It is a great pleasure to welcome you to Paris for the 6th European Meeting on Laparoscopic and Robotic Urologic Surgery. "Challenges in Laparoscopy and Robotics" has evolved from an initial exciting activity to a well established encounter of state of the art and future in Urology.

This meeting is intended to bring together Technological Advances, Education, and Communication in order to increase knowledge of ongoing research and clinical activities.

The comprehensive scientific program will include live laparoscopic and robotic surgery performed by the world's most prominent urologic surgeons and a series of round tables on the hot topics in our specialty.

In the past meetings, we have witnessed many challenging Laparoscopic procedures and it is time to expand our indications and to look forward to new challenges.

Live surgery, discussions and thought-provoking debates will take place with participation of the best urologists in the international arena.

We are very proud to host this 6th International meeting in Paris, the city where Urology was born and where progress never ends.

We hope that the challenging procedures that you will see will lead the way towards defining the future of Urologic Surgery.

Claude Abbou
Vincenzo Disanto
Vito Pansadoro
Thierry Piechaud

Course Directors, Scientific Committee, Invited Speakers & Moderators

Challenges 2009 in Laparoscopy & Robotics

The European Congress of Laparoscopy 2009

May 25-26-27 2009

Paris, France

Amphithéâtre Bordeaux

Palais des Congrès

Paris

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Abstracts

Challenges 2009 in Laparoscopy & Robotics

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Paris

Monday May 25th,
Tuesday May 26th,
Wednesday May 27th, 2009

Notes

Monday morning

8:00 am	Welcome
Claude Abbou	Meeting Director
Pascal Rischmann	President of AFU
Vincenzo Mirone	President of SIU
Per-Anders Abrahamsson	Secretary General EAU
Jens Rassweiler	Chairman of ESUT
Vincenzo Disanto, Vito Pansadoro & Thierry Piechaud	Meeting Director
8:30 am	Scientific Session
Per-Anders Abrahamsson	**EAU LECTURE** Raising the level of urological care in Europe
Round Table	**ROBOTICS VERSUS CONVENTIONAL LAPAROSCOPY**
Moderators	**Xavier Cathelineau, Walter Artibani & Günter Janetschek**
Michael Marberger	Update on results of Robotic and Laparoscopic Surgery
François Rozet	Robotic and manual Laparoscopy for Prostate Cancer
Jacques Hubert	Fatigue during Laparoscopic and Robotic surgery
9:00 am	Surgical Session
	LARGE TUMORS AND LND
Moderators	**Michael Marberger, Guglielmo Breda, Francesco Porpiglia & Jean de la Rosette**
Richard Gaston	Large Tumor Radical Nephrectomy
Vincenzo Disanto	Extra peritoneal Radical Nephrectomy
10:30 am	Coffee Break
10:45 am	Surgical Session
	PARTIAL NEPHRECTOMY
Moderators	**Jens Rassweiler, Tullio Sulser, Xavier Martin & Pilar Laguna**
Alex Mottrie	Robotic Partial Nephrectomy
Jean Luc Hoepffner	Laparoscopic Partial Nephrectomy
Inderbir Gill	Laparoscopic Partial Nephrectomy

Raising the level of urological care in Europe

Per-Anders Abrahamsson, MD, PhD
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Malmö, Sweden
Secretary General
European Association of Urology

Urological challenges in Europe

Urology is the surgical specialty that focuses on the urinary tracts of males and females, and on the reproductive system of males. Medical professionals specializing in the field of urology are called urologists and are trained to diagnose, treat, and manage patients with urological disorders. The major urological diseases in Europe are prostate conditions, incontinence and erectile dysfunction (ED). Every year 346,000 new cases of prostate cancer are detected in Europe, every day 240 men due of the condition. **Today, prostate cancer is the most frequent** tumor in man. At least 1 in 10 people age 65 or older suffers from urinary incontinence, the involuntary loss of urine. And epidemiologic data indicate that erectile dysfunction (ED) is a significant problem among men worldwide. As many as 42.8 million men are expected to suffer from ED in Europe alone in 2025. **Shame and unreported symptoms are among the key reasons why many Europeans neglect to seek medical help when experiencing urological complaints.**

The role of the European Association of Urology

The European Association of Urology (EAU) is a non-profit organisation committed to represent urological professionals across Europe and world wide (www.uroweb.org). EAU Membership is open to all professionals active in the field of urology including urological nurses.

The EAU was founded in 1973. In January 1975 it launched its scientific journal under the title European Urology. Today, the EAU has developed into a modern and professionally-run scientific organisation, representing over 16,000 European urologists, urologists-in-training and urological scientists. The EAU is the leading European urological organisation in the fields of science, education and publications.

The EAU's mission is to raise the level of urological care in Europe by promoting professionalism and competence among their members. In accordance with the mission statement we aim:

• to act as the representative body for all European urologists and urological nurses and thus facilitate the continued development of urology and all its sub-specialties;

- to foster and proliferate the highest standards of urological care throughout Europe;
- to encourage urological research and enable the broadcasting of its results;
- to promote contributions to the medical and scientific literature by its members;
- to promote European urological achievements in Europe and worldwide;
- to establish standards for training and European urological practice;
- to contribute in determining European urological health care policies.

Raising awareness about urological diseases

The EAU organises a number of activities in order to achieve the above goals. Amongst others, it organises the annual Urology Week (www.urologyweek.org) in order to create more awareness of urological conditions among the European public and it organises an Annual EAU Congress.

Raising the standards amongst urologists in Europe

The EAU also developed a series of activities to raise standards of urological care throughout Europe:

- The EAU hosts the European School of Urology which aims to provide every European practicing urologist and urologist-in-training with a comprehensive and up-to-date overview of all contemporary issues and most recent progress within urology.
- The European Urological Scholarship Programme (EUSP) endeavours to stimulate clinical and experimental research across Europe and to encourage sharing of expertise and knowledge exchange among European urologists. The EUSP offers scholarships, clinical fellowship, short term visits, and visiting professor programmes.
- The EAU has been publishing 18 clinical practice guidelines and one consensus paper since 1996.

From research to deployment of innovation

In 2008, the EAU created the EAU Research Foundation which is tasked to stimulate and coordinate basic, translational and clinical research by qualified ICH-GCP (International Consultation on Harmonisation-Good Clinical Practice; the unified standard for clinical research) investigators. The EAU RF is creating an international scientific communication infrastructure between clinical study centres, national clinical research organisations and the EAU. The EAU RF will also set up (sub)specialist clinical and basic research training networks with the aim to provide educational support and funding for basic research and clinical scholarships in areas that are currently underrepresented.

EAU's suggestions for EU action related to Urology

There remains a significant challenge in improving the understanding of diagnosing and treating urological diseases. The EAU would be happy to provide its expertise to help the EU and Member States develop policies and support measures for the benefit of health care providers, professionals and patients.

Ageing and prostate cancer screening

One such area where improvements need to be made is prostate cancer, in particular in view of the ageing population and the related increasing costs of treatment and detrimental effect on the quality of life of patients. The EU's recommendation on cancer screening of 2003 mentions prostate cancer, but did not develop any EU action in this field as no reliable screening method was available at the time. The EAU Research Foundation is working on improving early prostate cancer screening methodologies in order to ensure early detection and diagnosis of the disease. The EAU and in particular the EAU RF would be happy to provide insight as to when reliable and possibly non-intrusive screening can become a reality. Clearly, when prostate cancer screening becomes viable, we would welcome EU action in this field.

Defining the EU research agenda

There is a clear need for more research in many of the areas related to urological diseases. EU funding remains crucial. The EAU RF will endeavor to create consensus within the European research community about the research priorities for urology. An initial workshop between scientists will be hosted by the EAU RF in June 2009 in Amsterdam. This workshop will bring together partners of the European consortia which participate in one of the 8 prostate-cancer related EU research projects (including Polygene, P-mark, PRIMA, GIANT, PROMET, PROSPER and PROMARK). We would be happy to invite the EU to the workshop or share the results afterwards.

Raising awareness amongst the European citizens

The EAU would be happy to work with the EU to improve the quality of life of those that suffer from urological diseases. One of the first steps in that area is to break the taboo and create general awareness about the diseases. We would welcome cooperation between the EU and the EAU during the European Urology Week which will be held in September 2009.

Furthermore, EAU would like to become an active contributor to the Platform on Cancer which the EU intends to create in 2009. With prostate cancer being the most common tumor in man, we believe we can provide a valuable contribution to this platform, in particular as we see an increasing need for an interdisciplinary approach to cancer in general, and urological related cancers in particular.

Monday, May 25th 2009

Monday afternoon

2:00 pm	Lunch
2:30 pm	Scientific Session
Moderators	**Tullio Sulser, Richard Gaston, Jens Rassweiler & Francesco Curto**
	State of the Art lecture
Daniel Cherqui	Technique of laparoscopic Hepatic Resection
Round table	**KIDNEY CANCER**
Thierry Piechaud	Laparoscopic treatment of large kidney cancer
Inderbir Gill	Partial Nephrectomy: Our series of 1000 cases
Alex Mottrie	Advantages of Robotic partial Nephrectomy
3:45 pm	Coffee Break
4:00 pm	Scientific Session
Round table	**BLADDER CANCER**
Moderators	**Pascal Rischmann, Vincenzo Disanto & Jens-Uwe Stolzenburg**
Roland Van Velthoven	Laparoscopic Cystectomy
Peter Gland Wiklund	Robotic Cystectomy and Diversion
François Rozet	Prostate sparing Cystectomy
Inderbir Gill	Current results of the international registry
5:30—7:00 pm	Symposium Takeda
Round Table	**ADJUVANT THERAPY AFTER RADICAL PROSTATECTOMY- LABORATOIRES TAKEDA**
Moderators	**Claude Abbou, Laurent Boccon-Gibod & Cora N. Sternberg**
Theo Van der Kwast	Definition of positive margins
Hein Van Poppel	Prognosis of positive surgical margins
Laurent Salomon	Adjuvant or salvage therapy for positive margins
Alexandre De La Taille	Analysis of the study "CADENCE" practices of hormone therapy in France
Michel Bolla	Adjuvant radiotherapy after radical prostatectomy
Cora N. Sternberg	Adjuvant Therapy After Radical Prostatectomy

Notes

Laparoscopic Liver Resection

Daniel Cherqui, MD, Alexis Laurent, MD, Claude Tayar, MD
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Creteil, France

From 1997 to 2007, of 698 liver resections performed at Henri Mondor Hospital, 159 (23%) were performed through a laparoscopic approach.

Methods

Patient selection was based on size and location of the tumors. Laparoscopic resection was proposed primarily for lesions located in the antero-lateral segments of the liver (segments 2-6) and that were 5 cm or less in size. In the second part of this experience major resections were also performed for more deeply located tumors. There were 84 women and 75 men. Indications included benign lesions in 65 cases (40%) and malignant tumors in 94 cases (60%). The most frequent benign lesions were hepatocellular tumors (adenoma, FNH) that were either symptomatic or atypical on imaging. Malignant lesions included mainly hepatocellular carcinomas (60 cases mostly on cirrhotic livers) and colorectal metastases (20 cases). Mean tumor size was 44 mm (5-170 mm). Surgical technique included CO2 pneumoperitoneum, 5 ports, and parenchymal transection with a combination of harmonic scalpel, CUSA and staplers. Pringle maneuver was used when deemed necessary, mainly in the early experience. Hand assistance was used in 14 cases (9%), mainly for major resections.

Results

There were 28 (17%) major resections (≥ 3 segments) and 131 limited resections. Resections included 17 right hepatectomies, 11 left hepatectomies, 52 left lateral segmentectomies, 37 mono or bisegmentectomies, 43 atypical resections. Conversion rate was 10% (16 cases), for bleeding in 10 cases and insufficient exposure or progression in 6 cases. There were no conversions in the last 2 years. Mean operative time was 204 min. 9 patients (6%) received blood products transfusions. There were no deaths and morbidity rate was 18%. Mean surgical margin in patients with malignant lesions was 14 mm and no port site recurrence was observed.

Conclusions

This series demonstrates the feasibility and safety of laparoscopic liver resection in selected patients. These procedures require expertise in both liver surgery and advanced laparoscopy. The advantages are those of minimally invasive surgery, reduced morbidity, especially in cirrhotic patients and facilitations of repeat operations such as rehepatectomy or subsequent liver transplantation. This experience allowed us to perform the first laparoscopic living donor hepatectomies for pediatric liver transplantation.

Definition of positive margins

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The most powerful prognostic parameters after prostatectomy are Gleason score, PSA level, pathological stage and the surgical margin status. The reporting of positive surgical margins by the pathologist may have considerable implications for the patient as this will increase his anxiety and often adjuvant (radio-) therapy will be considered. Although the presence of a positive surgical margin represents an independent risk factor for biochemical recurrence, 25-70% of patients with positive margin fail to develop biochemical recurrence. Extent of positive margin might represent a better predictor for biochemical recurrence, but location of positive margin does not seem to be predictive for biochemical recurrence.

The surgical margin status of a prostatectomy specimen is related to tumour and patient features, the surgical procedure and the pathology. Patient features comprise tumour extent and anatomical factors, but the surgical technique itself (open retropubic versus laparoscopic (robotic) radical prostatectomy) as well as the experience of the surgeon with the technique also influences the risk of a positive margin. Finally, the proportion of positive surgical margins after prostatectomy may depend on the handling and processing of the prostatectomy specimen by the pathology (e.g. the method of grossing, inking, complete versus incomplete embedding). Hitherto less recognized is the potential for inter-observer variation among pathologists to recognize a positive margin. In one study the kappa score between review pathologist and local pathology of different participating hospitals varied between 0.13 and 0.64 (1). Generally, it is possible to provide unequivocal information as to the surgical margin status: positive if tumour cells are in touch with the ink on the surface of the specimen and negative, if not. Expert urogenital pathologists can attain a high level of agreement with regard to margin status, but under some conditions their level of agreement was shown to be mediocre (2). Awareness among urologists of the contributory role of pathology to the positive margin rate of an institution may ultimately lead to the establishment of quality standards and uniformity in assessing the margin status.

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Prognosis of positive surgical margins

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The 5 and 10 year overall survival rates after radical prostatectomy for localized prostate cancer are excellentand provide a significant survival benefit compared to watchful waiting. Positive surgical margins, a common pathological feature following radical prostatectomy with an incidence varying between 5 and 43% is significantly related to the rate of biochemical recurrences. Several studies have shown PSM to be the most important prognostic factor with this respect.

The prevalence of positive surgical margins is the only prognostic factor that can be influenced by surgical technique. The risk of progression after 10 years is 30 to 54 % depending on the pathological stage compared to 16 to 22 % for those with negative surgical margins. Patients with positive surgical margins have a 3.7 fault higher risk of progression. More recently correlations have been demonstrated between the length of positive surgical margins and PSA relapse and between the number of positive sites or bilaterality of the positive surgical margin status. Whether the localization of margin positivity at the apex, laterally or at the level of the bladder neck makes a difference remains uncertain.

Following the results of EORTC 20911 and the subsequent subgroup analysis by Vanderkwast et al. it is obvious that pT2 and pT3 patients with positive surgical margins benefit most from adjuvant treatment strategies with radiotherapy. It is therefore important to have a reliable pathology where the distinction is made between dubious, focal or extensive margin positivity. Urologists themselves must take care of drawing the attention of the pathologists to the possibility of false positive margins.

Adjuvant or salvage radiotherapy for positive margins

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Up to 40% of patients will have biochemical recurrence following radical prostatectomy for localised prostate cancer (1). Positive surgical margins (PSM) have been reported as one of the many risk factors associated with higher incidence of biochemical failure and disease progression (2, 3). Incidence of PSM varies between different series and ranges between 10-60% (4), in part a reflection of patients selection, surgical technique, experience of surgeons and methodology of pathological specimen analyses (5, 6).

Due to incongruity between the presence of PSM and biochemical failure, decision of further management, in particular need for and timing of adjuvant or salvage treatment remain difficult, more so controversial. Positive surgical margins following radical prostatectomy are associated with higher biochemical recurrence (3,7, 8). However; two third of patients with positive surgical margins will remain free of biochemical recurrence at a mean follow up of more than 4 years (9). Majority of the men with biochemical recurrence had additional treatment, most commonly radiotherapy. Bolla et al (10) have shown a significant improvement in biochemical recurrence free survival after immediate adjuvant radiotherapy for high risk patients (pT3 with positive surgical margins). Further sub analysis from this trial (11) showed no benefits of immediate radiotherapy in patients with negative surgical margins, however.

Three recent randomised controlled trials (10, 19, 20) reported a significant improvement in biochemical recurrence-free survival and clinical recurrence free survival following adjuvant radiotherapy; One showed advantage in terms of metastases free or overall survival (21). The main disadvantage of adjuvant treatment remains unnecessary radiotherapy in 30% to 40% of men who would never develop biochemical recurrence, and suffer potential adverse effects of radiotherapy following surgery (9, 10, 19, 20). An important variable, however, remained the method and experience (centralised vs. non centralised) of pathologists processing radical prostatectomy specimen (11).

Although, based on the oncological principles PSM should, but not always, predict a higher likelihood of local recurrence. This has been corroborated by findings of a recent study. Stephenson et al (12) have reported a higher 4-year biochemical progression free survival in patients with PSM and biochemical failure following radical prostatectomy in a cohort of 501 patients who underwent salvage radiotherapy. On a multivariate analysis, they reported a 1.9 times higher risk of biochemical recurrence in margin negative patients following salvage radiotherapy. The effectiveness of salvage radiotherapy indirectly implied a higher likelihood of local recurrence in patients with PSM and biochemical failure. Several other reports have suggested a higher likelihood of local recurrence in patients with PSM and biochemical recurrence (21, 22).

Adjuvant radiotherapy would be advantageous in comparison to salvage radiotherapy if the side effects of radiotherapy were estimated to be negligible. However with moderate incidence/severity of radiotherapy side effects, salvage radiotherapy was advantageous (23). It was also demonstrated that the efficacity of salvage radiotherapy depends of PSA level. Better results were offered when PSA level before salvage radiotherapy is below 1 ng/ml, or 0.5 ng (24, 25) . In such cases, salvage radiotherapy offers good results in term of progression free and cancer specific survival (25-27)

Additional parameters are needed to identify patients who are most likely to benefit from adjuvant or salvage radiotherapy. This remains a real challenge in view of lack of long-term data from randomised controlled trials and no convincing evidence that adjuvant treatment improves survival as compared to salvage treatment or no treatment in men with biochemical recurrence. Only randomized prospective study will offer answers. These studies should include quality of life and health economic data in order to guide the best clinical practice.

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Adjuvant radiotherapy after radical prostatectomy

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After radical prostatectomy, the presence of an extracapsular invasion (pT3) is burdened with a risk of local recurrence, which can be as high as 30%. Irradiation of the surgical bed -where remains infra clinical disease due to capsular perforation, positive surgical margins or seminal vesicle invasion- reduces this risk and may improves overall survival and metastasis-free survival. Three prospective randomized trials have assessed the role of immediate postoperative radiotherapy.

The results of the SWOG trial are the first to display a gain in metastasis free survival and overall survival: after radical prostatectomy, patients classified as pT3N0M0 received either immediate radiotherapy (214) delivered to the prostatic fossa or were submitted to observation (211). With a median follow-up of at least 12.5 years, metastasis-free survival was greater in the adjuvant radiotherapy arm (p=0.016) as well as overall survival (p=0.023). The EORTC study 22911, with a target sample size of 1005 patients, compared immediate postoperative radiotherapy to radiotherapy delayed until local recurrence in patients classified as pT2-3 pN0 and pathological risk factors after radical prostatectomy. Immediate postoperative radiotherapy was well tolerated with a risk of grade 3-4 urinary toxicity of under 3.5%, without significant differences regarding the rate of incontinence and/or stricture of anastomosis. Immediate postoperative radiotherapy after surgery significantly improves 5-year clinical or biological survival: 72.2% vs 51.8% ($p < 0.0001$). Pathological review restricted to 566 patients demonstrated that only patients with positive margins benefitted from adjuvant irradiation.The conclusions of the ARO trial 96-02 - based on a cohort of 385 patients with an undetectable PSA- echoed with those of EORTC since after a median follow-up of 54 months biochemical progression free survival was significantly improved in the radiotherapy group: 72% vs 54% (p=.0015)

For patients, classified as T1-2 N0 pT3 pN0 with a high risk of local failure after radical prostatectomy due to capsular rupture, positive margins and/or invasion of the seminal vesicles, who present with an undetectable PSA after surgery, immediate radiotherapy of the surgical bed is recommended upon recovery of urinary function. For patients who would not be in favor of this proposal, the other alternative would be to wait for a biochemical relapse (PSA > 0.2ng/ml) before starting irradiation, orientation which is assessed by ongoing randomized trials.

Adjuvant Therapy After Radical Prostatectomy

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Prostate cancer is a major worldwide health problem and is the most frequently diagnosed malignancy in men today (1). In the United States, prostate cancer is the most common malignancy found in men, accounting for more than 29% of all diagnosed cancers and approximately 13% of all cancer deaths. Nearly one in six men will be diagnosed with the disease at some time in their lives. In 2003 alone, an estimated 221,000 men in the United States will be diagnosed with prostate cancer and more than 28,000 will die of the disease (1).

In the European Union, the age-standardized incidence of prostate cancer is 67.5/100,000, and mortality 26/100,000/year. Prostate cancer is also the most common male cancer in Western Europe and the Nordic Countries with the mean diagnostic age being 71 years.

With the increasing sensitivity of serum PSA assays, an asymptomatic biochemical relapse (or PSA progression-free survival) may predate the actual onset of metastatic disease (2). Over the past decade, patients with prostate cancer have been diagnosed earlier and are subsequently being treated earlier with local treatments such as surgery and radiation therapy (2). The majority of patients having a diagnosis of localized prostate cancer are curable with surgery or radiation therapy (RT) to the prostate. However, a subgroup of patients with a high risk of failure following standard local treatment does exist and presents as a difficult group to treat for clinicians.

PSA > 20ng/ml, poorly differentiated histology (Gleason > 8), seminal vesicle or extensive surgical margin involvement or nodal metastases define a high risk group of patients with 50% or greater biochemical, i.e., PSA, relapse rate at 5 years (3). The optimal treatment of men at high risk of relapse following definitive therapy is undefined. The optimal treatment of high-risk patients remains undefined. The current practice in terms of the "high-risk patient" is hormonal therapy or observation following radical prostatectomy. While observation (i.e. delay of hormonal therapy) or adjuvant hormonal therapy is frequently used following surgery, the potential benefits of adjuvant treatment needs to be further confirmed by prospective, randomized trials. For patients with pT3 disease there is increasing evidence pointing towards the use of adjuvant radiation therapy (4).

Chemotherapy has historically been regarded as modestly effective for the treatment of castration resistant prostate cancer (CRPC). The TAX 327 study (5) found that docetaxel and prednisone prolonged overall survival in men with CRPC compared with mitoxantrone and prednisone. This study demonstrated, for the first time, that treatment with a cytotoxic agent, effectively reduced the risk of death by 23.9% (p=0.0094, stratified logrank test) in this population.

The SWOG 9916 randomized phase III study, compared docetaxel and estramustine with mitoxantrone and prednisone, and confirmed that a docetaxel containing regimen was able to improve survival in CRPC patients compared to mitoxantrone and prednisone (6). This study reported a statistically significant difference in median survival (log rank p=0.008) and median time to progression (log rank p< 0. 001) in favor of the docetaxel-containing arm.

The results from the above-mentioned studies thus provide the rationale for the use of a docetaxel-containing regimen with an LHRH agonist in patients with early high-risk prostate cancer. The TAX 3501 study sought to evaluate whether or not early intervention with hormonal therapy +/- docetaxel post-prostatectomy in high-risk patients was better than intervention at the time of progression. Unfortunately, this study was closed early due to poor accrual 228 of 1696 patients randomized. Another VA Cooperative Study #553 randomizes high risk patients post-op to either 6 cycles of docetaxel or observation.

Another study from the SWOG #9921 sought to evaluate the use of mitoxantrone in the adjuvant postoperative setting. Patients with high-risk features were to receive 2 years of androgen-deprivation therapy (ADT) with or without 6 cycles of mitoxantrone This study accrued 983 patients prior to its closure due to an increased number of patients with leukemia (7). The emergence of this possible pattern of secondary malignancy emphasizes the importance of randomized controlled trials in defining safety and efficacy of new approaches for patients in the adjuvant setting.

The efficacy of adjuvant chemotherapy in high-risk prostate cancer remains an important question. With the role of adjuvant chemotherapy established in other common tumor types, its use in prostate cancer is rational but must still be proven.

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Notes

Tuesday morning

8:00 am	Scientific Session
Round Table	**LOCALLY ADVANCED PROSTATE CANCER**
Moderators	**Ingolf Türk, Franco Gaboardi & Arnaud Villers**
Antonio Alcaraz	The prostatic fascias and its relation to the neurovascular bundles
Hein Van Poppel	Localized T3. Which treatment?
Vito Pansadoro	The Extrafascial Laparoscopic Radical Prostatectomy for high risk cancer

9:00 am	Surgical Session
	LAPAROSCOPIC AND ROBOTIC ASSISTED CYSTECTOMY
Moderators	**Luis Martinez Piñeiro, Christophe Vaessen Patrick Coloby, Thierry Piechaud, Alberto Pansadoro & Eric Mandron**
	OR I
Roland Van Velthoven	Laparoscopic Radical Cystectomy
Inderbir Gill	Extensive laparoscopic Lymphadenectomy
Claude Abbou	Laparoscopic extracorporeal urinary diversion
	OR II
Alex Mottrie	Robotic Radical Cystectomy
Peter Gland Wiklund	Intracorporeal Urinary Diversion

Locally advanced T3. Which treatment?

Hein Van Poppel, MD
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Treasurer of the EORTC GU Group
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UZ Gasthuisberg, Belgium

Locally advanced prostate cancer is defined as cancer that has extended clinically beyond the prostatic capsule with invasion of the peri-capsular tissue, apex, bladder neck or seminal vesicle but without lymph node involvement or distant metastasis. A few years ago T3 tumors were considered as advanced disease and surgery was often discouraged (1). Clinical T3 and pathological T3 disease has now become a disease where primary surgery has certainly a place. Properly performed surgical resection will be curative in patients with pathologically T2 tumors and also in some unilateral T3 cases (2).

The detail of the surgical technique has been described and open surgery allows an extensive resection with negative surgical margins at the site of the tumor without more complications than in locally confined disease. Contro-lateral nerve-sparing can be important in younger patients. Rectal lacerations are very uncommon but can be coped with in about all cases without the need of colonic diversions. Moreover the open surgical approach allows an easy extended lymphadenectomy that is mandatory in this category of patients (3). Transperitoneal laparoscopic radical prostatectomy can achieve the same extent of lymph node dissection but it prolongs the surgery substantially. Moreover the advantage for the patient of the transperitoneal laparoscopic approach as compared to the open surgical approach is not really obvious.

Many patients with clinical T3 and pathological T3 will need a multi-modal treatment including adjuvant or salvage radiation treatment in case of margin positivity or seminal vesicle invasion. Early PSA relapse or PSA persistence and nodal invasion might warrant early institution of hormonal manipulation and patients with later PSA relapse can benefit from salvage hormone or radiation treatment (4).

The combination of radiotherapy and hormones is not the best treatment for all clinical T3 prostate cancers. When the surgeon is capable of doing an appropriate primary tumor resection, a number of patients will be cured by this act alone. Others can benefit from adjuvant or salvage irradiation or hormone treatment that can achieve cancer specific survival rates that exceed those obtained by radio-hormono therapy.

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The Extrafascial Laparoscopic Radical Prostatectomy for high risk cancer

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The literature supports that radical retropubic prostatectomy offers patients with locally advanced disease (T3), Gleason ≥ 7 and PSA ≥ 10 ng/ml the best survival at 5 and 10 years. The question that has not yet been definitively answered is whether or not extrafascial laparoscopic radical prostatectomy (EFLRP) can produce equivalent results.

Between January 2002 and January 2008 105 EFLRPs have been performed at our center in Rome. Included in this series are patients with minor extraprostatic extension (T3), Gleason ≥ 7, PSA ≥ 10 ng/ml and a small group of patients who had been treated with maximal androgen blockade for several months prior to referral to our center, without thorough clinical staging prior to hormonal treatment.

The median age was 65 years (range 52-74 years). Preoperative median PSA was 11 ng/ml (range 1-182 ng/ml) and Gleason score biopsy ranged between 6 and 9. In 94/105 (89%) patients an extended pelvic lymph node dissection was performed.

EFLRP was designed to permit maximum radicality, therefore, the surgical dissection follows the layers of the Denonvillier fascia containing the prostate and the seminal vesicles. This approach is transperitoneal and the procedure starts at the level of the Douglas pouch, following the cleavage plane between the posterior layer of the Denonvillier fascia and the rectal wall. This avascular plane is extended distally to the surface of the levator ani separating the intact prostate and the seminal vesicles from the rectum.

After an extended lymphadenectomy comprising the external iliac, obturatory fossa, internal iliac and in selected patients at high risk also the presacral nodes, preparation of the Retzius space is completed and the bladder neck is severed. The cleavage plane between the bladder and the anterior layer of Denonvillier fascia is prepared until the seminal vesicles in bloc are isolated, retrieving the previous posterior dissection. The vascular pedicles are clipped and severed sacrificing the neurovascular bundles. After ligature of the Santorini plexus, the prostatic apex is prepared and the urethra is severed completing the prostatectomy.

In 105 patients, pathology demonstrated pT3 in 49/105 (46%) and pT2 in 56/105 (53%) of patients. Five of the 44 pT3 (11%) patients had positive nodes. No positive nodes were found in T2 patients. 11/49 (23%) pT3 patients had positive margins. One patient of the pT2 group had positive margins. At a median follow-up of 40 months (range 6-87), 6/49 (16.5%) pT3 patients had a biochemical recurrence (PSA> 0.2 ng/ml) and one recurrence was observed

in the 56 pT2 patients. Post operative radiotherapy was given to 5 of the pT3 patients with maximal androgen blockade in 2 patients. One patient developed bone metastasis.

Perhaps due to the short follow-up only 2/12 patients (16%) with positive margins have had a biochemical recurrence.

This data indicates that an extrafascial laparoscopic approach can provide optimal disease control. The two most critical oncological parameters, positive margins and PSA recurrence, appear to have favourable results in this series. Longer follow-up is needed to confirm these results.

Laparoscopic Radical Cystectomy

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Radical cystectomy remains the gold standard for muscle invasive bladder cancer and high risk superficial tumors resistant to intravesical therapy. Minimally invasive techniques can adequately achieve the extirpative aspects of laparoscopic or robot-assisted radical cystectomy : the main technical steps of the protocol of laparoscopic radical cystectomy are pre-rectal dissection, bilateral extended lymph node dissection, haemostatic control of upper vascular pedicles and division of the ureter, nerve sparing dissection of lower vesiculo-prostatic and prostatic pedicles, secured division of the urethra and finally orthotopic anastomosis of an ileal neobladder to the urethral stump.

At most institutions today, the reconstructive urinary diversion is currently performed extracorporeally through a mini-laparotomy. In non-oncologic patients, the short and mid-term advantages of these approaches are obvious in favour of lower perioperative morbidity and faster recovery. Wether this balance remains positive in cancer patients, with regard to long term oncological outcome still has to be proven for laparoscopic cystectomy. Key issues lay in careful and adequate selection of patients eligible for a mini-invasive, yet radical procedure; full respect of oncological prerequisites is mandatory, regarding hollow organs safety, lymph nodes « en bloc » dissection and absence of any contact with tumour material. Prospective evaluation among centers matching technical expertise with recruitment volumes has to be continued.

Tuesday afternoon

2:00 pm	Lunch
2:30 pm	Scientific Session
Round table	**LYMPH NODE DISSECTION IN GU CANCER**
Moderators	**Xavier Cathelineau, Guglielmo Breda & Bernardo Rocco**
Arnaud Mejean	LND for kidney and urothelial tumor
Francesco Porpiglia	PLND for prostate cancer
Claude Abbou	PLND for bladder cancer
Günter Janetschek	RPLND for testis cancer
3:15 pm	Coffee Break
3:30 pm	Scientific Session
Round table	**HOW TO IMPROVE CONTINENCE AFTER RADICAL PROSTATECTOMY?**
	Presentations
Moderators	**Jens Rassweiler, Antonio Alcaraz & Andrea Cestari**
Thierry Piechaud	Bladder neck sparing
Eric Mandron	Anterior suspension
Bernardo Rocco	Posterior reconstruction
Vincenzo Disanto	Multilayer anastomosis
Walter Artibani	Critical review of literature
4:30 pm	Scientific Session
Round table	**HOW TO IMPROVE POTENCY AFTER RADICAL PROSTATECTOMY?**
	Presentations
Moderators	**Thierry Piechaud, Guglielmo Breda & Peter Gland Wiklund**
Jens Rassweiler	Antegrade or retrograde dissection?
Richard Gaston	Intrafascial or Interfascial?
Alex Mottrie	Impact of robotics on improvement of potency
Walter Artibani	Critical review of literature
6:30 pm	Adjournment

Notes

Lymph node dissection (LND) in kidney cancer and urothelial neoplasm

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Renal Cell Carcinoma (RCC)

No evidence based guidelines exist regarding the value nor the anatomic boundaries of LND in RCC. The final results of the EORTC randomized phase 3 trial (30881) reported no advantage for routine LND during nephrectomy in localized RCC (stage T1-T3). These data were previously suggested by retrospective studies reporting the low incidence of regional lymph node invasion in localized RCC with negative pre-operative lymph node status. However, patients with locally advanced RCC may benefit from extended LND performed as an adjunct to radical nephrectomy; although the therapeutic role of lymph node removal is not established, it improves staging accuracy and may implement treatment changes. In fact, at the era of targeted therapies, the emerging concept of multimodal approach in the treatment of locally advanced and metastatic RCC may lead to a growing role of LND; patients selection using predictive tools to assess the risk for lymph node disease may become mandatory.

Urothelial neoplasm

In bladder cancer, the question is not about performing or not LND, but rather about its boundaries. Numerous data suggest that limited LND is associated with under- (and therefore adverse) staging as well as poorer outcome than extended LND.

Regarding upper urinary tract tumors, recent studies identified LND as a strong independent predictor of cancer specific survival and disease free survival in patients who undergo surgery for muscle-invasive tumors only.

Both in urothelial and renal neoplasm, experienced surgeons can safely perform laparoscopic LND without compromise in terms of extent as compared with open surgery.

Pelvic lymph node dissection (PLND) in prostate cancer

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Pelvic lymph node dissection (PLND) represents the most accurate and reliable staging procedure for the detection of lymph node invasion in prostate cancer. If a PLND is planned at the time of radical prostatectomy, it should be extended as indicated in many studies. Actually, limited PLND results in a high rate of false positive.

The role of laparoscopy in extended PLND is matter of debate, in particular because of it is a time-consuming and challenging procedure which requires skilled surgeons. Some Authors have recently reported their experience about the use laparoscopy in this scenario, and they have concluded that this technique can be usefully combined with laparoscopic radical prostatectomy. The transperitoneal approach seems to allow a wide exposure and seems to be the most important factor to enable successful ePLND. Besides, one should note that the results and morbidity are equivalent to those of open surgery, with the advantage of a minimally invasive operative technique.

More recently robotic assisted extended PLND has been proposed in clinical practice and initial experiences have been reported. On the bases of these papers, robotic assisted procedure seems to be feasible, safe and effective with lymph node yield in the range of open series and it does not seem to limit a surgeon's ability to perform a complete extended PLND.

A review of the current Literature on this topic and the description of our experience in PLND will be presented.

Laparoscopic Retroperineal Lymph node dissection

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Both retroperitoneal lymph node dissection (RPLND) and chemotherapy either as a single therapeutic modality or in combination are the two mainstays of successful management of nonseminomatous germ cell tumour (NSGCT). Depending on the tumour stage, nearly all the patients can be cured. However, RPLND and chemotherapy are associated with a specific morbidity that increases significantly if the two therapies are combined. Because the therapeutic efficacy cannot be further improved significantly, a reduction in morbidity without compromising the cure rate has become the major concern in the management of low stage NSGCT and especially of clinical stage I NSGCT.

Replacing open surgery for RPLND by laparoscopy will decrease surgical morbidity substantially while diagnostic accuracy is comparable. In our concept for clinical stage I NSGCT we use laparoscopic RPLND for diagnosis only because we feel that the high relapse rates of open RPLND in pathologic stage II are not acceptable. All our pathologic stage II patients were treated with 2 cycles of adjuvant chemotherapy.

For stage II NSGCT most urologists prefer the concept of primary chemotherapy (3-4 cycles) followed by RPLND which is required for residual masses in about one third of cases. Again, the morbidity of open RPLND can by reduced by the introduction of laparoscopy. If the residual tumour is not too large it can be removed by means of laparoscopy.

In an attempt to further reduce the morbidity of the combined treatment, we have reduced the dose of chemotherapy to two cycles for stage **II**b, which is obviously the minimum dose required for complete tumour control. To fully understand this concept one has to realise that once tumour control is achieved by means of chemotherapy, each additional cycle does not add therapeutic efficacy at all but increases morbidity even exponentially. However, this approach is experimental at present, which makes the evaluation of the effect of chemotherapy by laparoscopic RPLND mandatory in each patient. But it is our experience that morbidity of laparoscopic RPLND is lower than that of even the first cycle of chemotherapy, and this difference becomes much greater for the third and fourth cycle since morbidity of chemotherapy increases exponentially.

Over the last 13 years 162 patients diagnosed as testicular cancer clinical stage I (103 patients) and clinical stage II (43 IIb + 16 IIc) underwent laparoscopic RPLND. The procedure was feasible in this group of patients even after chemotherapy with only 3 conversions to open RPLND in clinical stage I. Mean operative time was 217min., 216min. and 281min. for clinical stages I, IIB and IIC respectively.

Mean blood loss was 144ml. and 165ml. for clinical stage I and II respectively. Hospital stays of 3.6 and 3.8 days respectively. Mean follow up is 62 (6-113) months for clinical stage I and 53 (10-89) months for clinical stage II. During this period we observed one retroperitoneal relapse in pathologic stage I (1.2%), which was due to false negative histology, and 4 distant relapses (2.5%). There was no relapse in stage II.

In the authors' hands and in the experience of other groups, laparoscopic RPLND for stages I and II NSGCT has demonstrated its surgical and oncologic efficacy. The morbidity and the complication rate are low. Adherence to the templates previously described allows for preservation of antegrade ejaculation in virtually all patients. Once the long and steep learning curve has been overcome, operative times are equal to or even shorter than those of open surgery. Thereafter, the costs will be in the range of open surgery or even below that. The learning curve will not be a major problem in centres performing laparoscopy on a regular basis. Unfortunately, most centres performing laparoscopy are not involved in the treatment of testicular cancer, and the centres reputed for the treatment of testicular cancer do not perform laparoscopy. But as soon as the two parameters mach success will follow.

Oncolocic efficacy of laparoscopic RPLND determined by recurrence and survival rates is comparable to that of open surgery. Patient satisfaction, however, is clearly higher with laparoscopic RPLND as demonstrated in a recent extensive quality-of-life study.

In Europe, risk adapted primary chemotherapy is going to replace open RPLND in the management of clinical stage I NSGCT because of the high morbidity of open surgery.

We think that our concept of laparoscopic RPLND for clinical stage I and adjuvant chemotherapy for clinical stage I / pathologic stage II has many advantages over risk-adapted chemotherapy. It provides accurate staging allowing for individual definitive treatment. We think that the introduction of laparoscopy to RPLND may bring back the pendulum towards surgery.

The good results achieved with laparoscopic RPLND for clinical stage I could also be doubled with RPLND after chemotherapy for stage II tumours.

Anterior Suspension of the dorsal vein complex (DVC) and fixation of the anterior fibromuscular stroma (AFMS) during laparoscopic prostatectomy . How to improve early continence ?

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Transient urinary incontinence after radical prostatectomy is one of the major drawbacks of surgical treatment of prostate cancer. Even if long term continence outcomes are favourable (85-97 % of patients report continence at 1 year), the median return to continence is 4.5 months after the operation. However, this period of incontinence is long and poorly tolerated. What's more, the quality of life is compromised and patient's self confidence is negatively influenced as well as the recovery of potency.

Most authors consider post-prostatectomy incontinence as stress urinary incontinence due to: insufficiency of the urethral sphincter complex, age, non-nerve sparing technique, scar formation. It seems that it is primarily a result of the anatomical and functional changes that occur after removal of the prostate. Therefore, sparing and/or reconstructing the different anatomical structures might facilitate early continence (within 3 months).

Several studies describe relevant technical modifications and the best results seem to be achieved using procedures that preserve and/or reinforce the bladder neck (sparing the bladder neck and suspending it from the pelvic fascia) or sparing the pubo-prostatic ligaments and incorporating them into the vesico-urethral anastomosis for the anterior suspension of the urethral sphincter complex (anterior fixation point). Other studies emphasize the role preserving the urethral rhabdosphincter and of reconstructing the Denonvillier's musculofascial plate. Re-approximation of the distal and proximal Denonvillier's fascia remnants recreates the posterior musculofascial plate, which may function as a "fixation point" for the horseshoe-shaped, posteriorly deficient, rhabdosphincter. Also, it may provide a dynamic support and allow a more efficient contraction of the rabdosphincter. Furthermore, it may facilitate completion of the urethrovesical anastomosis by removing anastomotic tension.

During our technique of anterior fixation, at the point of suturing the dorsal vein complex (DVC), we place a figure of "8" vicryl 0 suture. This suture is fixed to the pubic bone with no tension (the knot approximates the DVC to the bone), resulting in anterior suspension of the DVC stump. In addition, we fix the anterior urethral complex after the anterior urethra is sectioned, by placing a 4/0 vicryl suture which enters at 10 o'clock, exits at 11 o'clock and then enters at 1 o'clock and exits at 2 o'clock. This suture plicates the anterior periurethral tissues, which include the anterior fibromuscular stroma (AFMS). The AFMS fibers are spread and/or cut during apical dissection and section of the anterior urethra.

Without any technique of suspension and/or fixation the urethral stump lacks its natural periurethral support. By our suggested anterior suspension of the DVC the urethral sphincter complex is suspended and reinforced in a similar way with the suspension effect of TVT for treating SUI. The 2nd fixation at the anterior urethra sustains together the muscular fibers of the sphincter complex that were spread and/or cut during apical dissection. This restores the anatomical continuity of the sphincter complex, and it facilitates/reinforces the anterior vesicourethral anastomosis, minimizing the chances of accidental urethral lacerations. With the anterior suspension of the DVC, the urethral stump is not retracted, which is a problem that hampers the performance of the anastomosis

In conclusion, the anterior suspension and fixation is feasible and not time consuming (it includes one more knot of the suture used for the DVC, along with an additional suture for the fixation of the AFMS). Preserving the urethral sphincter complex in an anatomical and functional position might facilitate rapid return of urinary continence.

How to improve early continence following laparoscopic and robotic assisted radical prostatectomy.

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Objectives

Particlularly since the introduction of video-assisted radical prostatectomy, several gropus have investigated, how to improve early continence . In this lecture, a novel technique with preservation of the Levator fascia and the pubo-prostatic collar will be demonstrated, based on an extensive review of the recent literature.

Material & Methods

The current literature was reviewed since the year 2000 focussing on description of technical modifications to improve early continence. Additionally anatomical studies of t he pelvic floor and ist innervation were considered. Based on this, the novel technique has been developped at our institution since August 2008 (case No 2100). Early continence was evaluated prospectively using the previously described Urine loss ratio (ULR) after catheter removal.

Results

Concepts for improvement of early continence are based on several anatomical principles, such as supension of the urethra, preservation of the puboprostatic ligaments, intraprostatic dissection of the urethra, bladder neck sparing, and reconstruction of the rectourethralis muscle. All these maneuvers, however only consider a single part of the procedure. Recently, Tewari et al. described the concept of preservation of the pubo-prostatic coillar. We have used thsi principle by further defining the dissection line between the avascular plane of the levator fascia and prostatic fascia. With this technique, the levator fascia is anatomically correct left behind covering the periurethral area (ie. pubo-prostatic collar). The dorsal vein complex is controlled on the ventral part of the gland between above the prostatic capsule, and the urethra is dissected free by rotating the gland towards the surgeon. This stitch does not involve any urethral tissue. With this technique, We were able to improve our early continence results significantly (old technique with detachment of levator fascia and distal control of the DVC had 58 % ULR < 0.01 compared to 92% with the new technique).

Conclusions

Results of early continence mainly depend on anatomical correct dissection technique rather than on the type of the procedure (ie RRP vs LRP vs RALP). Preservation of the pubo-prostatic collar and the levator fascia results in significant improvement of early continence rates.

How to improve continence after radical prostatectomy. Posterior reconstruction

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The downward stage migration due to the widespread diffusion of PSA has lead to always increasing chances to deal with early stage prostate cancer suitable for excellent cancer control with surgical approach. Radical prostatectomy offers adequate cancer control, whereas functional results such erection and incontinence are still a matter of concern; the latter is often considered somewhat more bothersome.

Notwithstanding several efforts to increase a complete anatomical and functional understanding of the mechanism related to post prostatectomy incontinence, we are probably far from a thorough comprehension; starting from the original anatomic retropubic prostatectomy, many studies have been publish to address this issue but none of them has completely overcome this problem; particularly early continence recovery.

According to the literature, several factors can be advocated as responsible for urinary incontinence. From an anatomical point of view it is possible to identify two surgical zones of interest that could play a key role in terms of continence preserving techniques:

The proximal zone is represented by the bladder neck; whereas the urethra, the rhabdosphincter and the surrounding tissue are parts of the distal zone.

Different surgical approaches have tried to make the most out these two surgical crucial areas:
- The proximal zone: bladder neck preserving techniques [1-4] or its reconstruction [5]

-The distal zone: puboprostatic preservation [6- 8] anterior [9-11], posterior [12-16] or combined reconstructions of the periprostatic tissue [17]

Particularly posterior and combined reconstruction have been recent matter of discussion after our publications focused on the anatomy of the rhabdosphincter and the possible explanations regarding the effects of prostate removal on continence recovery.

Recently other authors have studied and modified our technique to improve early continence and to adapt it to different settings such as robotics.[14]

In this presentation, we will carry out a critical analysis of the available literature on the continence preserving techniques based on the principle of posterior reconstruction of the rhabdosphincter.

Multilayer anastomosis

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Multilayer urethro-vesical anastomosis during the course of radical prostatectomy was fashioned by Patel by elaborating Rocco's anatomo-functional observations. It is a technique that can be performed either with classical laparoscopy or robotic assisted procedure. Connecting the rhabdosphincter to the Denonvilliers fascia with two
running sutures it is possible to reconstruct an optimal support for the urethra..

The anatomical basis behind the technique will be presented.

Two 18cm monofilament sutures tied at the distal ends are prepared. The first needle is passed twice on the right edge of the posterior layer of the Denonvilliers fascia. It then goes to the posterior urethral raphe. Moving from right to left the running suture goes on by connecting the Denonvilliers fascia to the recto urethralis muscle. In this phase

12. pressure on the perineum is useful. Then the second needle of the prepared suture is passed (outside-in) on the bladder neck, without the mucosa, and then (inside-out) on the urethra, starting at 7.00 o'clock. Moving from right to left the running suture proceeds and is tied with the first one. At this point two joint layers have been created with which the posterior urethral raphe and the urethra have been connected with the bladder neck. A second suture is prepared in the same way (two needles with 18cm suture tied at the distal ends). The first needle is passed twice
on the bladder neck at 7.00 o'clock with an outside-in trend. It continues on the urethra (inside-out) in a clockwise direction until 12.00 o'clock. The other needle is passed in a anticlockwise direction connecting the urethra and the bladder from 7.00 to 12.00 o'clock reaching the first suture. The suture is quick and easy to perform.

In our experience of 42 operations, we have only observed the presence of a small fistula at the level of the anastomosis which required the presence of the catheter for a further 10 days. In all the others, the catheter was removed on the 6th day and the continence at 3 months was good (without protection) in 37 (88%) patients.

Conclusions – After experience with over 800 radical laparoscopic and robotic Prostatectomies, this technique has been found to be the most simple and the one which allowed us to obtain the best results in terms of early continence.

Notes

Wednesday morning

8:00 am	Scientific Session
Round table	**NEW TECHNIQUES**
Moderators	**Luis Martinez Piñeiro, Alessandro Amici, Jean Luc Hoepffner & Francesco Porpiglia**
Ingolf Türk	New Instruments
Thierry Piechaud	Augmented reality
Inderbir Gill	LESS
Antonio Alcaraz	Notes
Franco Gaboardi	Isobaric Laparoscopy
Günter Janetschek	Sentinel node in Prostate cancer
Christian Gozzi	Rationale for the first functional male sling
9:00 am	Surgical Session
	RADICAL PROSTATECTOMY
Moderators	**Giorgio Guazzoni, Tullio Sulser, Gaetano Grosso, Peter Gland Wiklund & Günter Janetschek**
Richard Gaston	Intrafascial LRP
Jens-Uwe Stolzenburg	Extraperitoneal LRP
Ingolf Türk	Extraperitoneal LRP
Vito Pansadoro	Extrafascial LRP
Thierry Piechaud	Transperitoneal RALP
Jens Rassweiler	Retrograde LRP
3:00 pm	Adjournment

Rationale for the first functional male sling

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Since many years there are standardized surgeries for the treatement of female urinary incontinence which lead by anatomical correction to an improved function of the sphincter , resulting in a measurable accession in function and urethral length .Because of the missing anterior urethra in females there was earlier unambiguous the right approach for incontinence surgeries .

Previous therapeutical procedures in males mostly work by obstructive principles on the anterior urethra which doesn`t have any kind of continence competence by themselfes .Up until now there were performed pubofascial slings ,fixed or adjustable slings or pneumatic systems based upon an artificial leakpoint pressure of 35-40 cm H2O on the anterior urethra .

The prostate gland itselfs with her pelvic fascial and ligamental system accounts for the necessary stability and position for sphincter contraction for the baseline tonus and the necessary attendance for reactivity under stress. The competence for this fact is subjected to the posterior (membranous) urethra in male and female . Micturition and urinary stream disruption is modulated by this sphincter suspension system .

During prostate surgery this system becomes susceptible disturbed.Concerning continent and incontinent patients after prostate surgery there exists an affected sphincter system caused by missing prostate volume and laxicity of the urethral sphincter mechanism which results in hypermobility and descensus of the membranous urethra which prolapses immediately under slight pressure in the micturition position .

The implantation of the first functional male sling avoids the well known descensus of the posterior urethra including the perineal body and represents the first rational of a functional approach of incontinence therapy in male. In contrary to the previous assumption of many urologists normally there exists no intrinsic sphincter deficiency after radical prostate surgery ,demonstrated by endoscopical ,electromyografic and dynamic MRI approach. Moreover the muscle is innervated by his pudendal nerve and capable to contract.
Intraoperative procedures like the Rocco`s suture emphasize the relevance of the rationale mentioned above .