The frequency of dysuria was the same (53.6% and 54.3%), but a flank pain in the second group was diagnosed more often (53.6% and 71.8% accordingly). Frequent renal colic decreased from 16.1% up to 12.9%, haematuria increased from 30.4% up to 48.2%. Pyuria left was the most common laboratory sign – 92.4% in both groups. Significantly, there was a reduced frequency of positive cultures – mycobacteriuria was revealed in 85.5% in first group and in 64.6% in patients with NTB.

Asymptomatic course was about equal – 8.9% in the first group and 6.3% in the second group, but frequency of acute onset changed significantly. In the first group 34.5% patients got sick acutely, with manifesting clinical features; fever, pain etc. In the second group the same patients there were 4.9% only. On contrary, obscure, vague symptoms were in 56.6% in the first group and in 88.9% in the second group. Mean age was stable: 40.5 in the first group and 49.8 in the second group. The male: female ratio was about 2:3 in both groups.

Thus, we can speak about clinical pathomorphosis of KTB. Clinical feature KTB have changed in recent years. In seven times, but rarely (ed.), became acute onset of KTB and, significantly, more often patients now have flank pain and haematuria. Asymptomatic course of KTB is possible too. All this may be a reason for late diagnosis.

Appearances of kidney tuberculosis

A total of 868 history cases of UGTB patients were analysed to estimate clinical features. Most common complaints were flank pain (64%), dysuria (48%) and renal colic (24%); among laboratory signs – pyuria (19%) and haematuria (13%). Patients were treated by urologist or GPs with misdignoses of pyelonephritis (24%), cystitis (4%), cancer (8%) or urethritis (2%) during 5.6 years on average. Positive smear was in 17% and positive culture of curable stage of NTB – papillitis. A total of 42 patients (19.9%) received previous therapy in departments of general urology with optimal antimicrobials, which means the drugs don’t influence the Mycobacterium tuberculosis (M. tuberculos, rifampicin, ethambutol, amoxicillin-clavulan, cefuroxim). In this group average time for correct diagnosis was 4.7 months – because optimal antimicrobials didn’t mask the NTB.

A total of 97 patients in cohort (62.2%) had cavernous NTB. The main reason for late diagnosis of complicated form was prescription to 75.3% amycyan, rifampicin and fluorouklozites that disguised, changed clinical features of NTB and resulted to longer diagnosis – on average 224 months.

NTB often mimics chronic pyelonephritis and cystitis which leads to misdiagnosis. Using myacyn, rifampicin and fluorouklozites to treat these diseases before excluding nphetriberculosis resulted to late diagnoses and complicated cavernous forms of NTB, incurable by therapy and which requires surgery. But in all probability this is only true in regions with severe epidemic situations such as in Siberia.

Prostate biopsy: diagnosing prostate TB

Our study’s aim was to assess the role of a prostate biopsy in early diagnosis of a prostate TB. A total of 93 patients suspected of prostate TB were enrolled in the study. All underwent ultrasound guided core prostate biopsy (Middle needle size 18 mm length) with local anesthesia. Straws were investigated by PCR, pathomorphology and culture.

Prostate biopsy: diagnosing prostate TB

The diagnosis of prostate TB is a very difficult task since clinical features and laboratory signs are non-specific, like chronic prostatitis.

Eleven (6.6%) had acute onset like pyelonephritis, and were operated without previous therapy in departments of general urology. Diagnosis was verified after surgery. These patients were excluded from analysis. Other 156 cases had chronic NTB with non-specific clinical features that resulted in misdiagnosis of chronic pyelonephritis and cystitis.

Fifty-nine (37.8%) were revealed in small-destructive cases of KTB in 1980-1990 (1st group, 268 patients) and in 2000-2005 (2nd group, 227 patients); both groups were in-patients of the Urogenital Department of Novosibirsk Research TB Institute.

The frequency of dysuria was the same (53.6% and 54.3%), but a flank pain in the second group was diagnosed more often (53.6% and 71.8% accordingly). Frequent renal colic decreased from 16.1% up to 12.9%, haematuria increased from 30.4% up to 48.2%. Pyuria left was the most common laboratory sign – 92.4% in both groups. Significantly, there was a reduced frequency of positive cultures – mycobacteriuria was revealed in 85.5% in first group and in 64.6% in patients with NTB.

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The diagnosis of prostate TB is a very difficult task since clinical features and laboratory signs are non-specific, like chronic prostatitis. Absolutely pathognomonic symptom is a cavern on urethra, but caverns indicate a late-diagnosed complicated form, and cavernous prostate TB can’t be cured either by chemotherapy or by surgery. Prostate TB in early inffitative non-cancerous state may be diagnosed by PCR, culture or pathomorphology. The efficacy of using these methods alone is poor; it is necessary to use them in combination.

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Diabetes mellitus is known to be associated with infections of the urogenital tract. In diabetes patients focal chemotherapy is usually ineffective. In our study we analysed 36 patients with chronic prostatitis who were not successfully treated with chemotherapy or by surgery. These patients were investigated by PCR, culture or pathomorphology. The efficacy of using these methods alone is poor; it is necessary to use them in combination.
Prevention and treatment of complications

Radical prostatectomy yields the best local control but is handicapped by intra- and post-operative complications. Open radical prostatectomy remains the most frequently performed procedure to treat significant localized prostate cancer and is the most preferred approach for high-risk locally advanced cases, in a multidisciplinary approach.

Over time, the incidence of intra- and post-operative complications has decreased but complications can still occur.

Bleeding
Hemorrhage can occur because of a blind lateral dissection within the levator ani muscle, or due to poor control of the dorsal vein complex. Other reasons include: aberrant vessels that perforate the pelvic floor to reach the prostate or because of the sparing of the neurovascular bundles. The haemostasis should not be attempted rigorously in order not to damage the spared bundles. Some bleeding can be allowed that mostly stops after the vesico-urethral anastomosis. It can give rise to later post-operative bleeding which mostly stops spontaneously, but may require blood transfusion while second surgery is best avoided.

Rectal damage
Rectal laceration can occur because the tumour is locally advanced and a wide excision is attempted in order to obtain negative surgical margins. Skilled surgeons will be very careful and rectal damage is therefore a rare event but it can occur as frequently in easy cases because of the variable appearance of what is called the recto-urethralis muscle.

After division of the urethra at the prostatic apex, in many cases immediate and easy correct passage of the dissecting finger behind the prostate is possible, while in other cases there is a real muscular layer that needs to be divided before the posterior aspect of the prostate, covered by the Denonvillier’s fascia, can be reached. A sharp dissection of the recto-urethralis layer will avoid this while a blind finger dissection can be used to assure a high urinary output to avoid urinary fistula occurrence. In open surgery mostly only four stitches are placed and some patients will have at least a temporarily decreased rigidity during sexual stimulation. Many patients will be left with some tumescence or erections eight to nine months. Patients will have at least a temporarily decreased rigidity during sexual stimulation. Many patients will be left with some tumescence or erections eight to nine months. Patients will have at least a temporarily decreased rigidity during sexual stimulation. Many patients will be left with some tumescence or erections eight to nine months. Patients will have at least a temporarily decreased rigidity during sexual stimulation. Many patients will be left with some tumescence or erections eight to nine months. Patients will have at least a temporarily decreased rigidity during sexual stimulation. Many patients will be left with some tumescence or erections eight to nine months. Patients will have at least a temporarily decreased rigidity during sexual stimulation.

Urinary incontinence
Urinary incontinence is very hard to anticipate. Mostly no good reason can be found although it must invariably be the damage to the urethral sphincter or its innervation. The surgeon must avoid to improperly dissect the apex of the prostate, and pulling the urethra out the pelvic floor before dividing it as well as to damage the recurrent branch of the pudendal nerve that runs posteriorly to the urethra.

Pelvic floor exercises (before and after) surgery were shown to be helpful in the recovery of continence. Pharmacological treatment will only be helpful in patients with pre-existent overactive bladder. Male sling seems to be an alternative to the more successful but more invasive artificial sphincter.

Erectile dysfunction
Erectile dysfunction is correlated with age, pre-operative erectile function and the oncological extent of the resection, but also to the capability of the surgeon to do nerve preservation in well-selected patients. After open radical prostatectomy, most patients will have at least a temporarily decreased erectile performance that will start to recover after eight to nine months.

Many patients will be left with some tumescence or clearly diminished rigidity during sexual stimulation and can be helped by the early institution of phospho-diesterase inhibitors in high doses. Those that are not helped with oral drugs are candidates for intracavernous injection therapy while the need for penile implants in radical prostatectomy patients is rather limited.

Surgical training and education of our young urologists is an extremely important issue. Moreover, practicing urologists that have too many complications or poor oncological results must realise that even short retreating in expert centres can have a positive impact on the quality of surgical skills.

Recto-urethral fistulas have become more frequent during the learning curve of minimal invasive techniques

Fistula
The occurrence of urinary fistula that is clinically meaningful is extremely rare in open surgery and for uncertain reasons more frequent in laparoscopic radical prostatectomy. It is not the number of stitches that will determine the occurrence of a running suture that will prevent urinary fistula occurrence. In open surgery mostly only four stitches are placed and some patients can have a temporary urine leak in the suction drains. But when the catheter is correctly placed in the bladder this will spontaneously stop.

When there is any doubt about the position of the catheter, a cystoscopy should be performed and when the catheter is dislocated it must be reinserted after flexible cystoscopy and introduction of a guide wire through the anastomosis into the bladder. A fistula can also occur when there is a catheter blockage (e.g. in case of haemorrhage). A proper bladder neck reconstruction and eversion of the mucosa will avoid haemorrhage. When there is haematuria, diuretics can be used to assure a high urinary output to avoid clots.

Accidental catheter withdrawal
Premature removal of the catheter, in a disoriented patient who pulls the catheter with an inflated balloon through the anastomosis, should be avoided by any efficient way to fix the catheter. In some patients, the catheter falls out early after the surgery because the anastomotic stitches have damaged the balloon mechanism. At other times, catheter deficiency could be the cause.

Very early postoperative catheter removal needs reinsertion under guidance of a flexible urethroscopy. As soon as two or three days have passed since the operation, one can consider not replacing the catheter if the patient is able to void normally. It is probably wise to have a cystogram before removing the catheter if there was a serious urinary leak or early accidental catheter withdrawal.

Recto-urethral fistula
A recto-urethral fistula is exceptional and actually only occurs when rectal damage has not been recognized intra-operatively. It can however occur late in patients that undergo salvage surgery after radiation treatment. It always indicates the performance of a temporary colostomy rather than trying to solve the problem locally which is impossible and risky.

Recto-urethral fistulas have become more frequent during the learning curve of minimal invasive techniques. A colostomy and proper bladder drainage will not cure a number of patients that will need more sophisticated transanal or perineal resection and in some cases a rectal pull-through operation.

Strictures
Late complications or consequences of radical prostatectomy are anastomotic strictures, urinary incontinence and erectile dysfunction. Anastomotic strictures need to be avoided by a proper reconstruction of the bladder neck and eversion of the mucosa and by avoiding making a too narrow bladder neck.

When strictures occur, mostly in patients that had a bladder neck resection and reconstruction, a previous TURP, excessive bleeding or an anastomotic leak, a urethral dilatation can often be enough to deal with the problem. Incision of the stricture must be avoided since some patients will suffer incontinence after this manoeuvre. Stenurization after salvage radiation treatment is rather frequent and tricky, and incontinence will often be the final result.

“…practicing urologists that have too many complications or poor oncological results must realise that even short retreating in expert centres can have a positive impact on the quality of surgical skills”
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We focused our attention on the role of HPv in the subjects with bladder carcinoma oscillates between have been on the increase. It has been estimated that almost infections worldwide and secondly, for the fact that one of the most common sexually transmitted is associated with lesions ranging from benign cutaneous warts to malignancies, like cervical, penile, or anal cancers. It has been estimated that almost 10% of the worldwide cancer burden is linked to HPv diagnosis in bladder cancer patients. Tekin, recently, stated that HPv had the presence of HPv DNA be considered more at risk for developing urothelial bladder cancer and, for this reason, undergo other diagnostic exams, such as urinary cytology or endoscopy. Should patients in follow-up for previous bladder cancer and positive for the presence of HPv DNA undergo stricter follow-up in order to think that we have a similar role in bladder carcinogenesis as in cervical cancer to plan a future-screening program? Moreover, we should consider that HPv infection may lead to high-grade cancer when associated with a co-factor? It is an intriguing field for researchers.

What is the current knowledge about HPv and bladder cancer in literature?

What is well known?

1. High prevalence of HPv among urothelial bladder cancer. It is well known that the development of bladder cancer is caused by papilloma virus (HPv).

2. Demonstrated association between the presence of HPv DNA and urothelial bladder cancer.

3. A clear association between HPV status and HPv infection.

What new insights are there into HPv and urothelial bladder cancer?

1. The association between HPv and bladder cancer varies with geographical location.

2. High-grade HPv is not always a causative agent of some low-grade bladder carcinomas that develop in younger patients.

3. Fragile histidine triad methylation: from kloektosis to mRNA tests.

4. Viral synergistic action in bladder carcinogenesis.

What are the "open questions"?

1. The difficult interpretation of the HPv DNA presence and real bladder carcinogenesis due to HPv infection.

2. The lack of a standard diagnostic method. We know that the sensitivity and specificity of HPv detection greatly depends on several technical factors, such as tissue fixation, DNA preparation, and amplification conditions.

3. What does it mean to be positive at HPv DNA test? Is there a real risk of developing urothelial bladder cancer? And in a patient in follow-up for urothelial bladder cancer?

4. What is the role of HPv vaccine in bladder cancer risk?

5. Li and co-workers, in a meta-analysis study, demonstrated that the prevalence of high-grade bladder cancer cases (39.8%-95% confidence interval (CI), 15.3%-68.3%), demonstrating that infection of high-risk HPv types, especially HPv16, may play a role in bladder carcinogenesis. Moreover, Moemen showed that the prevalence of all-type and high-risk HPv (HR-HPv) infection in malignancies of the high-grade tumours this prevalence was 18.2% and 26.6%, respectively.

Recently, we designed a prospective case-control study involving 100 patients with non-invasive bladder cancer and 59 controls in order to assess the potential relationship between HPv infection and the presence of HR-HPv DNA in tissue samples. In this study we investigated HR-HPv DNA both in urine and tumour tissues and compared data from patients with data from controls.

Our findings raise some questions for discussion. For instance, what does it mean to be positive at the presence of HPv DNA test, confirmed by Moemen too, directs our attention to a specific aspect of bladder cancer development: the p53 pathway.

It is well known that proteins encoded by the p53 pathway: the p53 tumour suppressor gene and the HPV [6] are key players in the development of urothelial carcinoma of the urinary bladder. The evidence that the association between HPv and urothelial bladder cancer is not caused by superficial contamination of the tissue with HPv [17].

Furthermore, Tekin suggested that in order to eliminate the possibility of contamination, future tests must be designed by using different techniques, including samples taken from tumour and normal bladder mucosa in the same patient. In our study, in line with Tekin’s suggestions, we analysed samples taken both from tumour and urine, in order to eliminate the possibility of contamination and demonstrate the feasibility and usefulness of HR-HPv DNA detected in the urine samples.

However, the fact of finding HR-HPv DNA in tissue samples obtained from bladder cancer patients is not a clear demonstration of the etiological role of HPv in urothelial bladder cancer development.

What will be the best tool to help us in this controversy? The E6 and E7 mRNA tests, in my view. Comparison between E6 and E7 overexpression in tumour samples and their corresponding controls.

To conclude, in our study, in line with Tekin’s suggestions, we analysed samples taken both from tumour and urine, in order to eliminate the possibility of contamination and demonstrated the feasibility and usefulness of HR-HPv DNA detected in the urine samples.

In the present study on 137 subjects (78 patients affected by low-grade bladder cancer and 59 controls), we did not find a significant difference in prevalence of HR-HPV DNA detected in the urine samples. This result is consistent with the finding of previous studies [11,12].

Furthermore, HPv infection may lead to high-grade cancer when associated with a co-factor? It is an intriguing field for researchers.

Until now, conflicting findings have been reported on the association between HPv infection and bladder carcinoma.

Findings

What are the "open questions"?

1. What is the current knowledge about HPv and bladder carcinoma?

2. What are the open questions?

3. What does it mean to be positive at HPv DNA test? Is there a real risk of developing urothelial bladder cancer? And in a patient in follow-up for urothelial bladder cancer?

4. What is the role of HPv vaccine in bladder cancer risk?

In our study, in line with Tekin’s suggestions, we analysed samples taken both from tumour and urine, in order to eliminate the possibility of contamination and demonstrate the feasibility and usefulness of HR-HPv DNA detected in the urine samples.

However, for bladder cancer, we have no data, but it is well known that the development of bladder carcinoma may take a longer time, because multiple stages may be required, including first infection of the urothelium and progression to the urothelial carcinoma, and establishment of persistent infection in the bladder. The dreaded prevention of such diseases may eliminate a factor or co-factor required for bladder cancer development. In conclusion, there are no conclusions but paths to follow. So, the process of scientific discovery is, in effect, a life-long process that is far from over.
**Minimally invasive living donor kidney retrieval**

**Techniques risks and benefits**

**Despite this, recent data shows that once the learning curve is levelled, there is no difference between pure laparoscopic and hand-assisted donor nephrectomy for this matter.** Furthermore, the incidence of minor and major intra- and post-operative complications appears to be similar for the two procedures, with similar functional outcomes in the recipient. Therefore, although the HALDN is considered the gold standard for LDLN, the standard approach with extraction through a Pfannestiel incision can be considered as a valid alternative.

**Single Port LDLN and LESS LDLN**

Few reports have investigated on the single port live donor nephrectomy and extraction of the organ true natural orifices (Figure 2). Recent prospective data have shown the equivalence in terms of complications and recipient outcomes with the single port LESS techniques vs. the LDLN. However these techniques are extremely technically challenging and have to be restricted to highly experienced laparoscopic surgeons. Furthermore, since these techniques are in their infancy, they have still to be considered under investigation.

### Surgical approach

Different approaches to performing a Live Donor Nephrectomy (LDN) have been described: open nephrectomy, open nephrectomy with mini-incision, laparoscopic, hand-assisted, and single port, LESS, trans-vesical, mini-hip, and robotic, transperitoneal or retroperitoneal nephrectomy.

After initial reports of delayed graft function in recipients from laparoscopically procured kidneys, more recent data has shown equivalent outcomes to the open approach. Furthermore, no differences have been shown between transperitoneal and retroperitoneal donor nephrectomy. For this reason a transperitoneal LDN has become the preferred method of kidney retrieval at many centres around the world.

Although it is nowadays clear that the minimally invasive approaches are superior to the open experience in terms of postoperative care for the donor, laparoscopy remains a technically demanding procedure for many surgeons. Therefore some centres, particularly those with a low caseload number, still prefer the open approach to the minimally invasive one. This has led to the development of open techniques with mini-incisions that have encountered some enthusiasm particularly in these situations.

### Open LDN with mini-incision

The advent of laparoscopy for LDN has stimulated open surgeons to develop minimally invasive approaches for open surgery. Therefore centres that were performing open donor nephrectomies through large flank incisions are now able to achieve better cosmetic results through small incisions. Myburgh and associates[14] have described a mini-incision, vertical anterior mini-incision, finger-assisted LDN, microsurgical LDN, transcostal-mini-incision, and video-assisted mini-laparotomy[15] have been investigated and proved to be superior to the classic open approach with similar functional outcomes. However, when prospectively and randomly compared to laparoscopy, the mini-incision techniques have been proven to be inferior in terms of quality of life for the donor.

### Standard vs. Hand-Assisted LDN

There has been a lot of debate around the best laparoscopic approach to retrieve a live donor kidney. (Figures 2-3) Many centres still prefer to perform the nephrectomy laparoscopically and utilise a hand-assisted technique (HALDN) for retrieval of the organ since it has been shown that this approach lowers the warm ischemia time by approximately 1.5 minutes as opposed to standard laparoscopic approach.

Although these are small series of patients and donors, it seems logical that the safety is not in question, since the general principles of laparoscopy are respected while reducing just the trocar size. (Figure 3) Only larger studies will overcome the dilemma if “minimal” is better.

### Robotic LDN

A few authors are exploring the robotic LDN, justifying the expensive procedure with a better precision in dissecting the renal hilum as well as better ergonomics for the surgeon resulting in a safer procedure. Renoult et al[16] showed that robotic LDN results in a shorter hospital stay when compared to the open technique, with a similar complication rate, however with a higher surgical time and warm ischemia time. Larger series of robotic LDN have demonstrated similar results. Therefore since the potential advantages of the robotic have yet to be demonstrated, this technique has still to be considered experimental.

### Conclusions

Laparoscopic live donor nephrectomy has to be a safe procedure for organ procurement for transplantation and it is nowadays the method of choice for kidney procurement. The laparoscopic technique depends purely on the surgeon’s preference since no differences exist between the different standard approaches (pure vs. HALDN). New emerging techniques such as mini-laparoscopy, NOTES and LESS, robotic surgery are entering into the realm of laparoscopic surgeons. Despite the initial enthusiasm, the long-term consequences of kidney donation remain unknown.

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**References**


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**Figure 1** courtesy of Prof. A. Alcaraz

**Figure 2**

![Figure 2](image)

**Figure 2**: courtesy of Prof. A. Alcaraz

**Figure 3 and 4**

![Figure 3 and 4](image)

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**Alberto Breda**

Department of Urology University of Barcelona Fundacio Puigvert Barcelona (ES)

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**EUT Congress News**

**Saturday 25 February 2012**
From European Urology, “Your” Platinum Journal
Revised sections, peer-review process contribute to journal’s expanding reach

As further confirmation of the success of European Urology in the United States, we just held a very successful meeting with the top American medical and radiation oncologists at the American Society of Clinical Oncology’s Genitourinary Cancers Symposium in San Francisco. I am happy to say that there is an increasing feeling of respect toward the journal, and this is fueling our enthusiasm. Steve Friedland and Indy Gill, our North American editors, have been actively supporting European Urology and are part of this major forward move.

Richard Sylvester has put together a top-quality group of statisticians and epidemiologists who have been actively involved in the peer-review process of the majority of the submitted manuscripts. We now receive a large number of manuscripts based on important multicenter trials with an abundance of data to be analyzed, and, clearly, the expert opinion of highly qualified statisticians is key.

In addition, “Surgery in Motion” remains a top-ranked section of the journal. Henrik van der Poel, our new surgery editor, has been revamping this section by actively changing the best contributions. This week we will hold a very special Surgery in Motion session (Sunday February 26 from 11.00 to 13.00 hrs.) in which a selected group of incredibly talented speakers will show their videos and discuss results with the audience.

We base the success of European Urology on quality only. We are aware that with an overall acceptance rate of only 9%, many authors have felt disappointed when manuscripts representing their time, energy, and dedication were not accepted for publication. We have been striving to improve the quality of the reviewer comments to give the authors the opportunity to improve their manuscripts, regardless of the final editorial decision.

Finally, we try our best to guarantee a 24/7 service to our authors, reviewers, and readers, and I will never be grateful enough to Cathy Pierce and the whole editorial staff for their wonderful support.

The European Urology booth during the Annual EAU Congress in Vienna last year

Health First
Prof. Francesco Montorsi
Editor-in-Chief
European Urology
Milan (IT)

“Health First” means more and better manuscripts. The Platinum Journal is an annual award that is given to the best manuscript published during the year. The first prize is given to the best paper published in European Urology, the second prize is given to the best paper published in European Urology. The third prize is given to the best paper published in European Urology. The Platinum Journal is an annual award that is given to the best paper published during the year.

We would never be where we are today without the invaluable support of the European Association of Urology, from the secretary general and the executive committee to all offices and members. Please consider European Urology “your” Platinum Journal—a tribute to you all.

Sunday 26 February
11.00–13.00: Special Surgery in Motion Session, European Urology

Saturday 25 February 2012

EUT Congress News
Obstructive pyelonephritis due to urolithiasis in Japan
In-depth survey results to inform treatment guidelines

The survey results were sent back to the Department of Urology, University of Occupational and Environmental Health, in Kitakyushu by post or e-mail. Patients’ ID, which would easily identify individuals in any hospital, were not written in the survey forms to preserve the privacy of those involved. The results were analysed and discussed with members of the Japanese Research Group for Urinary Tract Infection (RUG). This study was accepted by the Scientific Committee of the Japanese Society of Urology and approved by the ethics committee of the University of Occupational and Environmental Health, Kitakyushu, Japan.

Methods
We tried to collect data about the treatment of the obstructive pyelonephritis due to urolithiasis in Japan through a retrospective study in 1189 cases which was surveyed by JUA, Department of Urology, University of Occupational and Environmental Health, Kitakyushu, Japan.

Results
Thirty three cases had died during hospitalisation and the mortality of this disease was defined as 2.3%. The causes of death were DIC or septic shock in 9, respiratory-related disorders in 7 and heart diseases in 2 cases.

“Among the patients, 27% had very severe condition with more than PS3 at hospitalisation and 13% of patients fall into DIC.

Conclusions
We analysed 1368 cases of patients who were hospitalised with the obstructive pyelonephritis due to urolithiasis in Japan, retrospectively. The subjects were severe cases in this study. However, we know that there were many mild cases who were treatable as outpatients. Therefore, this study could not cover all cases of this disease. However, we can show the characteristics of severe cases of this disease, below:

- The number of female patients was 2.2 times more than male patients.
- The median age of patients was 68 years old.
- Among the patients, 27% of patients had very severe condition with more than PS3 at hospitalisation and 13% of patients fall into DIC.
- Bacteria were isolated from 59% of urine specimens and/or from 21% of blood specimens.
- Gram negative rods isolated 79% of isolates, from bloodstream infections.
- Drainage for the upper urinary tract was performed in 61% of patients.
- The mortality of this disease in Japan was 2.3%.

The risk factors of disease death were determined to be: the patients’ background, complications, situation of visits to hospitals, course of patients, methods of drainages and others. In this factors, use of anti-coagulants drugs, having a sole kidney, arrival in hospital by ambulance, drainage by upper urinary tract, were high mortality risk factors. In all cases, 64% of patients had urine specimens from nephrostomy and specimens from drainages of renal, perinephric or retroperitoneal abscess. The kinds of isolated bacteria and those number of isolates were shown in Table 1. All 886 isolates, 77% was gram negative rods (GNR). In GNR, Escherichia coli, Proteus mirabilis, Klebsiella pneumoniae were isolated frequently. In 91 isolates from blood specimens, E. coli and P. mirabilis were isolated frequently.

Finally, 1458 cases were analyzed. The male to female ratio was 1 to 2 (male: 441, female: 985, omission: 1469 cases were reported. However, 13 cases were isolated from drainages of upper urinary tracts and 978 cases (67%) were isolated frequently. In 137 isolates from blood specimens, E. coli and P. mirabilis were isolated frequently.

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Dr. Selçuk Silay
ESRU Chairman
İstanbul (TR)

Recently, I saw the Woody Allen movie *Midnight in Paris*, a romantic comedy about a family traveling to the French capital for business. Gil, the main character, got into an old car at midnight and found himself magically transported back to old Paris where he met legendary writers and personalities who lived in the city many years ago.

“Many of us want to supra-specialise but are still uncertain as to what we are going to face in the coming years”

Consider for a moment if we find ourselves in the same car, transported back to the pioneering days of urology? Then, the ESWL, laparoscopy, ureteroscopy and many other procedures, which we all take for granted now, have yet to be discovered. Think about time-travelling back to ancient India and using a bamboo rod for urethral catheterisation! Or how about experiencing World War 2 and being a direct witness to the invention of shock wave therapy? Perhaps, I would choose to be transported back to 14th century Anatolia to see how Serafettin Sabuncuoglu surgically treats hypospadias.

If you think that my imagination is going on overdrive, here is something real: how about joining us during the Residents Day here in Paris? This annual event, to my opinion, is the closest thing for you to meet and interact with the living legends of urology. This year, we have exerted our best efforts to have a Residents Day programme that will fulfill expectations. In the first part of the day-long meeting, our guest experts will present evidence-based knowledge. Updates on minimally invasive treatment of BPH, neuromodulation therapies, vesicoureteral reflux and retrograde therapy of intrarenal stones are also in the programme.

To me the best feature of the Resident Day is that it always includes paramedical issues which may be of interest for young urologists. This year our colleagues who have had the opportunity to go abroad for career development and training will share their insights and experience, including the difficulties of having that journey. It would be an interesting session to hear their stories including those that tell how they fell in or out of love or have run out of money! At the end of one session Claude Abbou, himself a legend in French urology, will share his inspiring experience.

Following the Campbell team challenge quiz (with a prize for the winner) is a plenary discussion on the pros and cons of the supra-specialities in urology. Many of us want to supra-specialise but are still uncertain as to what we are going to face in the coming years. Again, the legends in these specialised fields are going to present the benefits and their experience on this issue.

Another interesting topic up for discussion is the resident duty hour regulations. We know that in many European countries, residents do not have sufficient rest time and there is a lack of standards in their working hours. I expect that the session with the discussion panel will be a milestone in developing future rules in Europe. For those interested do not hesitate to join the debate.

Finally, we are going to have the Nightmare Session which for many is really a nightmare scenario. But this time the nightmare is for the residents but for the professors. The presenters are going to make Professors Michael Marberger and Luis Martinez-Peláez sweat with their tough cases.

“Many of us want to supra-specialise but are still uncertain as to what we are going to face in the coming years”

We have prepared a fantastic programme this year not only for young urologists but for all participants. So don’t miss this event today at Room Bordeaux, Level 3. And be sure to stay until the end for that chance to win a free ticket for the Residents Dinner this evening. I wish you all a great time in Paris!

Saturday, 25 February
10.00–16.45: Residents Day - organised by the Young Urologists Office in collaboration with the European Society of Residents in Urology (ESRU)

THE PLATINUM HOUR

Are you a European Urology Reader? Here is your chance to meet and greet the Editors, Authors and Reviewers of The Platinum Journal. Please join us daily from 16.00 to 18.00 at the European Urology Booth (2M120) for “The Platinum Hour”. We look forward to seeing you there to toast the success of “Your” Platinum Journal.

[Link: europeanurology.com]
Endourological imaging was dominated by two standard techniques over the past decades. Endourologists tried to answer their diagnostic questions either with fluoroscopy studies or plain X-ray. Especially during complex interventions these techniques did not always meet the surgeon’s requirements in matters of imaging information.

Therefore, complex punctures for example of the kidney’s collecting system needed to be performed by interventional radiologists in time-consuming procedures with increased radiation dose exposure to the patient.

“...the indication for three-dimensional reconstructions needs to be limited to interventional procedures and should be scrutinized rigorously”

Recent technical developments lead to improved c-arm systems with fast data processing flat panel detectors and motorized, isocentric movement. These systems allow for three-dimensional fluoroscopic imaging of radiopaque structures and contrast studies. Assessment of the upper urinary tract with retrograde filling might be better by showing the region of interest in different planes. Although this technique provides more imaging information, soft tissue contrast solution is very low and cross sectional imaging with multiplanar reconstructions is not possible.

Three-dimensional imaging with multiplanar reconstructions was successfully used in angiographic and orthopaedic operation rooms with rotational c-arm systems equipped with image converters. These systems already allowed three-dimensional reconstructions of angiographic contrast studies or bone structures. By upgrading these systems with a fast and large flat panel detector this improved soft tissue contrast solution significantly. The combination of such a ceiling mounted X-ray system Artis Zee® Dyna-CT (Siemens Medical Solutions, Erlangen, Germany) with a newly developed full-carbon urourological intervention table now allowed for the implementation of such an imaging modality in the endourological operation room for the first time.

The new endourological intervention table was developed together with Siemens® (Siemens Medical Solutions, Erlangen, Germany) and is a free-floating table, 262 x 52 cm, consisting of two parts. The complete full-carbon construction allows a maximum loading of 250 kg whereas the removable distal part (95 x 52 cm) allows for 80 kg load. The carbon construction helps to avoid any interference with metal structures during the imaging process especially when performing three-dimensional reconstructions. Cranio-caudal and lateral budding of the complete table is possible by ± 9°. The table can be handled easily by the surgeon or assisting personal by a sterile covered control panel or by a wireless foot pedal.

Uro Dyna-CT

The Uro Dyna-CT is equipped with a large rotatable flat panel detector (450mm, diagonal 28 x 28 cm, 2 x matrix) and a customised full carbon endourological intervention table. The Uro Dyna-CT enables standard fluoroscopic imaging and plain X-ray as well as the storage of fluoroscopy or X-ray video sequences. Furthermore, these sequences can be performed during c-arm rotation and provide a three-dimensional view of the assessed region. Pulsed fluoroscopy can be used with x6-pulse/sec. The X-ray systems c-arm is supported by previous puncture planning with exact radiation dose exposure to both, the surgeon and the patient. Until better knowledge of these data and to reduce investigation at the moment.

Reduced complication rates

The Uro Dyna-CT represents a milestone in endourological interventional imaging. Our first clinical and experimental experiences promise a significant increase in endourological procedure quality and a reduction of complication rates by better imaging as well as a significant lower radiation dose for the surgeon and the patient during standard procedures. In complex procedures or unclear findings with standard fluoroscopy 3D rendering and multiplanar reconstructions of the region of interest might avoid severe complications and increase the quality of patient care. With respect to radiation dose the indication for 3D reconstructions should be scrutinized rigorously.

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The authors, from left: Axel Hähner, Manuel Ritter and Maurice-Stephan Michel
Come and see the Residents Corner Award winners accept their prize!

*Exosomes as Biomarker Treasure Chests for Prostate Cancer.*
Diederick Duijvesz (NL)

*Cancer-Specific and Other-Cause Mortality After Radical Prostatectomy Versus Observation in Patients with Prostate Cancer: Competing-Risks Analysis of a Large North American Population-Based Cohort.*
Firas Abdollah (IT)

To be held in Room Bordeaux, Level 3, from 16:15 to 16:30

We would like to invite you to attend the Platinum Hour drinks reception to meet and greet the Editors, Authors and Reviewers of The Platinum Journal. Please Join us daily to toast the success of European Urology, “Your” Platinum Journal.

To be held at the European Urology booth #2M120. Daily from 16:00 to 18:00

Please come to the European Urology booth #2M120 and have your Platinum Postcard created and posted online.

Daily from 9:00 to 18:00

View your picture on europeanurology.com/paris
Ferring Pharmaceuticals is pleased to announce an educational satellite symposium to be held during the 27th Annual European Association of Urology (EAU) Congress in Paris, France

Nocturia with nocturnal polyuria now and in the future

Chair: Philip van Kerrebroeck, The Netherlands

Saturday 25 February 2012, 17.45–19.15
The Bordeaux Room
Le Palais des Congrès de Paris

17.45 Welcome and introduction
Philip van Kerrebroeck, The Netherlands

17.55 State of the art in nocturia
Jeffrey Weiss, USA

18.15 The impact of nocturia
Neil Stanley, UK

18.40 Future research directions in nocturia
Charlotte Graugaard-Jensen, Denmark

19.05 Panel discussion
All

The views expressed in this satellite symposium are those of the speakers and not necessarily those of the European Association of Urology. This meeting has been funded by Ferring Pharmaceuticals.

EAU/2012 Date of preparation: Nov 2011