**C03: Characteristics of endovideosurgical radical prostatectomy using extraperitoneal approach: Analysis of 70 cases**

Borisenkov M.¹, Popov S.², Gorelov A.¹, Orlov I.², Vyazovtsev P.²

¹St. Petersburg State University, Dept. of Urology, St. Petersburg, Russia, ²St. Luke Clinical Hospital, Dept. of Urology, St. Petersburg, Russia

**INTRODUCTION & OBJECTIVES:** Currently open retropubic radical prostatectomy (RP) is standard surgical treatment for prostate cancer. Alternative minimally invasive surgical approaches are developed such as endovideosurgical (extraperitoneal) RP. The study aimed evaluation of endovideosurgical RP characteristics in hospital with limited number of cases and previous experience in laparoscopic surgery.

**MATERIAL & METHODS:** Since April, 2009, till September, 2012, 70 endovideosurgical RP were performed in our hospital. Mean age was 63.3 ± 6.1 years. Pelvic lymph node dissection (PLND) performed in patients with total prostate-specific antigen (PSA) level >10.0 ng/ml and Gleason score >6 (22 patients). We evaluated operation time, blood loss, duration of urethral catheterization, complications and histological examination results, urine continence 3 and 12 months after surgery.

**RESULTS:** Mean operation time was 245.1 min ± 70.8 (standard deviation, SD). Mean estimated blood loss volume was 450.0 ml ± 357.9 (SD). Mean duration of urethral catheterisation was 12.3 days ± 4.2 (SD). Six (8.6%) patients had 6 complications 3a-3b degree (Clavien classification), including perforation of rectum (1), pressure pneumoscrotum (1), acute urinary retention after urethral catheter removal (1), and paravesical urine leaks (3). Positive surgical margins were detected in 2 cases, lymph node metastasis detected in 4 cases. Three and 12 months after surgery 8 (11.4%) and 10 (14.3%) patients, respectively, had biochemical recurrence (PSA > 0.2 ng/ml). Three and 12 months after surgery 37 (52.9%) and 61 (87.1%) patients, respectively, were continent (≤1 pad pro day).

**CONCLUSIONS:** Presented series of 70 endovideosurgical radical prostatectomies using extraperitoneal approach in hospital with limited number of cases and previous experience in laparoscopic surgery is comparable to series of open retropubic radical prostatectomy and endovideosurgical prostatectomy, described in literature, in terms of perioperative characteristics, safety and efficiency.

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C04: The more, the better – learning curve of a laparoscopical surgeon de-pending on the departments experience – analysis based on the example of laparoscopic prostatectomy

Wojtarowicz M., Słojewski M., Gołąb A., Lemiński A., Petrasz P.

Pomeranian Medical University, Dept. of Urology and Urological Oncology, Szczecin, Poland

INTRODUCTION & OBJECTIVES: Laparoscopic radical prostatectomy technique is gradually replacing open surgery. This treatment, beneficial for the patient in many aspects, requires the acquisition of laparoscopic skills and use of instrumentation as well as extensive experience in endoscopic surgery.

The aim of the study is to analyze the learning curve of the operator and the impact that each department's experience has on that curve.

MATERIAL & METHODS: We analyzed three operators. Operator A performed his first laparoscopic prostatectomy in 2010, it was the 74th operation of the department. Operator B first LP made in 2011, the treatment number being 136. And operator C in 2012. 182 operation in turn. The operations were performed on a comparable set of patients and evaluated as such.

RESULTS: The average duration of the first 3 operations performed by operator A was 3:53, for operator B 4:38, and operator C 3:38. Duration of the 3 last operations amounted to 2:35, 2:16 and 3:05. Average blood loss for operator A during his first 3 operations was 300 ml, which translated into a loss of 2.24 mmol/dL Hb in the control morphology 24 hours after surgery. In the case of operator B blood loss amounted to 367 ml, Hgb decrease was 1.86 mmol/dl, and operator C blood loss was 283 ml, which corresponds to 2:44 mmol/dl. Blood loss in the last 3 treatments: for operator A was 233 ml, equivalent to 1.50 mmol/dl, operator B blood loss was 162 ml, 1.45 mmol/dL Hb and operator C 150 ml, 1.86 mmol/g Hb.

CONCLUSIONS: 1. Experience gained by the department center in the field of laparoscopic surgery (high volume) is critical to the shape of the curve of learning to operate using this method. 2. Attaching the individual operators to the team performing laparoscopic radical prostatectomy leads to flattening their learning curve without significantly shortening their in relation to the more experienced urologists.

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INTRODUCTION & OBJECTIVES: Positive surgical margin (PSM) is an independent risk factor of prostate cancer progression (biochemical recurrence (BCR), local relapse and mortality) after radical prostatectomy. Intraoperative frozen section (IFS) reduces the rate of PSM in cases with biopsy Gleason score 7 or higher tumors, while provides a more secure approach for the nerve sparing technique. We analyzed the impact of IFS on PSM and BCR in pT2 and pT3 tumors after open radical prostatectomy (ORP) and laparoscopic radical prostatectomy (LRP).

MATERIAL & METHODS: PSM, positive IFS and BCR of 410 consecutive patients were determined after ORP and LRP. Under LRP we send the prostate to IFS and in the case of PSM we perform a resection on the positive side. False negative IFS gave the number of cases, where further intraoperative resection could not be performed to reduce the risk of final PSM. The positive IFS and false negative IFS patients were sub-grouped into T2 and T3 stages and the reduction effect of IFS on each sub-group was counted.

RESULTS: 96 open radical prostatectomy was performed between April 2008 and March 2010, and 322 laparoscopic operations between March 2010 and January 2014. In the ORP group the average PSA was 10.5 ng/ml. 58 patients had postoperative Gleason score 7. 22 patients had Gleason score 8 or worse, average follow-up was 3 years. In the final histological examination 36 patient has PSM (12 T2 (10 T2c), 24 T3)). BCR occurred in 24 patient (25%). In the LRP group average PSA was 12,15ng/ml, 163 patients had postoperative Gleason score 7. 71 patients had Gleason score 8 or worse, average follow-up was two years. PSM was 120 (42 T2 (35 T2c), 77 T3)), 78 of them showed positive IFS. In 55 cases, further resection was performed, 35 were tumor positive. In 42 cases the IFS was false negative, 18 T2 (15 T2c) and 30 T3, 6% and 9,4% of the total operation count. BCR occurred in 28 patient (9%) in the PSM resected group and 57 (18%) patients in total.

CONCLUSIONS: Although the PSM was high in this rather high risk group of patients, the IFS revealed the two-third of it, and gave the opportunity to reduce the margin positive T2 and T3 cases from 13,6% to 6% and from 27,3% to 9,4%, respectively, with a relatively low BCR. Meanwhile, a better nerve preservation could be performed for the sake of early continence and better erectile function recovery.

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C07: Selected features of ERG-positive prostatic cancer

Okon K.1, Kaczmarczyk K.1, Strzepek A.1, Bialas M.1, Dyduch G.1, Gołąbek T.2, Szopinski T.2, Chlosta P.2

1Jagiellonian University, Medical College, Dept. of Pathomorphology, Krakow, Poland, 2Jagiellonian University, Medical College, Dept. of Urology, Krakow, Poland

INTRODUCTION & OBJECTIVES: Prostatic carcinoma (PC) is one of the most frequent cancers in males. Its genetic background is quite peculiar, as a significant proportion bear a specific translocation involving ETS family genes. Most of translocation related PCs express ERG transcription factor. ERG-positive and negative PC cases differ in a number of features, although the prognostic significance of these differences remains controversial. We studied a number of features of PC expressing ERG and lacking such expression.

MATERIAL & METHODS: The material for the study consisted of radical prostatectomy specimens from patients operated for PC in Department of Urology. For immunohistochemical studies, tissue microarrays were used; stains for ERG, CD31, FOXP3, EGFR, PTEN, HER2 were done in routine manner. ERG status was scored as ERG+ or ERG- taking into account only decisively positive nuclear staining. EGFR, PTEN and HER2 were assessed semi-quantitatively. The number of CD31+ vessels, FOXP3 positive cells was counted per mm². For image analysis hematoxilin and eosin stained slides were photographed at 1000x magnification; the images were filtered with color deconvolution algorithm, when segmented automatically and analyzed for simple geometric features, set of form factors and texture parameters. Statistical analysis was done with Statistica software.

RESULTS: The entire dataset consisted of 167 cases; 76 (45.5%) were ERG-positive. The ERG+ cases were more advanced (organ confined 26% versus 48% for ERG+ and ERG-, respectively) and tended to be higher grade (73% versus 56% of Gleason scores >6).

On immunonohistochemistry the expression of HER2 was significantly more frequent in ERG+ group (14.5% versus 4.6%). We found a very similar expression of EGFR and PTEN in ERG+ and ERG- group. The number of regulatory T lymphocytes (FOXP3+) was significantly higher in ERG+ group (42.3/mm² versus 21.4/mm²). Microvascular density was significantly higher in ERG+ group (124.4/mm² versus 101.3/mm²).

On image analysis, there were significant differences in the features of the nuclei, both related to the tumor grade and ERG status. In the ERG+ cases nuclei were larger and less regular than in ERG- cases; there were also significant differences in the texture features.

CONCLUSIONS: The frequency of ERG-positive PC in our series is similar to other European and North-American populations. ERG-positive cases showed a proportion of features distinguishing them from the negative cases; some of these may influence the survival and prognosis of PC patients, yet further studies are needed.

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The role of TURP in the assessment of T-staging of prostate cancer in a group of patients undergoing primary “radical-HIFU” in own material

Czarniecki S., Filipek M., Lewicki A.

1Ameds Medical Center, Dept. of Urology, Grodzisk Mazowiecki, Poland, 2Miedzyleski Specialist Hospital, Dept. of Urology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: High Intensity Focused Ultrasound (HIFU) is a minimally invasive treatment modality for prostate cancer. Over the past 17 years over 40,000 HIFU procedures have been performed worldwide. The gold standard of treatment is a combined therapy: “radical HIFU” (TURP+Total Prostate HIFU), which serves the purposes of limiting prostate volume and height, removal of any calcifications and prevention of the most common complications. The purpose of this paper is to assess the role of TURP in the T-staging of prostate cancer in patients undergoing “radical-HIFU” in our own material.

MATERIAL & METHODS: 104 HIFU procedures were performed in our centre over the years 2011-2014. Both primary and local relapse after other radical therapy cases were performed. A retrospective analysis was performed on a group of 32 patients, age 55-83 years, fulfilling the following criteria: T1-2M0N0, PSA <18ng/ml, Gleason ≤7, combined “radical-HIFU” therapy. Patients excluded from the analysis were: patients treated due to local relapse following previous radical treatment, Gleason >7 upon qualification, with an observation time.

RESULTS: Upon primary qualification 10 (31.3%), 13 (40.6%), 9 (28.1%) patients were stratified, respectively, into the low, intermediate, and high risk groups according to D’Amico. Following the histopathological assessment of the entire TURP material the risk group stratification changed. The number of patients stratified into the low, intermediate, and high risk groups were, respectively, 7 (21.9%), 11 (34.4%), and 14 (43.7%), when this additional data was collected. The T-stage changed in 5 (15.6%) cases. The Gleason score changed in 6 (18.8%) cases when the TURP material was assessed. The total percentage of patients in whom prostate cancer was found in TURP material was 40.6%, while in the high risk group this percentage was 57.1%.

CONCLUSIONS: 1. Performing of TURP correlates with a clinically significant change in prognostic staging factors (Gleason sum and T-stage) and effects the risk stratification groups according to D’Amico, which is of importance in qualification and will influence long-term therapeutic outcomes. 2. The percentage of patients in whom prostate cancer was found in TURP material is significant, particularly so in the high risk group according to D’Amico (57.1%).

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C09: The assessment of PSA concentration dynamics in prostate cancer patients treated with “radical-HIFU” in own material - preliminary findings

Filipek M.1, Czarniecki S.1, Lewicki A.2

1Ameds Medical Center, Dept. of Urology, Grodzisk Mazowiecki, Poland, 2Miedzyleski Specialist Hospital, Dept. of Urology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: High Intensity Focused Ultrasound (HIFU) is a minimally invasive treatment modality for prostate cancer. Over the past 17 years over 40,000 HIFU procedures have been performed worldwide. PSA concentration ranges which would be unequivocally accepted to predict success or failure of therapy are still lacking. The purpose of this paper is to present the dynamics of PSA concentration levels in patients following “radical-HIFU” (TURP+Total Prostate HIFU) over the first year of follow-up, as well as to assess the influence of prostate volume and apical to lower limit of treatment distance (A-L) on this parameter.

MATERIAL & METHODS: In our centre 104 HIFU procedures were performed over the years 2011-2014. A retrospective analysis was performed on a group of 32 patients, aged 55-83 years, fulfilling the following criteria: T1-2M0N0, PSA <18ng/ml, Gleason ≤7, combined “radical-HIFU” therapy. Excluded from the analysis were patients: treated due to local relapse following previous radical treatment, Gleason >7 upon qualification, with an observation time <6 months, and those using PSA modifying pharmacotherapy. The following parameters were analysed: PSA concentration prior to prostate biopsy (PSAb), prior to HIFU (PSAh), at 3, 6, 9, 12 months after radical-HIFU, TRUS measured prostate volume at biopsy (Pvb) and at HIFU (Pvh), and A-L.

RESULTS: Mean follow-up time was 8.8 months (6-12). Nadir PSA was reached at a mean of 4.1 months (3-9). The median nadir PSA was 0.08 ng/ml (0.002-4.62). The median PSA concentration at 3, 6, 9,12 months, respectively, were 0.09 ng/ml (0.002-7.8), 0.16 ng/ml (0.004-4.76), 0.06 ng/ml (0.002-5.93), 0.18 ng/ml (0.002-5.09). Mean PSAb was 7.84 ng/ml (3.19-17.62), and mean PSAh was 7.28 ng/ml (1.16-13.95). Mean Pvb was 37.85 cm³ (18-60.6), and mean Pvh was 21.29 ng/ml (13.51-32.81). In the Pvh ranges 13-18 cm³ (n=6), 18-23 cm³ (n=16), 23-28 cm³ (n=7), 28-33 cm³ (n=3) the median nadir PSA concentration was, respectively, 0.009 ng/ml, 0.08 ng/ml, 0.08 ng/ml, 0.19 ng/ml. The mean A-L distance was 4.72 mm (3.23-6.01). In the A-L ranges 3-4 mm (n=3), 4-5 mm (n=16), 5-6 mm (n=12), the median nadir PSA was, respectively, 0.01, 0.08, 0.14 ng/ml.

CONCLUSIONS: 1. The nadir PSA concentration was reached at a mean of 4.1 months. The median nadir was 0.08 ng/ml (0.002-4.62). 2. The lowest nadir PSA was observed in the range Pvh 28 cm³ correlated to a significantly higher median nadir PSA concentration. 3. The A-L distance influences the nadir PSA concentration. As the A-L distance increases, higher nadir PSA values are observed.

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C11: Restoring long term spontaneous voiding in prostate cancer related urinary retention – Bipolar plasma vaporization, a palliative therapeutic approach

Geavlete B., Stanescu F., Nita G., Moldoveanu C., Jecu M., Ene C., Bulai C., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: A prospective analysis evaluated the efficiency, safety and long term postoperative results of the bipolar plasma vaporization (BPV) in prostate cancer (PCa) cases associating complete urinary retention.

MATERIAL & METHODS: A series of 60 patients diagnosed with locally advanced or metastatic PCa and complete urinary retention requiring catheter indwelling underwent BPV aiming to restore spontaneous voiding. A total of 51 patients completed the 2 years’ evaluation protocol consisting of International Prostate Symptom Score (IPSS), quality of life score (QoL), maximum flow rate ($Q_{\text{max}}$) and post-voiding residual urinary volume (PVR), measured at 1, 3, 6, 12, 18 and 24 months after the initial surgery.

RESULTS: BPV was successfully performed in all cases with satisfactory efficiency (mean operation time – 41.7 minutes). BPV was characterized by reduced perioperative morbidity (capsular perforation – 3.3%; hemoglobin level drop – 0.9 g/dl; significant hematuria – 8.3%; early irritative symptoms’ – 16.7%). A fast postoperative recovery process was described in this group (mean catheterization period – 1.8 days; mean hospital stay – 2.2 days). No blood transfusions or early reinterventions were required. At the 1 to 24 months’ check-ups, satisfactory values were determined in terms of IPSS (5.1–7.2), $Q_{\text{max}}$ (20.4–23.6 mL/s), QoL(1.2–1.7) and PVR (25–39 mL). These parameters emphasized a stable evolution throughout the entire follow-up period, as 86.3% of the followed patients maintained spontaneous voiding.

CONCLUSIONS: The present trial confirmed the plasma vaporization as a reliable therapeutic approach in PCa cases associating complete urinary retention. The technique displayed good surgical efficacy, low perioperative morbidity and short convalescence period. Satisfactory urodynamic and symptom score parameters were described during the 2 years’ follow-up protocol.

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INTRODUCTION & OBJECTIVES: Prostatic carcinoma is the second cancer in frequency in Polish males. Recently, we have found that prostatic carcinoma expressing ERG transcription factor show a more dense microvascular network. Mast cells are thought to participate in the development of cancers, especially by regulating angiogenesis. The aim of this study was to analyze the number of mast cells in relationship to ERG status.

MATERIAL & METHODS: The material for the study consisted of 68 radical prostatectomy specimens. The immunohistochemistry for ERG, mast cell tryptase and chymase was performed on tissue microarrays. The cancers were classified as ERG-negative or ERG-positive; the number of tryptase and chymase positive cells per mm\(^2\) was counted.

RESULTS: The average number of tryptase positive cells was 102.7/mm\(^2\) for all cases, 97.2/mm\(^2\) for ERG-negative cases and 108.6/mm\(^2\) for ERG-positive cases. The average number of chymase positive cells was 53.5/mm\(^2\) for all cases, 52.6/mm\(^2\) for ERG-negative cases and 54.4/mm\(^2\) for ERG-positive. These differences between ERG-positive and ERG-negative cases were not statistically significant, however. The ratio of chymase-positive cells and tryptase positive cells was 0.56 for all cases, 0.57 for ERG-negative cases and 0.55 for ERG-positive.

CONCLUSIONS: The number of mast cells, in ERG-positive prostatic carcinoma is higher than in ERG-negative prostatic carcinoma, yet the difference is slim and unlikely to account for the biological differences between these two groups of cancers.

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C15: Do patients diagnosed with low-risk prostate cancer are really in low risk?

Bakavicius A,1 Laurinavicius A,2 Jankevicius F.1

1Vilnius University Hospital Santariskiu Klinikos, Dept. of Urology, Vilnius, Lithuania, 2National Centre of Pathology, Dept. of Pathology, Vilnius, Lithuania

INTRODUCTION & OBJECTIVES: Pre-treatment risk stratification of prostate cancer (PCa) patients has the most profound impact on the treatment decision-making and outcome reporting. Low-risk PCa has been defined by D’Amico as Gleason score of 6 or less, PSA less than 10 ng/ml, and a tumor that is either non-palpable or only palpable in less than half of one lobe of the prostate (clinical stage T1c or T2a). The study objective was to verify if these risk stratification parameters are accurate enough to predict low-risk PCa in men referred to University hospital.

MATERIAL & METHODS: Men with low-risk PCa diagnosed at primary care units by DRE, TRUS guided prostate biopsy (PB) with at least 8 systemic laterally directed cores and total PSA level less than 10 ng/ml, who underwent radical prostatectomy (RP) at Vilnius University Hospital Santariskiu Klinikos from 2009 to 2014. Patients who underwent RP after active surveillance were excluded from investigation. PB and RP specimens were reviewed and evaluated by dedicated pathologists. Statistical analysis was performed using SPSS 17, 0 (SPSS Inc., Chicago, USA) software. Pearson’s chi-squared test was used to examine all the nominal data. The results were considered statistically significant if a p-value was found to be less than 0.05.

RESULTS: Hospital database analysis revealed that 109 patients matched study criteria. The mean age and prostate volume were 61 years (SD=8, 52) and 41 ml (SD=21, 38), correspondingly. PB with 8, 10 and 12 cores was sampled to 88 (80%), 12 (11%) and 9 (8%) patients. Mean time from diagnosis to RP was 61 (SD=30, 30) days.

Overall, 33 (30, 28%) patients experienced an upgrade in their Gleason score or tumor stage following RP. In 23 cases Gleason 6 (3+3) patients were upgraded to Gleason 7 (3+4) and in 4 cases to Gleason 7 (4+3) or >7. Extracapsular tumor extension was detected in 12 (36, 36 %) of patients with half of them upgraded in Gleason score too.

On multivariable analysis the risk of upgrading was not related to any pathological or clinical variables including total number of PB cores (p=0, 119), number of positive cores (p=0, 288), tumor localisation (p=0, 866), tumor percentage in the cores (p=0, 172), perineural invasion (p=0, 248), ASAP (p=0, 628) and time from diagnosis to the RP (p=0, 586). Remarkably, PIN in preoperative biopsy was found significantly more often in patients who remained low-risk (55, 26%) versus upgraded risk (24, 24%) in final RP specimens (p=0, 003).

CONCLUSIONS: One third of men referred to University hospital as low-risk PCa experienced upgrading of their risk in Gleason score or tumor stage after RP with possible negative impact on the outcome. Due to short time from diagnosis to RP the main reason for risk upgrading may be more attributable to tumor under-sampling at the time of biopsy than to tumor biology. Since we did not found any correlation of risk upgrading with traditional biopsy parameters, our findings may indicate that systematic TRUS guided biopsy alone is not accurate enough and improvement in detection of clinically significant cancers can be facilitated only by using evolving targeting biopsy via new MRI-US fusion techniques. The clinical significance of PIN in the prostatic needle biopsy still requires further investigation.

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C16: Multiple repeat prostate biopsy: What predicts the outcome

Hrbáček J., Minárik I., Babjuk M.

Charles University, 2nd Medical Faculty And University Hospital Motol, Dept. of Urology, Prague 5, Czech Republic

INTRODUCTION & OBJECTIVES: Inviting a patient for a repeat prostate biopsy can present a difficult clinical situation, especially if he has undergone more than two biopsy sessions. The aim of this retrospective study was to investigate the differences between patients undergoing the first repeat prostate biopsy (primary re-biopsy) and those presenting for their second, third etc. repeat biopsy (multiple re-biopsy). Is there any factor predicting a positive biopsy outcome (i.e. prostate cancer) on repeat biopsy?

MATERIAL & METHODS: The study population included consecutive patients undergoing repeat prostate biopsies in the Department of Urology, Motol University Hospital, Prague, Czech Republic from March 2010 to May 2014 (n=217). A total of 125 and 92 men presented for a primary and multiple re-biopsy, respectively. We compared these two groups in terms of age, prostatic specific antigen (PSA) level, free/total PSA ratio, digital rectal examination result, prostate size, number of cores sampled and detection rate. Univariate and multivariate analyses were performed in each group separately to find out, whether the predictors of a positive biopsy outcome differ between the primary and multiple re-biopsy cohorts.

RESULTS: The detection rate was 25.2% and 21.7% in the primary and multiple re-biopsy group, respectively (p=0.665). Only PSA level and the number of biopsy cores differed significantly between primary and multiple re-biopsy groups (PSA 8.12 ng/mL and 11.15 ng/mL; 14 and 18 cores, respectively). In the primary re-biopsy cohort, age and sampling density (defined as prostate volume divided by the number of cores sampled) were predictors of a positive histopathological result. In the multiple re-biopsy cohort, only PSA level remained a significant predictor in multivariate analysis.

CONCLUSIONS: The results of our small single institution study suggest that an increased number of cores during primary re-biopsy may lead to a better detection rate. In the multiple re-biopsy setting, however, PSA is the only predictor of a positive biopsy result; further increase in the number of biopsy cores has no impact on outcome.

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INTRODUCTION & OBJECTIVES: Prostate biopsy is an element of the follow-up in patients who have undergone “radical-HIFU” (TURP+total prostate HIFU) for the treatment of prostate cancer. There is no consensus regarding the definition of treatment failure and indications for biopsy in the follow up. Some authors propose a systematic biopsy regardless of control PSA results, while others propose a biopsy in patients which fulfill criteria suggestive of local relapse such as: a PSA rise of nadir +2 ng/ml, a nadir PSA >0.3 ng/ml or three successive rises in PSA concentration. The aim of this paper is to present the results of prostatic biopsies performed in the follow-up of patients who have undergone radical-HIFU and to define the indications for this test on the basis of own experience.

MATERIAL & METHODS: A retrospective analysis was performed on a group of 32 patients, age 55-83 years, fulfilling the following criteria: T1-2M0N0, PSA 6 months, no PSA modifying pharmacotherapy. All patients were offered a routine biopsy at 6 months after therapy. In cases of suspicion of local relapse (nadir PSA >0.3 ng/ml, 3 successive rises in PSA concentration) biopsies were performed at PSA concentrations lower than 1 ng/ml.

RESULTS: During the course of the follow-up 11 prostate biopsies were performed (34.4%). The following coexisting observations were found upon histological examination of the specimens: glandular atrophy (5), necrotic glandular tissue (5), connective tissue fibrosis (7), prostate cancer (5), benign prostatic hyperplasia (3), lymphocytic infiltration (1), nonspecific granulation (1), typical acinar glands (1). Nadir PSA was reached after a mean time of 4.1 months (3-9). Median nadir PSA was 0.08 ng/ml (0.002-4.62). Only one patient agreed for a routine biopsy without any clinical suspicion for local relapse.

CONCLUSIONS: Prostate biopsy results demonstrate efficacy of tissue ablation by HIFU (findings including atrophic changes, necrosis, and fibrous transformation). 2. Local relapse in some patients was likely the result of incomplete prostate tissue ablation (descriptions of benign prostatic hyperplasia, HG PIN and prostate cancer). 3. Preliminary findings suggest the necessity to modify the definition of local relapse based on the definition nadir + 2 ng/ml. Patients with a nadir PSA >0.3 ng/ml or systematic PSA concentration rises require control biopsies prior to reaching a PSA concentration of 1 ng/ml.

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C18: Long-term immunotherapy using dendritic cells in patients with rising PSA after prostate cancer treatment with curative intention

Jarolim L.1, Špíšek R.2, Podrazil M.3, Babjuk M.1, Fučíková J.2, Fialová A.3, Minárik I.1, Bartůňková J.3

1 Charles University 2nd Medical Faculty and University Hospital Motol, Dept. of Urology, Prague, Czech Republic, 2 Charles University 2nd Medical Faculty and Motol University Hospital, Dept. of Immunology and Sotio S.r.o., Prague, Czech Republic, 3 Charles University 2nd Medical Faculty and University Hospital Motol, Dept. of Immunology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: Immunotherapy of recurrent prostate cancer after radical prostatectomy (RP) or salvage radiotherapy (SRT) should be initiated at an early stage of relapse. At this stage the minimum residual disease cancer can be assessed by PSA measurements with resolution in 1/1000ths ng/ml.

MATERIAL & METHODS: Study phase I/II registered as EudraCT 2009-017259-91 involved 23 patients with rising PSA after RP or SRT. Study medication containing 1 x 10^7 autologous dendritic cells pulsed with killed prostate-cancer cell line LNCap (DCVAC/PCa, manufactured from leukapheretic product) was administered s.c. at intervals of 4 weeks. The first cycle contained at least 12 doses. Ten of the patients with the best PSA-reponse continued with the second cycle of immunotherapy after the 2nd leukapheresis. The primary objective of the study was to assess safety. Secondary objectives were PSA kinetics measured as PSA doubling time (PSADT) and detection of tumor specific T cells in the peripheral blood.

RESULTS: Twenty patients were evaluated after the first DCVAC/PCa cycle and 10 patients after the second cycle. No significant side effects were recorded. The median PSADT in all treated patients increased from 7.9 months prior to immunotherapy to 26.1 months after 12 doses (p < 0.015). Ten patients who continued the immunotherapy with the 2nd cycle had median PSADT after first cycle 43.4 and after the second one 44.3 months. In the peripheral blood, specific T lymphocytes against PSA, MAGE A1 and MAGE A3 were detected.

CONCLUSIONS: Long-term immunotherapy of recurrent prostate cancer using dendritic cells pulsed by killed LNCAp cell line was safe, induced immune response and led to significant extension of PSADT. Further long-term follow-up may show whether the changes in PSADT could affect clinical courses in patients with biochemically recurrent prostate cancer. The project was supported by grant IGA NT 11559-5.

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INTRODUCTION & OBJECTIVES: Research on the use of sarcosine and taurine in urine as markers of prostate cancer and their use in long-term follow up of patients after radical prostatectomy.

MATERIAL & METHOD: Analysis of taurine and sarcosine levels in cryopreserved urine samples of 30 patients after radical prostatectomy for localized prostate cancer. The group consisted of 15 patients with no suspicion of biochemical recurrence and 15 patients with positive histological margin. In both groups urine samples prior and 3 months after the surgery were tested. We have also investigated a group of 15 healthy volunteers older than 50 years without oncologic history and no signs of current cancer.

RESULTS: Comparison of sarcosine urine levels of the three groups (healthy controls, patients in remission, and patients with a positive surgical margin) resulted in a statistically significant difference in group of patients with localized tumors and in healthy volunteers (p<0.0001). This difference remained significant even after division of the patients with prostate cancer into group of postoperative remission (p<0.0001) and group of positive surgical margins (p<0.0001). We found also a significant difference between preoperative sarcosine levels in a group of long-term remission and in patients with a positive margin (p = 0.0084). The decrease in sarcosine level in urine before and after the surgery was significant in both groups - in patients without subsequent biochemical recurrence (p = 0.0146) and also in patients operated with a positive margin (p= 0.0031). Regardless of surgical margins status after surgery or oncology course, there was a significant decrease of sarcosine concentration in urine within 3 months after radical prostatectomy compared to samples prior to the surgery (p = 0.0001). Preoperative taurine level in urine showed no significant difference between the three groups, the difference was significant only between a group of operated patients and healthy controls (p = 0.007). Postoperative decrease of taurine concentration in urine was not significant in any case.

CONCLUSIONS: Our results confirm the findings of pilot metabolomic studies. Sarcosine in urine can be considered a promising tumor marker for prostate cancer. Any use of these findings must be confirmed by further research. The role of taurine in prostate carcinogenesis is not entirely clear yet. Supported by a grant NT13472-4
C20: Correlation of pathological grading and staging of the prostate cancer with the prostate health index

Dolejšová O., Eret V., Hora M., Fuchsová R., Topolčan O., Hes O.

1 Charles University Hospital, Dept. of Urology, Pilsen, Czech Republic, 2 University Hospital and Faculty of Medicine In Pilsen, Charles University Prague, Dept. of Nuclear Medicine, Pilsen, Czech Republic, 3 University Hospital In Pilsen, Dept. of Pathology, Pilsen, Czech Republic

INTRODUCTION & OBJECTIVES: Lack of specificity of total PSA leads to the search for new markers in the diagnosis of prostate cancer. Pro PSA and calculated value of PHI - prostate health index seems to be a promising option.

MATERIAL & METHODS: From 01/2013 to 03/2014 were performed 103 laparoscopic radical prostatectomies at our clinic. Preoperative values of total PSA, free PSA and proPSA were determined and value of PHI were calculated. Samples after laparoscopic radical prostatectomy were processed by whole-mount sections. PHI values were compared with the bioptic Gleason score and definitive histology and with the final staging.

RESULTS: The mean age was 64.4 (47-81) years and the mean value of PHI was 65.92 (25.8 to 292.7). The upgrade in Gleason score between biopsy and definitive histology occurred in 45.63% of cases. PHI values are then significantly different when comparing with Gleason score and pathological staging.

CONCLUSIONS: PHI appears to be a promising auxiliary marker in the diagnosis of prostate cancer. Correlation with both Gleason score and pathological staging allows the assessment of tumor aggressiveness and the choice of optimal therapy for patients diagnosed with prostate cancer. More studies are needed to confirm this.

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INTRODUCTION & OBJECTIVES: Many studies have focused on the effect of prostate cancer treatments on quality of life. The benefits of surgical treatment in localized or locally advanced prostate cancer were demonstrated, but choosing the optimal therapy still remains a dilemma for the patient, with major implications in life quality. The aim of this study was to assess the quality of life in patients with prostate cancer undergoing radical prostatectomy.

MATERIAL & METHODS: This is a prospective, non-randomized study that underwent between October 2012 and March 2014 in „Prof. Dr. Th. Burghele” Clinical Hospital on 71 patients with local or locally advanced prostate cancer. The quality of life of these patients was evaluated with QLQ-C30 and QLQ-PR25 questionnaires, validated in Romanian language, developed by EORTC (European Organization for Research and Treatment of Cancer). These questionnaires were used to find out how prostate cancer influenced daily activities, family relations, friends, or symptoms like insomnia, nausea, fatigue, vomiting, quality of life, low urinary tract symptoms, incontinence, erectile dysfunction, sexual activity, over the last month.

RESULTS: Patients included in this study were under 75 years old (between 49 and 74), mean age was $64.93 \pm 6.079$ years, with a life expectancy over 10 years and no other oncological diseases. Almost all patients reported that prostate cancer affected their daily activities and interpersonal relations. Approximately 40% of patients reported worries about the disease including rage and self-blame, depression and sleep deprivation. Most of the patients accused decreases in libido 47.9% and there is a positive correlation with erectile dysfunction ($r=0.35$, $p=0.005$). The self-report of quality of life was considered good in 26.8%.

CONCLUSIONS: Understanding the factors that negatively influence the quality of life and informing the patient about symptoms and psychological impact contribute in finding an effective treatment, best suited for every patient individually.

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C22: Prostate health index (phi) in primary diagnosis of prostate cancer

Čapoun O.¹, Sobotka R.¹, Soukup V.¹, Zima T.², Kalousová M.², Hanuš T.¹

¹General Teaching Hospital 1st Faculty of Medicine Charles University, Dept. of Urology, Prague, Czech Republic. ²General Teaching Hospital 1st Faculty of Medicine Charles University, Dept. of Medical Biochemistry and Laboratory Diagnostics, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: The aim of the study is to evaluate the efficacy of [-2]proPSA a phi in patients indicated for prostate biopsy (PB).

MATERIAL & METHODS: In the period 09/2011-02/2013, we indicated a total of 381 patients to PB within a prospective protocol. Peripheral blood was taken in all patients before PB and serum was frozen. Patients with active urinary tract infection were excluded. We have registered the standard clinical data, prostate size, number of cores, number of previous PBs and histological parameters in all men. Levels of [-2]proPSA, total PSA (tPSA) and free PSA (fPSA) (Access Hybritech, Beckman Coulter) were assessed in all samples, re-analysis of tPSA and fPSA was also done by a common method (Modular, Roche). The value of phi was calculated using the equation phi=([−2]proPSA/fPSA)x√tPSA. We have evaluated a total of 370 patients and also subgroups of primary biopsy (n = 181), repeated standard PB (n = 89) and the saturation PB (SPB) (n = 100). The individual parameters and their relationship to biopsy result were compared using nonparametric analysis of variance (ANOVA).

RESULTS: Prostate cancer (PC) was detected in a total of 169 patients (45.7%). The median value of phi was higher in the group of patients with PC (64.8 vs. 43.5). In all tested groups, the value of phi was statistically significantly higher in patients with PC versus benign findings (<0.0001), even in case of an insignificant difference in levels of [-2]proPSA in repeated PB (p = 0.2881) or SPB (p = 0.1805). Routine assessment of tPSA was not significantly different among repeated PB (p = 1.0000) or SPB (p = 0.0665) groups. In all of the tested groups, the f/tPSA ratio was more accurate than the routine assessment of tPSA in PC prediction.

CONCLUSIONS: Determination of phi contributes to more accurate assessment of the PC probability across all groups of patients indicated for PB. The work was supported by the grant MPO TIP FR-TI3/666.

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INTRODUCTION & OBJECTIVES: In the clinical evaluation of stress urinary incontinence is commonly used cough tests, urodynamics investigations - filling cystometry / urethral pressure profilometry. Objective: To analyze the feasibility of the pressure/flow study in women with stress urinary incontinence before TVT sling procedures.

MATERIAL & METHODS: The study involved 80 women who had TVT sling surgery for stress urinary incontinence. All women in the postoperative period complained of difficulty voiding. Before TVT sling surgery urodynamic study was not performed 53 women (62.5 %), 18 (22.5%) - made filling cystometry, 9 (11%) - urethral pressure profilometry. After surgery, all patients fulfilled the pressure/flow study. The following parameters were estimated - the time between the beginning of the detrusor contractions and urethral sphincter opening zone.

RESULTS: In 13 of 80 patients (16.3%) had bladder outlet obstruction (BOO) due to hypercorrection TVT sling, in 67 patients (83.7 %) revealed violations of the voiding phase as dysfunctional of the pelvic floor muscles. Time between the start detrusor contraction and the opening urethral sphincter zone in these patients averaged 39 seconds (24 to 68 seconds).

CONCLUSIONS: Clinical stress urinary incontinence evaluation of women in addition to standard methods of examination should include pressure/flow study in order to excluded neurogenic disorders.
C26: Urodynamic evaluation of the effect of hysterectomies on lower urinary tract function

Kenyeres B.¹, Péterfi L.², Farkas B.³, Farkas L.¹, Szántó Á.¹, Pytel Á.¹

¹University Of Pécs Medical School, Dept. of Urology, Pécs, Hungary, ²Mór Kaposi Teaching Hospital, Dept. of Urology, Kaposvár, Hungary, ³University of Pécs Medical School, Dept. of Obstetrics and Gynaecology, Pécs, Hungary

INTRODUCTION & OBJECTIVES: Clinical observations suggest the increased occurrence of urinary storage and voiding disorders following hysterectomy. The assessment and follow up of changes in lower urinary tract function does not carried out routinely. The aim of this study is to evaluate the effect of hysterectomies on lower urinary tract function, using objective urodynamic measurements.

MATERIAL & METHODS: In the prospective preliminary study 26 consecutive patients who underwent hysterectomy were urodynamically evaluated. Indications, type of surgery or past medical history were not part of exclusion criteria, but we excluded patients receiving neoadjuvant or adjuvant chemotherapy or radiotherapy. Urodynamic studies were carried out in the preoperative period, and after 6-8 weeks following surgery. Examination steps were uroflowmetry, measurement of postvoid residual urine volume, pressure flow study and abdominal leak point pressure measurement.

RESULTS: Prior to surgery, approximately two third (77%) of our patients had abnormal urodynamic profile. On follow up, we detected significant increase in the maximal and average flow rate and decrease in bladder compliance. In more than one third (38%) of patients newly developed urodynamic alteration were observed. Detrusor acontractility were reported in 2 patients, detrusor overactivity in 2 patients, one of them with detrusor overactivity incontinence. De novo urinary stress incontinence developed in 1 case. Bladder outlet obstruction occurred in 4 patients, urinary retention in 2 cases.

CONCLUSIONS: We found high prevalence of urodynamic disorders in patients indicated for hysterectomy. Despite the low number of cases we verified the high incidence of heterogeneous newly developing lower urinary tract dysfunctions following the surgery. The follow up of lower urinary tract functions seems necessary for patients undergoing hysterectomies, where urodynamic studies are a useful tool in achieving the correct diagnosis and choosing the adequate therapy.

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C28: Transurethral resection of the prostate increases neutrophil-lymphocyte ratio only in patients with prostatitis purulenta

Pabis S.¹, Przybyla R.², Godlewski D.¹, Lawinski J.¹, Fedus T.¹, Dabrowski W.³

¹Provincial Specialized Hospital, Dept. of Urology, Rzeszow, Poland; ²Municipal Hospital Rzeszow, Dept. of Surgery, Rzeszow, Poland; ³Medical University of Lublin, Dept. of Anaesthesiology and Intensive Therapy, Lublin, Poland

INTRODUCTION & OBJECTIVES: It is well recognized that surgery induces general inflammatory response determined by blood proinflammatory cytokine and C-reactive protein (CRP) concentrations. Several authors have also proposed neutrophil-lymphocyte count ratio (NLCR) as a sensitive marker of inflammation [1,2]. Unfortunately, there have been no data describing the usefulness of NLCR in patients with prostatitis. The purpose of the present study was to compare the changes in NLCR and CRP in patients undergoing transurethral resection of the prostate (TURP).

MATERIAL & METHODS: Adult patients undergoing elective TURP under spinal anaesthesia were enrolled. NLCR was calculated as the ratio between absolute neutrophil and lymphocyte ratio and was measured at four time points: 1) the day of admission into urology (day before surgery – baseline value) and 24, 48 and 72 hours after surgery. Changes in NLCR were correlated with CRP. NLCR and CRP were analysed in accordance to histopathological prostate classification after endoscopic surgery (TURP), which distinguished hypertrophy of prostate with purulent inflammation (group A), hypertrophy of prostate with chronic inflammation (group B) and hypertrophy of prostate without inflammation (group C).

RESULTS: 48 patients aged 69 ± 19 were studied. Eight of them were assigned into group A, 19 to group B and 21 to group C. The median baseline values of NLCR were comparable in group A, B and C (3.1 [2.4, 3.6], 3.3 [2.6, 4.9] and 3.8 [2.2, 4.5], respectively). NLCR increased in group A 24 hours after surgery (p < 0.05), 48 and 72 hours after surgery (p < 0.05). CRP increased 48 and 72 hours after surgery in group A (p < 0.05), B (p < 0.001) and C (p < 0.001). NLCR correlated with CRP only in group A (p < 0.001, r = 0.53).

CONCLUSIONS: 1) TURP induced general inflammatory responses only in patients treated for BPH with post-surgery histopathological purulent prostatitis, 2) NLCR may be proposed as an inflammatory marker only in patients with purulent prostatitis.


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INTRODUCTION & OBJECTIVES: The aim of the study was to validate the hypothesis that patients with more expressed pulmonary tuberculosis or patients with deterioration of immunity are more likely to be diagnosed with urinary tract tuberculosis and should have urological examination.

MATERIAL & METHODS: Design of the study – 2 year prospective study. Patients with newly diagnosed pulmonary tuberculosis were included. Pulmonary tuberculosis was diagnosed by routinely used clinical, radiological and laboratory examinations, patients were divided into groups according to pulmonary tract involvement grade (X-ray) and level of bacteriological positivity (microscopic, culture). Mycobacterium tuberculosis in urine by microscopic, cultivation and quick molecular methods (Bactec, PCR) was examined in all patients. Immunological profile (IgG, CD4) was tested. Individual variables between the group of cases (patients with detected Mycobacterium tuberculosis in urine) and controls (patients without detected Mycobacterium tuberculosis) were compared. Data was statistically evaluated.

RESULTS: 102 patients with pulmonary tuberculosis were included. Mycobacterium tuberculosis in urine was detected in 7 patients (6.86%). The difference between the grade of pulmonary involvement in both groups was statistically insignificant (Wilcoxon test, p=0.5635). No statistical difference in microscopic positivity of sputum between cases (28.57%) and controls (46%) was found (Fisher Exact test, p=0.4531). Culture positivity of sputum was significantly more often in group of controls (69.78%) than in group of cases (28.57%) (Fisher Exact test, p=0.0396). The difference of IgG and CD4 levels was statistically insignificant in both groups (Wilcoxon test 0.6297 and 0.5003 respectively).

CONCLUSIONS: The study did not support the hypothesis that patients with more expressed pulmonary tuberculosis or patients with deterioration of immunity are more likely to be diagnosed with urinary tract tuberculosis. The risk of urinary tract involvement is not predictable by studied parameters and should be considered in all patients with pulmonary tuberculosis.

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C30: Autogenous vaccine – managing recurrent UTI

Stoica R.I., Gluck G., Iordache A., Chirita M., Sinescu I.

Fundeni Clinical Institute, Dept. of Uronephrology and Renal Transplantation, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Urinary tract infection is very common in patients with lower urinary tract dysfunction. We tried to determine the efficiency of autogenous vaccines in patients with recurrent urinary tract infection.

MATERIAL & METHODS: During a two years period as part of multimodal treatment, we referred 12 patients for this therapy. The patients presented with Gram negative lower urinary tract infection, five cases of E. Coli and seven cases of Klebsiella pneumonie. The urologic pathology associated with UTI was: recurrent cystitis in women and non-obstructive urinary retention in men (ICS). All patients were previously treated with multiple antibiotics regimen during periods of symptomatic UTI, but still presented with piuria and symptomatic lower tract infection or pyelonephritis. The protocol included quantitative urinalasys and antibiogram. From the pure culture, the bacterian suspension was inactivated, distributed into vials also controlling the toxicity. The autovaccine was administered subcutaneous, at an interval of 3-5 days, increasing the doses over a total period of 2 to 3 months. Most frequently the reported adverse effects were local - pain and edema at the inoculation site, or systemic - fever or flu-like symptoms. Adverse reactions lasting more than one week imposed stopping the administration of the autovaccine.

RESULTS: From 12 patients, 5 patients had chronic cystitis, 4 used intermittent self catetherisation, and 3 patients had urinary incontinence after transurethral resection. Age ranged between 26 and 70 yrs, six males and six females. All patients underwent induction therapy and six months maintenance therapy. Seven patients underwent one year maintenance inoculation. Every three months, urine culture was performed. Follow up period was two years. Complete remission was registered in seven patients, characterized by younger age, absence of obstruction, multidrug sensitive bacterial strain, shorter time from UTI diagnosis. One patient presented with permanent asymptomatic bacteriuria along the follow-up period. Two patients were diagnosed with UTI recurrence, one with re-infection and one was lost to follow-up.

CONCLUSIONS: Autovaccine for recurrent UTI is an individualized treatment, based on “inside information”. Insufficient control of UTI in certain type of patients, leading to multidrug resistant bacteria, persistent and bothering symptoms for the patient advocate for alternative therapeutic methods. Therapeutic response depends on the immunologic status of the patient, age, co morbidities, immunogenity of the bacterial strain. The protective level of antibodies can last for a minimum of one year thus there is a need for maintenance therapy.

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INTRODUCTION & OBJECTIVES: According to ESSIC, PBS is defined as chronic pelvic pain, pressure or discomfort perceived to be related to urinary bladder accompanied by urge to void or urinary frequency. Usually TB patients present with groin pain, hematuria, burning sensation at micturition and frequency. Therefore it can be very easily mistaken with chronic cystitis, differential diagnosis being of outmost importance. Persistent cystitis that does not cease under adequate antibiotics, persistent pus and red cells in urine with sterile urinalysis must guide the diagnosis to urinary tract tuberculosis. Moreover, endemic areas are suggestive when investigating the patient.

MATERIAL & METHODS: Single centre experience with long term follow up of 40 patients with BPS undergoing oral and intravesical therapy revealed 4 cases of misdiagnosed urinary tract tuberculosis.

RESULTS: A 15 year old patient diagnosed with BPS and previously treated with antibiotics and symptomatic therapy in a paediatric unit is referred to our centre, with repeated sterile urine culture and normal sediment. Due to her symptoms refractory to treatment and personal history of respiratory tract infection, the patient was referred to an infectious disease centre where she tested positive for Mycobacterium tuberculosis urine PCR test (DNA extraction procedure according to “MasterPureTM Complete DNA and RNA Purification Kit” (Illumina) Protocol). Specific medication was started, with remission of urinary symptoms. 33 years old female patient, diagnosed and treated for BPS with hydrodistension and sodium hialuronate for 3 years, repeatedly tested negative for urinary tuberculosis. Cystoscopy was repeated, with normal bladder capacity and no IC specific lesions. Oral medication is started with amitriptiline and heparine. She is admitted after six months with right pionephrosis and septicaemia. Right nephrectomy was performed, the histopathological exam revealing urinary TB. As soon as she started on medication, her low tract symptoms were rapidly relived. 45 years old male patient diagnosed with BPS was treated with repeated hydrodistension associating progressive decrease of bladder capacity (100 mL). He is referred to infectious disease centre for diagnosis, but tested negative on both microbiological and PCR methods on three different consecutive samples. He tested positive on the fourth test. 74 years old female diagnosed with BPS was treated with repeated cystoscopy and hydrodistensions, intravesical sodium hialuronate therapy over a period of 10 years in another urologic department. She was previously investigated with suspicion of urinary TB, but tested negative. She presented in our centre with heamaturia, where cystoscopy was repeated revealing a small bladder capacity (150 mL) with trigonal retraction. She is referred to the same infectious disease centre where she tested positive; she was started on medication.

CONCLUSIONS: Pelvic pain with urinary frequency as part of a previously treated BP syndrome could be misleading for the physician. Any BPS with no improvement after specific therapy, especially in TB endemic areas should be reevaluated. It must be underlined that cases of patients with urinary TB previously treated with antibiotics could present as paucibacillary forms with normal sediment, therefore repeated specific bacteriological tests are required.

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INTRODUCTION & OBJECTIVES: In choosing the appropriate antibiotics for empirical treatment of urinary tract infections, it is essential to estimate the spectrum and antibiotic resistance of locally occurring bacteria. Our objective was twofold. First, to compare the change in the spectrum of bacteria cultured from mid-stream urine and urine collected from catheterised patients in our policlinic and in our department. Second, to compare the annual change in bacterial antibiotic resistance in correspondence with the antibiotic usage in our department.

MATERIAL & METHODS: We registered 2253 urine culture samples in our department and 15,309 in our policlinic between 2010 and 2014. All cultured pathogens and their antibiotic resistances were recorded. Furthermore, we recorded the change in proportions of antibiotics applied in our department.

RESULTS: Mid-stream urine samples taken in our department and policlinic show 27% and 22.5% significant bacteria positivity, while with catheterised samples in both cases this rate is about 60%. The above ratios have not changed substantially over the years. The most common cultured pathogens in our department from mid-stream were: Escherichia coli (2010: 60% 2014: 52%), Enterococcus faecalis (23% → 25%) and Klebsiella pneumoniae (8%, no change). In catheterised samples we found a decreasing rate of E. coli (2010 → end of 2013, 37% → 28%), while E. faecalis, which was the second most common pathogen in 2010 (29%), became the most common, its rate rose to 40% by 2014. K. pneumoniae remained around 15%. In our department, resistance of E. coli to most cephalosporins remained below 10% (9%→7%) showing a slight decrease. We also found a decreasing tendency of resistance to ciprofloxacin (27% in 2010, 23% in 2014) and to sumetrolim (32% → 26%). In case of K. pneumoniae resistance to cephalosporins and fluoroquinolones did not vary from the values registered in 2010 (around 30%). In our policlinic, E. coli and K. pneumoniae resistances to fluoroquinolones, cephalosporins, sumetrolim and to amoxicillin-clavulanic acid antibiotics increased. In our department, with regards to the antibiotic usage proportions in the first and second half of the research period there was no notable difference, the rate of fluoroquinolone and cephalosporin usage has not increased significantly in comparison with other antibiotics.

CONCLUSIONS: E. coli is the most common pathogen in uncomplicated urinary tract infections. In presence of urinary tract foreign bodies the occurrence of Gram-positive bacteria, especially E. faecalis is higher. Among outpatients we found that the resistance to fluoroquinolones and cephalosporins increased, while in our department, where we could reduce the usage of these antibiotics, we found a slight resistance improvement. Since the antibiotic resistance of bacteria may vary geographically, local antibiotic usage habits may influence their degree.

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C33: Does cell phones radiation have a bad effect on semen quality?

Banyra O., Gorpinchenko I., Nikitin O., Shulyak A.

1 2nd Municipal Polyclinic, St. Paraskeva Medical Centre, Dept. of Surgery, Lviv, Ukraine, 2 State Institution “Institute of Urology At The National Academy of Medical Sciences of Ukraine”, Dept. of Sexology and Andrology, Kyiv, Ukraine, 3 O.O. Bogomolets National Medical University, Dept. of Urology, Kyiv, Ukraine, 4 State Institution “Institute of Urology At The National Academy of Medical Sciences of Ukraine”, Dept. of Reconstructive & Geriatric Urology, Kyiv, Ukraine

INTRODUCTION & OBJECTIVES: It is unreal to imagine a modern socially-active man who does not use cell phone at all. The influence of mobile phone radiofrequency electromagnetic radiation (RF-EMR) on semen quality is the subject of contemporary interest. We aimed to evaluate the direct in vitro influence of cell phone RF-EMR on semen parameters in healthy men with normozoospermia.

MATERIAL & METHODS: 32 healthy men with normal spermograms were included into the study. Each sperm sample was divided into two equal portions (A and B). Both portions of all participants were placed in two different thermostats. Into a thermostat with portions B also a mobile phone in standby/talk mode was placed. After 5 hours of incubation the semen samples from both thermostats were re-evaluated regarding basic parameters. The presence of DNA fragmentation in both A and B portions of each sample was determined using a standard sperm chromatin dispersion test followed by calculation of sperm DNA fragmentation index.

RESULTS: Sperm count and the percentage of dead sperm in groups A & B during 5 hours did not change in general and was not statistically different from each other: 92.3 ± 22.7 x10^6 /mL vs 90.8 ± 24.2 x10^6 /mL; (p >0.05) and 9.1% ± 3.7% vs. 9.6% ± 4.1%; (p >0.05) respectively. The number of spermatozoa with progressive movement in group B, under the influence of RF-EMR, is statistically lower than the number of spermatozoa with progressive movement in group A with no effect of a mobile phone (66.5% ± 6.3% vs 81.3% ± 7.2%, p <0.05). No differences between the number of spermatozoa with motionless sperm between groups A and B were reported (7.1% ± 2.5% vs. 7.4% ± 3.3%; p >0.05), while the number of non-progressive movement spermatozoa was significantly higher in group B, that was under the influence of cell phone radiation (25.3% ± 4.7% vs. 12.8% ± 5.8%, p <0.05). Finally, the sperm samples exposed to RF-EMR after 5 hours are characterized by sperm DNA fragmentation index of about 8.8% ± 2.2%, while this parameter in the control group was 4.2% ± 1.8% (p <0.05).

CONCLUSIONS: Semen exposure in the area of mobile phone RF-EMR for 5 hours leads to a decrease in the number of sperm with progressive movement and an increase in those with non-progressive movement. Sperm DNA damage due to RF-EMF exposure occurs too. Thus, it looks that for men readying themselves for fatherhood it would be better to avoid holding the cell phones closely to testes.

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C34: Infrared digital thermography of scrotum in varicocele assessment – diagnostic criteria

Knezevic M., Kulis T., Karlovic K., Kolaric D., Antonini S., Kastelan Z.

1 General Hospital 'Dr Josip Bencevic', Dept. of Urology, Slavonski Brod, Croatia, 2 University Hospital Centre Zagreb, Dept. of Urology, Zagreb, Croatia, 3 Ruder Boskovic Institute, Dept. of Informatics and Computing, Zagreb, Croatia, 4 Primary Health Care Zagreb – Center, Dept. of Radiology, Zagreb, Croatia

INTRODUCTION & OBJECTIVES: Varicocele is a dilation of pampiniform plexus, and is associated with male infertility. The underlying pathophysiological mechanism for spermatogenesis impairment is elevated scrotal temperature. Diagnosis of varicocele is based on physical and ultrasound examination. Thermography of scrotum is a diagnostic method that measures the temperature differences on the scrotal skin. The aim of this study was to assess thermography of scrotum in diagnostics of varicocele and suggest potential diagnostic criteria.

MATERIAL & METHODS: Twelve patients of mean age 18.2 (range = 15.8–23.7) with clinically diagnosed varicocele were examined with infrared digital thermography of scrotum and scrotal ultrasound/doppler. Infrared camera Thermo Tracer TH7102WL (NEC Sanei Instruments, Ltd., Japan) was used during all measurements. For experimental purposes, we developed the ThermoWEB and ThermoMED software for remote control and transferring data from the infrared camera TH7102WL to a computer for further analysis.

RESULTS: The main outcome measure was evaluation of thermography diagnostic criteria for varicocele. Mean temperature at left pampiniform plexus was 34 °C in 83%, and at right pampiniform plexus in all cases was 34 °C. In 92% of patients, temperature at the left testicle was 32 °C, whereas at the right testicle it was >32 °C in 50% patients. Temperature at pampiniform plexus higher than 34°C presents main thermographic sign of varicocele, while temperature at testicle higher than 32°C is indicative of varicocele. Temperatures between left and right pampiniform plexus and between left and right testicle were significantly different with P < 0.0001 and P < 0.006 respectively. In all patients, temperature difference between pampiniform plexuses was 0.6 °C. In 92% of patients, temperature at left pampiniform plexus was equal or higher to thigh temperature with the mean temperature difference of 1.1 ± 1.1 °C. Temperature at right pampiniform plexus was colder than the thigh in 92% of patients. This study suggests diagnostic criteria of five thermographic signs to easily diagnose varicocele.

CONCLUSIONS: Infrared digital thermography of scrotum presents objective, feasible, short and low cost diagnostic method for varicocele. Further study on a larger number of patients and healthy participants is needed to evaluate sensitivity and specificity of this method and to establish consistent diagnostic criteria for thermographic assessment of varicocele.

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C35: Penile vibrostimulation in sperm retrieval in men with spinal cord injury

Čechová M.1, Paulasová P.2, Černíková J.2, Kříž J.3, Chocholatý M.4

12nd Faculty of Medicine, Charles University, Motol University Hospital, Dept. of Urology, Prague, Czech Republic, 22nd Faculty of Medicine, Charles University, Motol University Hospital, Dept. of Biology and Genetics, Prague, Czech Republic, 32nd Faculty of Medicine, Charles University, Motol University Hospital, Spinal Cord Unit, Prague, Czech Republic, 42nd Faculty of Medicine, Charles University, Motol University Hospital, Dep. of Urology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: The majority men of with a spinal cord injury (SCI) are infertile due to erectile dysfunction, ejaculatory dysfunction and semen abnormalities. In anejaculatory patients who wish to father children, sperm retrieval is necessary. The aim of our study was to evaluate the effectiveness and safety of penile vibrostimulation (PVS), semen quality and further utilization of the ejaculate in men with SCI.

MATERIAL & METHODS: From October 2010 to June 2014 we performed PVS in 20 patients. Injury of the cervical and thoracic spinal cord was present in 13 and 7 patients, respectively. Average age of patients was 30.8 years (20 - 44 years). Average time since injury to PVS was 64 months, median 34 months. In respect to time between injury and first PVS patients were divided into two groups – 7 patients had PVS more than 3.5 years and 13 patients less than 3.5 years since injury. For PVS Ferticare Multicept was used.

RESULTS: Ejaculation was achieved in 11 (55 %) patients - in 9 (82 %) patients with cervical and in 2 (18 %) patients with thoracic SCI, p = 0.57. Success rate of PVS in patients less than 3.5 years since injury was 77 % in comparison with 14 % in patients over 3.5 years since injury, p = 0.027. When comparing semen quality in first and second PVS, total sperm count and number of sperm with progressive motility increased, p = 0.03 and p = 0.027, respectively. In most patients (72 %) the obtained ejaculate is cryopreserved for further use. One patient had azoospermia. In one patient the ejaculate was repeatedly used for intrauterine insemination. Fertilization was not successful despite high sperm concentration (213 x 106/ml). The plan is to use it in vitro fertilization. In one patient the ejaculate was successfully used for fertilization. Autonomic dysreflexia during PVS occurred in 7 patients, in 6 with cervical and one patient with thoracic SCI. Symptoms of autonomic dysreflexia resolved within three minutes.

CONCLUSIONS: PVS is a non-invasive, safe method for sperm retrieval in patients with SCI with lesion above T 10 suffering from anejaculation. Total sperm count and number of sperm with progressive motility increase when repeating PVS. One patient became a father after successful fertilization with ejaculate obtained by PVS.

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INTRODUCTION & OBJECTIVES: Incidence of varicocele is about 15% in male population. The main pathophysiological mechanism for impaired spermatogenesis is considered to be elevated scrotal temperature. Mainstay for diagnostic assessment of varicocele is physical examination and scrotal ultrasound/doppler. Thermography is a diagnostic method which measures temperature differences across the skin surface using a highly sensitive infrared camera. Aim of this study was to analyse, in general population, our previously published diagnostic criteria for scrotal thermography.

MATERIAL & METHODS: Study group consisted of 128 first and second year students of mean age 20.2 years, who did not have previous urological examination and operation. Exclusion criteria were bilateral or right sided varicocele. All patients were evaluated by three methods. Infrared digital thermography was followed by physical examination and ultrasound/doppler. Infrared camera Thermo Tracer TH7102WL (NEC Sanei Instruments, Ltd., Japan) and T335 (FLIR Systems, Sweden) were used.

RESULTS: At physical examination and/or ultrasound 47 patients were diagnosed with varicocele. Scrotal thermography was positive for varicocele in 47 patients. Comparative analysis confirmed varicocele at physical examination/ultrasound and scrotal thermography in 41 patients. Therefore there were 41 true positive, 6 false positive and 6 false negative findings. Sensitivity of thermography was 87.2% and specificity 92.6%. In patients with left sided varicocele at scrotal thermography mean temperature at left pampiniform plexus was 34.4±0.8°C and at right pampiniform plexus 32.8±0.9°C, p<0.0001. Temperature difference between left and right pampiniform plexus in patients with positive left sided scrotal thermography was 1.4±0.9°C while in patients with negative scrotal thermography it was 0.4±0.8°C, p<0.0001.

CONCLUSIONS: Infrared digital thermography of scrotum presents low cost diagnostic method with high sensitivity and specificity for varicocele. Further study on a larger number of patients will yield more data to evaluate this method as well as its applicability in postoperative settings.

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C37: A prospective comparative study of two reconstruction techniques in patients with obstructive azoospermia

Voinea N.S.1, Gagiu C.1, Nedelea S.2, Manea I.1, Preda A.1, Gingu C.1, Harza M1, Matei M.3, Sinescu I.1

1Fundeni Clinical Institute, Dept. of Urological Surgery, Dialysis And Renal Transplantation, Bucharest, Romania, 2“Prof. Dr. Theodor Burghele” Clinical Hospital, Dept. of of Urology, Bucharest, Romania, 3Genesys Fertility Center, Dept. of Vitro Fertilization, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Microsurgical vasoepididymostomy (VES) is considered the most technically challenging type of surgery for the male reproductive system. VES is the preferred approach for azoospermia secondary to epididymal obstruction, with reported patency and natural pregnancy rates of 67-95% and respectively 27-49%. Nowadays, microsurgical transversal and longitudinal end-to-side double arm intussusception VES are the most used techniques, but, there is still a debate on which is the best approach. The objective of our prospective nonrandomized study was to compare the patency rate and total motile sperm count (TMSC) in transversal versus longitudinal end-to-side double arm intussusception VES in a group of patients with epididymal obstructive azoospermia (EOA), unrelated to vasectomy.

MATERIAL & METHODS: The preoperative inclusion criteria for EOA were: two preoperative centrifuged semen analysis with azoospermia, semen volume > 1.5 ml and Ph>7, semen fructose present, palpable vas deferens at scrotal examination, volume of testis > 10 cm³ and width of epididymal caput >5mm by ultrasound and normal serum level of reproductive hormones (FSH, LH, and Testosterone). All patients with EOA underwent scrotal exploration with intend of performing microsurgical sperm aspiration and reconstruction of the spermatic tract by transversal or longitudinal end-to-side double arm VES. The follow up consisted of clinical exam and semen analysis performed every 3 months, up to 18 months after surgery. A positive patency was defined as the presence of spermatozoa in semen analysis at any follow-up visit. The statistical analysis was performed using IBM SPSS 19 and p value <0.05 was considered statistically significant.

RESULTS: During a 5 years period (November 2008 – November 2013), scrotal exploration was performed in 66 patients with preoperative diagnostic of EOA. Out of 66 patients in 39 microsurgical reconstructions was possible and they were included in our study. Transversal and longitudinal VES was performed in 20, respectively, 19 consecutive patients. The groups had similar characteristics regarding preoperative data: Age, testicular volume, width of epididymis caput and serum hormones level. The mean surveillance time in transversal versus longitudinal was 17 months, respectively 12 months. The patency rate was significantly better (p=0.035) in longitudinal (17 patients – 89.5%) versus transversal VES (12 patients – 60%). TMSC was better in longitudinal (30.11x10⁶) versus transversal VES (22.37x10⁶) but without reaching the statistical significance (p=0.615).

CONCLUSIONS: Our first data shows a significant higher patency rate in longitudinal versus transversal end-to-side double arm intussusception VES for patients with EOA unrelated with vasectomy. Larger studies are needed to establish the best technique regarding TMSC and spontaneous pregnancy rate.

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C38: Is there a role of human growth hormone in the control of penile erection in the adult male?

Ückert S.¹, Becker A.², Bannowsky A.³, Stief C.², Kuczyk M.¹

¹Hannover Medical School, Dept. of Surgery, Dept. of Urology & Urological Oncology, Hannover, Germany, ²Ludwig-Maximilians-University, Faculty of Medicine, Dept. of Urology, Munich, Germany, ³Klinikum Osnabrück GmbH, Dept. of Urology, Osnabrück, Germany

INTRODUCTION & OBJECTIVES: Human growth hormone (GH) has been suggested to be involved in sexual maturation and play a role in male reproductive function. Treatment with recombinant GH in adult patients with GH-deficiency increases nitric oxide and cyclic guanosine monophosphate (cGMP). The purpose of our study was to examine in more detail the potential significance of GH in the mechanism of penile erection in adult males.

MATERIAL & METHODS: Using the tissue bath technique, the effects of GH were investigated on electrically (EFS)-induced relaxation of isolated human corpus cavernosum penis (CC) in the absence and in presence of the guanylyl cyclase inhibitor ODQ and nitric oxide synthase inhibitor L-NOARG (10 µM). Effects of GH on the production of cGMP in the absence and presence of ODQ and L-NOARG were also elucidated. In 35 healthy adult males (mean age: 26 years) and 45 ED patients (mean age: 52 years), blood samples were drawn simultaneously from the CC and a cubital vein (CV) during the penile conditions flaccidity (Fl), tumescence (Tu), rigidity (Ri, healthy subjects only) and detumescence (Det). Tu and Ri were induced by audiovisual and tactile stimulation. GH serum levels were determined by means of an immunoradiometric assay.

RESULTS: ODQ and L-NOARG abolished the relaxation of the tissue induced by EFS, whereas amplitudes were increased by physiological concentrations of GH (1 nM - 100 nM). The attenuation of EFS-induced amplitudes by L-NOARG but not ODQ was, in part, reversed by GH. The production of cGMP induced by 10 nM GH was abolished in the presence of 10 µM ODQ. In contrast, the combination of GH (10 nM) + L-NOARG (10 µM) maintained cGMP-production significantly above baseline (0.68 ± 0.36 versus 1.07 ± 0.48 pmol cGMP/mg protein). In vivo, GH serum levels (ng/ml) in the systemic circulation during Fl, Tu, Ri and Det did not significantly differ from those in the cavernous blood. In the healthy males, a main increase in GH was registered during tumescence (5.2 ± 8.2 to 9.5 ± 12.4). GH levels decreased from tumescence to rigidity (7.2 ± 11) and detumescence (6.1 ± 9.1). In the patients, mean GH levels were determined to be about 7-fold lower than in the blood of the healthy males. Furthermore, the increase in systemic and cavernous GH levels from flaccidity to tumescence was 5-fold weaker than the increase registered in the healthy subjects.

CONCLUSIONS: Our results suggest that GH may mediate penile erection through its cyclic GMP-stimulating activity on human CC. Our data provide evidence that GH may act on guanylyl cyclase activity via an NO-independent effect. We consider our data evidence that GH is of importance in the maintenance of male erectile capability.

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C39: Alpha blocker therapy improves both lower urinary tract symptoms and erectile function in patients with benign prostatic hyperplasia

Ho C., Nadzrin A.N.

Universiti Kebangsaan Malaysia Medical Centre, Dept. of Surgery, Kuala Lumpur, Malaysia

INTRODUCTION & OBJECTIVES: Lower urinary tract symptoms (LUTS) and sexual dysfunction often occur concomitantly. This study was conducted to evaluate the effect of alfuzosin on erectile dysfunction when it is used to treat men with lower urinary tract symptoms.

MATERIAL & METHODS: Men with symptoms of lower urinary tract as well as erectile dysfunction were enrolled. They were started on alfuzosin and were reviewed after 3 months. Assessments of sexual function prior to and after medication as well as the improvement of the lower urinary tract symptoms were also documented. International Prostate Symptoms Score (IPSS) was used to evaluate the lower urinary symptoms while the International Index of Erectile Function (IIEF) was used for evaluating sexual function.

RESULTS: There were statistically significant reductions of IPSS before and after treatment. IPSS before treatment was 15.70±6.77 and after treatment was 10.36±4.73 (P=0.001). IIEF score before starting alpha blocker medication compared to IIEF score after initiating medication showed significant improvement of sexual function. IIEF mean before treatment was 8.92±5.24 and after treatment 12.35±7.21 (P=0.001). There were statistically significant improvements in the lower urinary tract symptoms as well as sexual function after initiation of medication.

CONCLUSIONS: Alfuzosin for treatment of patients with benign prostatic hyperplasia was effective in improving both sexual function as well as lower urinary tract symptoms.

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C40: Erectile dysfunction in a cohort of HIV infected men

Chirca N., Streinu-Cercel A., Streinu-Cercel A., Jinga V.

1 University of Medicine and Pharmacy "Carol Davila", Dept. of Urology, Bucharest, Romania,
2 University of Medicine and Pharmacy "Carol Davila", Dept. of Infectious Diseases, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Acknowledgement: This paper is supported by Sectoral Operational Programme Human Resources Development (SOPHRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/137390/.

The antiretroviral therapy has transformed HIV infection into a chronic disease thus improving the quality of life of HIV patients has become one of the main focus points for physicians. The aim of our study was to evaluate the prevalence of erectile dysfunction and testosterone deficiency in a cohort of HIV-infected patients, affiliated to the National Institute of ID "Prof.Dr.Matei Bals", Bucharest from May 2014 to June 2014.

MATERIAL & METHODS: We evaluated a cohort of HIV infected men. They completed a questionnaire to evaluate erectile dysfunction, based on the International Index of Erectile Function- IIEF (maxim score 30 for questions 1,2,3,4,5,15). Total testosterone was dosed in a subset of patients reporting erectile dysfunction mild and moderate or worst considering normal values >10nmol/L. (1 refused the test)

RESULTS: 32 HIV-infected men have completed the questionnaire, with age between 23 and 69 years (mean age 37.5), 28 of them receiving antiretroviral therapy (87.5%). 9 patients had a degree of erectile dysfunction (28.1% of total) and 2 pacients had no sexual activity in the last month: * 7 patients had mild erectile dysfunction (score between 19-24) * 1 paciente had mild to moderate erectile dysfunction (score between 13-18) * 1 paciente had moderate erectile dysfunction (score between 7-12) Total testosterone was tested for 2 patients, one refused the test, both having normal values (>20nmol/L).

CONCLUSIONS: This study showed that erectile dysfunction is highly prevalent, 28.1% of HIV infected men have reported erectile problems.

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C42: The impact of exercise tolerance on erectile dysfunction treatment in patients after coronary angioplasty

Rzepecki M., Bryniarski L., Drewniak T., Juszczak K.Z., Maciukiewicz P.

1Memorial Rydygier Hospital, Dept. of Urology, Cracow, Poland, 2Jagiellonian University Medical College, Dept. of Cardiology, Cracow, Poland, 3Memorial Rydygier Hospital / Jagiellonian University Medical College, Dept. of Urology / Dept. of Pathophysiology, Cracow, Poland

INTRODUCTION & OBJECTIVES: A significant relationship between erectile dysfunction (ED) and coronary artery disease (CAD) has been clearly established. Percutaneous transluminal coronary angioplasty (PTCA) is nowadays a leading method of treatment myocardial infarction - a major cardiovascular event related to CAD. Thus, a patient after PTCA has a great probability to have ED treatment implemented as well as, there is an urgent need for ED treatment efficiency markers in this group of patients. To study the correlation between physical exercise tolerance and ED improvement after treatment with 5-phosphodiesterase inhibitor (5-PDEi) in patients after PTCA.

MATERIAL & METHODS: The prospective study on 50 patients with ED was performed (mean age 57 years). A self-administered IIEF-5 questionnaire was answered by patients twice (about the time of PTCA and about 100 days later). During this period stress treadmill test in Bruce protocol and laboratory tests were performed. The stress tests: Time to end points according to ESC Guidelines and quantity of METs reached were noted. After these tests 5-PDEi were administered for 8 weeks. Statistical analysis using Pearson’s correlation coefficient was performed.

RESULTS: Our results revealed statistically significant correlation between physical exercise tolerance and ED improvement after treatment with 5-PDEi. Correlation between IIEF score improvement and the time to stress test end points was r=-0.46 (p=0.001). Correlation between IIEF score improvement and METs was r=-0.33 (p=0.019). Mean physical exercise test’s time to the end points and quantity of METs were 7.7 ± 1.8 min. and 7.5 ± 2.0 min., respectively. Mean IIEF score at the time of PCTA and at the end of the study were 10.7 ± 4.0 and 14.7 ± 5.0, respectively. Mean difference between mentioned above IIEF scores was 3.1 ± 5.9.

CONCLUSIONS: Patients with lower exercise tolerance after PTCA had higher probability to achieve the erection improvement on PDE5i treatment.

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C43: Sexual function recovery after radical cystectomy with orthotopic neobladder

Gingu C. 1, Olaru V. 1, Dick A. 1, Crasneanu M. 1, Surcel C. 1, Mirvald C. 1, Voinea S. 1, Stefan B. 1, Domnisor L. 2, Harza M. 1, Sinescu I. 1

1 Fundeni Clinical Institute, Dept. of Uronephrology and Renal Transplantation, Bucharest, Romania, 2 Fundeni Clinical Institute, Dept. of ICU, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Radical cystectomy (RC) is the gold standard treatment form patients with muscle invasive bladder cancer (MIBC). After radical cystectomy with orthotopic neobladder (ON), quality of life is usually altered in terms of day-to-day activities (micturition, erectile function, physical and psychological distress due to body appearance). In this retrospective study we decided to analyze the erectile function of these patients after surgery.

MATERIAL & METHODS: In our center in the past 3 years, 625 radical cystectomies were performed. After the oncologic outcome, quality of life represents the second most important objective of this type of major surgery. Although for a large number of patients, due to age, comorbidities and disease extension, sexual function before and after radical cystectomy is less important, in a selected group of patients this represents a very important issue. Our study included 47 male patients aged between 32 and 65 years with organ confined bladder tumors (cT1-T3aN0M0) that underwent open unilateral or bilateral nerve sparing (NS) radical cystectomy with ileal or orthotopic neobladder. The surgical technique was classical in 41 patients and anterograde in 6 patients. No prostate or seminal vesicle preservation were performed due to the high risk of recurrence which was reported in literature. 35 patients had bilateral NS RC and 12 patients unilateral NS RC due to local extension, scar tissue after multiple TUR-BT or accidental injury of the neurovascular bundle during dissection. We evaluated the erectile function using IIEF-5 questionnaire (SHIM) and we selected for the study only patients with more than 17 points (mild-moderate erectile dysfunction to no ED). After surgery, we evaluated the patients every 3 months during the first year. No pre or immediate postoperative ED medication was administered until the first evaluation.

RESULTS: 11 patients (23.4%) with no ED pre-surgery reported no ED at 3 months (SHIM>22) and no medication was needed. 30 (63.8%) patients reported ED: moderate (8-11), mild moderate (12-16) or mild (17-21) according to SHIM and PDE-5 I were recommended. At 3 months all 19 (40.4%) of the patients that received the medication improved SHIM score on average with 4.8 points while for the 11 patients (23.4%) who didn’t receive the PDE-5 I for various reasons, the average score increase was of 2.6 points. 6 (12.8%) patients reported severe postoperative ED (<11 points) and no significant response was obtained with PDE-5 I, but they responded well to intra-corporeal prostaglandin E1 injections.

CONCLUSIONS: Neurovascular bundle preservation is easy and feasible and should be performed in all radical cystectomies if there is no compromise of the oncologic outcome. Young patients with organ confined disease, potent before the operation with ON are the main beneficiaries of NS surgery in an attempt to preserve and improve the quality of life.

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**C44: Endovideo surgical simultaneous operations in urology**

Shin E.¹, Abatova A.¹, Badyrov R.¹, Assamidanov Y.², Kultanov B.³, Turgunov Y.¹, Abatov N.²

¹Karaganda Medical State University, Dept. of Surgery, Karaganda, Kazakhstan, ²Karaganda Medical State University, Dept. of Urology, Karaganda, Kazakhstan, ³Karaganda Medical State University, Dept. of Biology, Karaganda, Kazakhstan

**INTRODUCTION & OBJECTIVES:** In urological practice often found multiple diseases, each of which requires surgery and therefore tempting to think such an operation that could save the patient immediately for all diseases. Objectives of this study were to examine the desirability and feasibility of performing simultaneous endovideosurgical surgery in urology.

**MATERIAL & METHODS:** In urology departments of Regional Hospital of Karaganda from 2008 to 2014, endovideosurgical operations were produced to 214 patients with various pathologies of the urogenital system. Excision of renal cysts were produced to 45 patients, simultaneous operations performed in 9 patients, such as cholecystectomy in 4 patients, 3 patients hernia repair and excision of the cyst with the contralateral kidney in 2 patients. Laparoscopic nephropexy for nephroptosis at 2-3 degrees made 76 patients, which in 16 cases was accompanied by simultaneous operations, namely excision of renal cyst and adrenal-2, cholecystectomy-3, nephrectomy of the contralateral kidney-2, pelviolithotomy-3 at stricture UPJ made pyeloureteral plastic-2, 4-ureterolysis patients. Laparoscopic ureterolithotomy for urolithiasis were performed to 28 patients, the number of simultaneous operations was 7 of them nephropexy 2 patients, pelviolithotomy-4, cholecystectomy-1. For hydronephrosis were produced such operations as ureterolysis, pyeloureteral plastic, nephrectomy, resection pelvis and formation antepelvic anastomosis 61 patients. In this group, simultaneous operations made in 9 cases: nephropexy-6 nephrectomy-1 ureterolysis-1, pelviolithotomy-1.

**RESULTS:** Comparison of the results between the simultaneous and unsimultaneous operations evaluated on criteria such as duration of treatment, the duration of surgery and intraoperative blood loss. Postoperative complications were not observed.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Simultaneous or unsimultaneous</th>
<th>Duration of treatment (days)</th>
<th>Duration of surgery (min)</th>
<th>Blood loss (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydronephrosis</td>
<td>Simultaneous</td>
<td>9,11±4,59</td>
<td>133,89±55,28</td>
<td>90,78±60,38</td>
</tr>
<tr>
<td></td>
<td>Unsimultaneous</td>
<td>9,78±2,92</td>
<td>142,79±33,80</td>
<td>61,30±47,83</td>
</tr>
<tr>
<td>Renal cyst</td>
<td>Simultaneous</td>
<td>4,67±1,00</td>
<td>68,33±25,98</td>
<td>19,0±8,35</td>
</tr>
<tr>
<td></td>
<td>Unsimultaneous</td>
<td>5,18±2,58</td>
<td>60,67±34,38</td>
<td>22,68±21,83</td>
</tr>
<tr>
<td>Nephroptosis</td>
<td>Simultaneous</td>
<td>5,33±1,22</td>
<td>95,93±39,92</td>
<td>22,41±14,93</td>
</tr>
<tr>
<td></td>
<td>Unsimultaneous</td>
<td>4,73±1,06</td>
<td>65,32±14,66</td>
<td>14,71±7,15</td>
</tr>
<tr>
<td>Ureterolithias</td>
<td>Simultaneous</td>
<td>5,86±1,07</td>
<td>123,57±53,13</td>
<td>29,43±12,34</td>
</tr>
<tr>
<td></td>
<td>Unsimultaneous</td>
<td>5,36±1,56</td>
<td>93,86±28,74</td>
<td>26,5±12,46</td>
</tr>
</tbody>
</table>

**CONCLUSIONS:** Using endovideosurgical technology allow for several operations at the same time from the same approaches, without compromising the quality of the operation. Transabdominal laparoscopic approach allows to operate at an anatomically distant organs. Perform simultaneous operations no adverse or negative impact on the postoperative period.

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C45: Transabdominal laparoscopic pyeloplasty: Does closure of retroperitoneal space matter?

Hawlina S.,1, Gubina B.1, Bizjak J.1, Lenart G.1, Bollens R.2

1University Clinical Center Ljubljana, Dept. of Urology, Ljubljana, Slovenia, 2Hospital Group of The Catholic Institute, Dept. of Urology, Lille, France

INTRODUCTION & OBJECTIVES: To report the long-term outcome of laparoscopic transabdominal pyeloplasty (LTP) with closure of retroperitoneal space and importance of this technique.

MATERIAL & METHODS: Ten patients underwent laparoscopic transabdominal pyeloplasty for pyeloureteric junction obstruction (PUJO). We performed Anderson–Hynes dismembered pyeloplasty with interrupted sutures in all ten patients. We did not reduce redundant renal pelvis in any case. Monocryl 4-0 was used. A JJ stent was inserted antegrade during the procedure. After formation of anastomosis we closed a retroperitoneal space with running suture Vicryl 2-0 in 8 of 10 patients. Patients were reviewed at 1 month after LTP for stent removal, and at 3 months using renal scintigraphy and ultrasound.

RESULTS: Preoperatively we perform renal scintigraphy (RS) in all cases, ultrasonography (US), intravenous pyelography (IVP) and retrograde ureteropyelography in nine cases and CT urography in one case. All patients had hydronephrosis but the main indications for operation were pain and worsening of renal function on RS. Concomitant pathologies were recidivant pyelonephritis (2 cases) and stone formation (1 case). The mean (range) patient age was 34 years (20-63), with a female predominance of 60%. We did not convert to open surgery any of patients. The mean (range) operative time was 154 (100–300) minutes. There was a crossing vessel in 6 patients and it was transposed in 5 of 6 cases. The mean (range) hospital stay after LRP was 4.4 days (3-7). We did not observe worsening of renal function or infection in perioperative time. There was no need of transfusion. We observe a urinary leakage through drain and consequently signs of urinary peritonitis in one case where we did not perform closure of retroperitoneal space. The case resolved spontaneously with conservative treatment. We observe a pain after removal of JJ stent in one case where we did not perform closure of retroperitoneal space. We put retrogradely JJ for 6 weeks and after removal there were no symptoms any more. The mean (range) follow-up was 17 (4–27) months. All patients had no symptoms or evidence of obstruction on long-term postoperative US and RS, but hydronephrosis stayed.

CONCLUSIONS: We believe that closure of retroperitoneal space in transabdominal laparoscopic pyeloplasty after formation of anastomosis is important to prevent urinary leakage in perioperative time which consequently leads to fibrosis and recidive. We certainly need time and more cases to give more objective conclusions.

Eur Urol Suppl 2014; 13(6) e1241
C47: Repeat retroperitoneal lymphadenectomy in patients with regional metastases of nonseminomatous germ cell testicular tumors

Sakalo A.¹, Vozianov S.¹, Yakovlev P.², Kropelnitskiy V.³, Sakalo V.¹

¹Institute of Urology of Academy of Medical Sciences of Ukraine, Dept. of Oncourology, Kiev, Ukraine, ²Kiev Municipal Clinical Oncology Center, Dept. of Urology, Kiev, Ukraine, ³Kiev Municipal Clinical Oncology Center, Dept. of Pathology, Kiev, Ukraine

INTRODUCTION & OBJECTIVES: To study indications, complications, pathology findings and outcomes of repeated retroperitoneal lymph node dissection (RLND) due to tumor recurrence in retroperitoneal space.

MATERIAL & METHODS: During 1980-2012 we performed repeat RLND in 19 (5.3%) out of 352 patients with NGCTT Stage II-III. The indication for repeated surgery was incomplete primary retroperitoneal lymphadenectomy in 6 patients, and retroperitoneal recurrence in 13 patients. Pre-and postoperative data were analyzed, pathology findings after primary and secondary RLND compared, oncological survival data (progression free survival and overall survival) were assessed.

RESULTS: All patients underwent initial retroperitoneal lymph node dissection for managing retroperitoneal metastases of NGCTT. In 5 patients repeat RLND was done without neoadjuvant chemotherapy, in 14 patients salvage ChT prior to RLND was performed to achieve the normal levels of tumor markers (AFP, HCG). Recurrences in retroperitoneal area were located in interaortocaval, retrocaval, paraaortic, and retrocrural area above renal vessels as well as along iliac vessels. During repeat RLND concomitant surgeries were performed: resection of vena cava inferior in 3 patients, nephrectomy – in 2, resection of ureter, resection of left renal vein – each in one patient. Most frequent complications of RLND were: lymphocele and prolonged ileus in 2 patients, acute pancreatitis in one patient. Pathology revealed viable tumor in 5 (25.1%), teratoma – in 6 (31.5%) and necrosis/fibrosis in 8 (42.4%) patients. 17 patients are free of recurrence and metastases on average 38 months (from 3 to 96 months). Two patients died due to progression.

CONCLUSIONS: Recurrence in retroperitoneal area after primary retroperitoneal lymph node dissection occurs due to incomplete primary surgical resection. Repeat LND requires integrated surgical approach due to involvement of adjacent organs and major vessels.

Eur Urol Suppl 2014; 13(6) e1242
C48: High dose chemotherapy in patients with germ cell testicular tumors with unfavorable prognosis

Vozianov S.1, Sakalo A.2, Sakalo V.2, Korenkova I.3, Kondratenko A.4, Yakovlev P.4

1Institute of Urology of Academy of Medical Science of Ukraine, Dept. of Endourology, Kiev, Ukraine,
2Institute of Urology of Academy of Medical Science of Ukraine, Dept. of Oncourology, Kiev, Ukraine,
3Kiev Center For Transplantation, Dept. of Bone Marrow Transplantation, Kiev, Ukraine,
4Kiev Municipal Clinical Oncology Center, Dept. of Urology, Kiev, Ukraine

INTRODUCTION & OBJECTIVES: Testicular tumors often occur in younger males and prone to be very chemosensitive. Despite high efficiency of cisplatinum based chemotherapy (ChT) only 30% of patients with recurrences and near 7% of patients refractory to first line ChT may have durable response to treatment when standard salvage-ChT is used. High dose ChT (HDCT) with consecutive transplantation of hemopoietic stem cells gains first-line treatment for such patients. The purpose of the study is to determine the effects and applicability of high dose regimens of ChT in managing germ cell testicular tumor patients with recurrences.

MATERIAL & METHODS: We proposed new ChT regimen for germ cell testicular tumor patients with recurrences or refractory to first-line treatment. The scheme includes 2-3 consecutive cycles of second-line treatment, which includes docetaxel and ifosfamide with cisplatinum, and two cycles of HDCT (etoposide 1500mg/m2, carboplatinum 1800mg/m2) supported with autotransplantation of hemopoietic stem cells.

RESULTS: We performed 47 cycles of salvage ChT, which included taxanes. Median follow up was 2.5 years (range: 2-143 months). Average age of patients was 27 years (range: 13-41 years). We observed a response in 23 (82%) patients: complete remission in 4, partial remission in 19, stable condition in 4, and progression in 1 patient. Stem cells were harvested in all patients prior to high dose ChT. One patient received 3 high-dose regimens, fourteen patients - 2, and three patients received 1 high-dose regimen. Most frequent non-hematological complications of HDCT were nausea, vomiting, mucositis, oto- and hepatic toxicity. Mucositis of 3rd and 4th grade was observed in all patients. Only in 2 (10%) patients we observed mucositis after carboplatinum and etoposide.

Out of 28 patients 14 (50%) died: one died due to renal insufficiency after HDCT, 11 patients died from progression, one died due to non-disease related reasons. One patient is alive with progression. Recurrence-free and overall survival at 5 years was 49% and 52% respectively.

CONCLUSIONS: High dose ChT is a treatment of choice for patients with recurrences or refractory to first line ChT. Inclusion of docetaxel or paclitaxel into the treatment regimen is salvaging treatment option, high dose regimen is a promising treatment option for patients with refractory germ cell testicular tumors.

Eur Urol Suppl 2014; 13(6) e1243
C49: Testicular sparing surgeries in patients with germ cell testicular tumors

Vozianov S., Sakalo A., Sakalo V., Yakovlev P., Kuranov Y.

1Institute of Urology of Academy of Medical Sciences of Ukraine, Dept. of Endourology, Kiev, Ukraine,
2Institute of Urology of Academy of Medical Sciences of Ukraine, Dept. of Oncourology, Kiev, Ukraine,
3Kiev Municipal Clinical Oncology Center, Dept. of Urology, Kiev, Ukraine

INTRODUCTION & OBJECTIVES: Orchofuniculectomy is the standard of treatment for patients with germ cell testicular tumors. Considering high rates of long-term survival of patients in I stage, young age at the disease onset in most of patients, desire to preserve fertility the organ sparing surgical approach is feasible in selected cases. The purpose of the study is to present the peculiarities of surgical technique, indications for organ sparing approach, and long term results in patients with germ cell tumors.

MATERIAL & METHODS: We present the study cohort of 16 patients with germ cell testicular tumor, who were treated with organ sparing approach. Average age was 18 years (range: 2-32 years). Pretreatment assessment included palpation of the testicular tumor, ultrasound, computed tomography of chest, abdomen and pelvis, blood test for AFP, bHCG, LDH. Average size of the tumor was 1.4cm (range: 2-28mm). The surgery was performed via inguinal approach. Due to high sensitivity of germ cell epithelium to the ischemia, we did not use vessel clamp on seminal artery. The surgery was performed under 4-fold visual magnification using ocular lens. Tunica albuginea was completely excised above the tumor. Intraparenchymal tumor was excised with bipolar dissector with safety margin of 1mm of healthy testicular parenchyma. Atraumatic sutures were placed on the testicular capsule. Express biopsy of the bed of removed tumor was performed in all cases to confirmed the clear margins. In three patients with small tumors (less then 8mm) we had difficulties in localizing tumor in the testis. In such cases we utilized intraoperative ultrasound of the testis.

RESULTS: Median follow up is 86 months (range: 3-168 months). All patients are alive and come for regular check-up every three months, during which we perform physical examination, palpation and ultrasound of the testis, blood test for serum markers. Postoperative pathology of removed tumor yielded: seminoma in 3 patients, teratoma in 3, embryonic cancer with teratoma in 8, bilateral seminoma in 1, seminoma of one testis and embryonic cancer of other – in 1 patient. Two patients had solitary testis due to orchidectomy for germ cell tumor performed 3 and 6 years ago, respectively. Seven patients had hypotrophy of the testis due to orchipexy performed in childhood. The testicular tumor in these patients developed in contralateral testis, which made us consider them as patients with solitary testis tumor. After resection of the testicular tumor we observed the progression in 2 (14%) patients 6 and 12 months postoperatively. One patient developed metastases to the retroperitoneal lymph nodes, other - to the lungs. In both cases complete remission occurred after BEP chemotherapy. Local recurrence occurred in 3 (18.7%) patients after 3, 6 and 9 months postoperatively. All patients underwent inguinal orchofuniculectomy. Blood test for testosterone yielded normal level in 10 (77%) and decreased level in 3 (23%) patients older 16 years of age.

CONCLUSIONS: Indication for partial resection of the testis is a tumor of solitary testis, bilateral testicular tumors, size of a tumor <2cm. Obligatory is multiple biopsy of the bed of removed tumor, and biopsy of paratumorous tissue to check for TIN. The patient must be fully aware of the risks and benefits of the testicular sparing surgical approach and be followed up thoroughly after the surgery.
INTRODUCTION & OBJECTIVES: There is an increasing claim for organ preserving surgery in the cases of penis tumor. The aim of these operations is the function preservation and the acceptable aesthetical outcome with good oncological results.

MATERIAL & METHODS: In selected cases of the glans’ tumors a penile disassembly technique is indicated, when the dorsal neurovascular bundle is dissected from the surface of the corpora cavernosa and the glans from the tips of them. The tumor of the glans must be resected with a safe surgical margin. Finally, the resected surface can be freely turned to ventrally, creating a new meatus area and an aesthetic shape of the glans to reduce the distorting effect of the resection. In other selected cases, when the resection area of the glans is large, a buccal mucosa transplantation can be performed as a pseudoglans surface. We performed organ preserving penile tumor resection in 11 selected cases. There were Buschke-Löwenstein condylomas in 3 cases, in situ carcinomas in 2 cases and squamous cell carcinomas in 6 cases. In 6 cases, buccal mucosal transplantation was performed after total resection of the glans. In 5 cases, a penile disassembly, partial resection of the glans and glans repositioning technique was performed.

RESULTS: In 3 cases of the buccal mucosa transplantation, superficial necrosis of the central region of the graft was observed. These postoperative complication completely healed by conservative treatment. There were no other postoperative complications. There was no positive surgical margin. No recurrence of the tumors observed during the 4-36 months follow up period. All of the patients were potent and satisfied with the aesthetic result.

CONCLUSIONS: The partial resection of the glans is an option in selected penile tumor patients with comparable oncological outcome in experienced hands. The penile disassembly method and the buccal mucosal transplantation are useful techniques for reaching good aesthetical and functional result.

Eur Urol Suppl 2014; 13(6) e1245
**C51: Myointimoma of penis – case report and literature overview**

**Tolinger P.**, **Fiala M.**, **Petrik A.**, **Lukacova K.**

1Hospital In České Budějovice, A.s., Dept. of Urology, České Budějovice, Czech Republic, 2Hospital In České Budějovice, A.s., Dept. of Urology, České Budějovice, Czech Republic, 3Hospital In České Budějovice, A.s., Dept. of Pathology, České Budějovice, Czech Republic

**INTRODUCTION & OBJECTIVES:** Presentation of case of a patient with rare benign tumour of penis.

**MATERIAL & METHODS:** Case report and literature review.

**RESULTS:** 53-year-old male with several weeks history of firm, bordered, no painful 8 mm solitary nodule located the right side of glans penis and no surface changes is reported. The hypertension was in patient history, only. Laboratory findings were within normal range.

Excision of lesion was performed, absorbable suture used. The patient left hospital on 1st day after surgery. Multimodal lesion with intravascular proliferation of SMA (Smooth Muscle Actin) positive cells was found at histology. The patient is clinically free of disease in 6 months after surgery.

Myointimoma had been reported first by Fetch et al. in 2000, and it was involved in WHO classifications of neoplasms in 2006. It is rare benign mesenchymal tumour derived from myointimal cells of blood vessels of corpus spongiosum. The myointimoma is reported only 6 papers (including 19 cases adults and children) on Pubmed at this time. Fast progression of firm, no aching nodule of glans penis or sulcus coronarius in weeks or few months is reported. There is not mentioned any local recurrence after surgery in the literature.

<table>
<thead>
<tr>
<th>Year</th>
<th>Case number</th>
<th>Age</th>
<th>Size</th>
</tr>
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<tbody>
<tr>
<td>Fetch et al</td>
<td>2000</td>
<td>10</td>
<td>2-61 y, 5-19 mm</td>
</tr>
<tr>
<td>Robbins et al</td>
<td>2005</td>
<td>1</td>
<td>54 y, 10 mm</td>
</tr>
<tr>
<td>McKenney et al</td>
<td>2007</td>
<td>5</td>
<td>4-15 y, 14-18 mm</td>
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<tr>
<td>Vardar et al</td>
<td>2007</td>
<td>1</td>
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</tr>
<tr>
<td>Monsalves et al</td>
<td>2009</td>
<td>1</td>
<td>74 y, 10 mm</td>
</tr>
<tr>
<td>Turner et al</td>
<td>2009</td>
<td>1</td>
<td>14 y, 10 mm</td>
</tr>
</tbody>
</table>

**CONCLUSIONS:** The case of rare benign tumour of penis with a good prognosis after local surgery is reported. There is essential to exclude malignant lesions in differential diagnosis and perform histological verification immediately. Nevertheless rapid growth may be present, local recurrence is not reported in the literature. Good prognosis of this case is confirmed by 6-months follow-up.

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INTRODUCTION & OBJECTIVES: As a result of its low incidence and lack of well-founded studies, there are numerous controversies regarding the surgical approach of lymphatic stations in patients with squamous cell carcinoma of the penis (SCCP) and no clinical adenopathy (N0), even though inguinal lymph nodes metastasis is the strongest predictor of prognosis. Therefore the technique of prophylactic inguinal lymph node dissection (ILND) for penile cancer is still being argued due to its associated morbidity. The present study aims to assess the potential complications associated with ILND and the prognostic factors that influence complication risk.

MATERIAL & METHODS: Retrospective chart review (from January 2000 to December 2010), including 53 patients with penile SCC, clinically staged N0, who underwent resection of the primary lesion and prophylactic inguinal lymph node dissection. Clinical and pathologic parameters were compared and the complications following prophylactic ILND were assessed.

RESULTS: Prophylactic early ILND was performed in 18 patients (33.9%) and late ILND in 35 patients (66.1%). Complications were noted in 29 cases (54.7%) regardless of early or late ILND. Frequent complications included wound infection (n=12, 22.6%), scrotal and/or lower limb edema (n=13, 24.5%), wound dehiscence (n=6, 11.3%), lymphocele formation (n=6, 11.3%), and skin flap necrosis (n=4, 7.5%). There were 7 patients (13.2%) that required additional surgery to correct the surgical complications. There was no life threatening complications.

CONCLUSIONS: Postoperative wound complications occur frequently following ILND, especially in the obese and diabetic patients, but the surgery can be performed safely, with acceptable rates of complications when performed by surgeons specialized in the management of penile cancer.
C54: Postchemotherapy laparoscopic retroperitoneal lymph node dissection for nonseminomatous germ cell testicular tumor

Knezevic N., Kulis T., Maric M., Milas I., Topalovic Grkovic M., Kastelan Z.

University Hospital Center Zagreb and University of Zagreb, School of Medicine, Dept. of Urology, Zagreb, Croatia

INTRODUCTION & OBJECTIVES: Laparoscopic retroperitoneal lymph node dissection (LRPLND) has become accepted staging method for clinical stage I nonseminomatous germ cell tumor. Due to gained experience, it is applied as a therapeutic approach for patients with postchemotherapy residual tumor masses. First published series have reported high number of intraoperative and postoperative morbidities with a high number of open conversions. We reviewed our indications, complication rate and results of postchemotherapy RPLND.

MATERIAL & METHODS: Retrospectively we analyzed medical records of 45 patients who were selected for postchemotherapy RPLND according to our criteria. All patients were operated since 2005 by one surgeon. The surgical technique consisted of removing the residual tumor mass plus unilateral template dissection. Selection criteria for laparoscopic operation were: residual retroperitoneal tumor masses after chemotherapy smaller than 6 cm in diameter on CT scan; less or equal to 5 chemotherapy cycles; and normalized testicular tumor markers.

RESULTS: All operations were successfully completed laparoscopically and there was no need for conversion to open surgery or blood transfusion. Mean residual tumor size on CT scan was 3.0 (range 1.1-6.0) cm and the median number of chemotherapy cycles was 3 (range 3-7). In two patients minor intraoperative vascular injuries occurred, which were controlled by laparoscopic techniques. Postoperatively, one patient had prolonged lymphorrhea in duration of 10 days, which resolved by low fat dietary measures. The mean operative time was 190 (range 160-270) minutes and the median hospitalisation was 4 (range 3-12) days. Median number of lymph nodes obtained for pathohistological examination was 17 (range 8-31). Pathohistological examination revealed mature teratoma in 22 patients and necrosis in 21 patients and active tumor in 2 patients. No patient developed infield recurrence during a mean follow up of 36 months.

CONCLUSIONS: Postchemotherapy RPLND is challenging mostly due to desmoplastic postchemotherapeutic reaction and large residual tumor masses. However, in selected patients it is safe, oncologically effective, low morbidity procedure with all the benefits of minimally invasive surgery.

Eur Urol Suppl 2014; 13(6) e1248
INTRODUCTION & OBJECTIVES: Careful lymph node status staging in patients with clinical stage I non seminomatous germ cell testicular tumor (NSGCT) is important since 20–30% of these patients have metastatic disease in the retroperitoneum. Although classical pathohystological stains are mostly enough for detecting malignant lesions, a reliable and sensitive immunohistocemical marker could be useful. OCT4 is a nuclear transcription factor expressed in early embryonic and germ cells. The aim of this study was to determine the diagnostic value of OCT 4 in the pathohistologic diagnosing of lymph node metastases after staging laparoscopic retroperitoneal lymph node dissection (L-RPLND).

MATERIAL & METHODS: The study was retrospective and included patients in whom we have performed L-RPLND. Post orchiectomy L-RPLND was performed in case of no clinical signs of metastatic disease, normalization of serum tumor markers and no enlarged lymph nodes on CT. All the removed lymph nodes were pathohystologically reviewed and initial pathohistological diagnosis was made. In the period from March 2001 until March 2009 in our center in 93 patients we have performed L-RPLND. We assessed the archived materials of dissected lymph nodes and an additional immunohistochemical staining with OCT 4 antibody was done for patients who were tumor free in prior analyses. For each OCT 4 immunohistochemically stained slide, we visually estimated the percentage of tumor cells showing nuclear immunoreactivity for OCT 4.

RESULTS: The average age of patients at the time of the procedure was 30 years (range 17–77 years). There were 42 left sided and 51 right sided L-RPLNDs. Mean number of lymph nodes obtained for pathohistological examination was 14 (range 6–31). Median hospitalization was 4 (range 3–10) days. Of 93 patients included in the study, 30 (32.3 %) had positive lymph nodes initially. Of the remaining patients that had negative lymph nodes, materials were missing for 5 individuals, so they were excluded from the study. In the end, lymph nodes from 58 patients were additionally immunohiststochemically stained. Among those, we found 2 that had OCT4 positive lymph nodes. They were initially misdiagnosed as metastasis free. Both misdiagnosed patients were among first 10 operated patients.

CONCLUSIONS: OCT 4 has proven its value as an additional immunohistochemical staining marker for diagnosing retroperitoneal metastases as it helped to diagnose 2 misdiagnosed cases. Since both misdiagnosed patients were in the beginning of our study, we think value of OCT4 could be in low volume centers with less experienced pathologists. Although staging retroperitoneal lymphadenectomy is less frequently used today, we believe that it is still a good option for selected patients.

Eur Urol Suppl 2014; 13(6) e1249
INTRODUCTION & OBJECTIVES: The incidence of small size testicular tumour has been increasing due to high number of male infertility and development of ultrasonic imaging. Most of the small size tumours (about 80 %) are benign. The malignant testicular tumours have good prognosis in early stage owing recent oncological treatments. According to our observations, in these cases microsurgical resection has good oncological outcome and can preserve testicular function.

MATERIAL & METHODS: In 2014, four patients with testicular, and one patient with epididymal tumour underwent microsurgical resection in our department. Mean age of the patients was 35, 5 years. All of these patients were referred to us because of infertility. The tumours were diagnosed by ultrasound. Size of the tumours was less than 15 mm. The tumour removal was performed microsurgically through scrotal access. Neither frozen-section, nor spermatic cord clamping, was not performed during surgery. Hystopathological examination together with the surface of resection was performed routinely.

RESULTS: Pathological analysis revealed adenomatoid tumor, Leydig-cell tumor, rete testi originated cyst and seminoma (pT1). The patient with seminoma underwent orchiectomy because surgical margin was suspicion to be positive. There was no any complication both during and after the operations and not any relapse has been observed so far.

CONCLUSIONS: Our preliminary experience shows that microsurgical resection can be safely performed for small size testicular tumours (less than 15 mm) and this kind of surgery might be an optimal method from both functional and oncological points of view.
C58: Comparing the radioactive tracer 99mTc-nanocolloid with fluorescent indocyanine green (ICG) for sentinel lymph nodes identification in case of penile cancer. Study using lymphoscintigraphy, SPECT/CT and near infrared fluorescence

Markuszewski M.\textsuperscript{1}, Polom W.\textsuperscript{1}, Cytawa W.\textsuperscript{2}, Czapiewski P.\textsuperscript{3}, Matuszewski M.\textsuperscript{1}

\textsuperscript{1}\textsuperscript{Medical University Of Gdansk, Dept. of Urology, Gdansk, Poland, \textsuperscript{2}\textsuperscript{Medical University Of Gdansk, Dept. of Nuclear Medicine, Gdansk, Poland, \textsuperscript{3}\textsuperscript{Medical University Of Gdansk, Dept. of Pathology, Gdansk, Poland

INTRODUCTION & OBJECTIVES: The European Association of Urologists Guidelines recommends Dynamic Sentinel Node Biopsy (DSNB) using isosulphan blue and/or 99m Tc-nanocolloid in penile cancer patients with non-palpable inguinal lymph nodes as the first choice diagnostic approach for lymph node staging. This approach improves survival compared to wait and see policy. Moreover it reduces side effects compared to the patients to whom inguinal lymphadenectomy was performed. In case of penile cancer DSNB technic has 100% specificity and 95% sensitivity. The aim of this study was to compare drainage patterns of fluorescent dye indocyanine green (ICG) with the drainage pattern of a radiotracer 99mTc-nanocolloid which is a standard tracer in DSNB procedures.

MATERIAL & METHODS: Ten patients with diagnosed penile cancer and no palpable lymph nodes were included prospectively for sentinel node biopsy. First, on the day of surgery 99mTc-nanocolloid was injected at the lesion site. Then, half an hour after tracer injection SPECT/CT lymphoscintigraphy was performed using the dual-head gamma camera Symbian T6, SPECT/CT, Siemens, equipped with a six-row, spiral CT scanner. Acquisition parameters of SPECT/CT: matrix 128x128, 64 frames of 30-second, low-dose CT without intravenous contrast. Next reconstruction and fusion of images was performed using the program Syngo Software (Copyright C Siemens AG, Berlin and Munchen 2008). Two to three hours after radiotracer injection just before surgery ICG (ICG-PULSION Medical Systems AG, Munchen) was injected in the same manner as radiotracer at the lesion site. In all cases partial penectomy and DSNB were performed. Sentinel nodes were localized intraoperatively using for radiotracer hand gamma-ray detection probe (Neoprobe 2000, Neoprobe Corporation, USA) and for ICG near infrared fluorescence (NIRF) camera (Fluobeam, Fluoptics, France).

RESULTS: Lymphatic drainage was observed in all 10 patients using both 99mTc-nanocolloid and ICG, leading to the identification of 22 sentinel nodes in total. In all cases the same sentinel nodes were identified using gamma probe and near infrared camera. Intraoperatively (2-3 hours after 99mTc-nanocolloid and immediately after ICG injection) all preoperatively identified sentinel nodes could be localized using both radio and fluorescence guidance. In one obese patient approximate localisation of the sentinel node was possible due to the visibly fluorescent lymph outflow. Ex vivo, all sentinel nodes were both radioactive and fluorescent. We didn’t observe any adverse reactions. From 22 sentinel nodes twenty one were negative and one was positive for metastasis in histopathological examination.

CONCLUSIONS: Both drainage patterns for fluorescent ICG and radioactive 99mTc-nanocolloid are identical. In obese patient the fluorescent identification of sentinel node was not certain but the intraoperative live fluorescent navigation enabled to see the fluorescent lymph flow and approximate localization of the sentinel node which was clearly visible after skin incision and fat preparation.

Eur Urol Suppl 2014; 13(6) e1251
INTRODUCTION & OBJECTIVES: Although malignant tumour of the penis is a rare disease, it is an important problem of male health affecting physical, mental and sexual health. Early recognition of malignancies of the penis would be important to improve prognosis and preserve function.

MATERIAL & METHODS: The objective of our study is to highlight own long term result and point out the difficulties with penile cancer. The results were both retrospectively and prospectively worked up.

RESULTS: Between June 1996 and June 2013 there were 175 operation performed due to penile cancer. However, only 96 patients were completely eligible for careful evaluation with complete data. Mean age of the man was 63.3 (31-83) years and in anamnesis smoking was found in 39 cases (40.6%). The average time from the first signs to the diagnoses was 6 months; the longest time was 180 months. Most of the patients, 51 (53.1%), were living in smaller cities or villages at the time of the operation and these men referred themselves later for examination from the firs symptoms (mean time was 7.5 months). Histology revealed squamous cell carcinoma in 90.6%, 7 (7.3%) verrucosus carcinoma and in one case neuroleiomyoma was the finding. Pathological T stadium was carcinoma in situ in 9.2%, T1 in 38.2%, T2 in 34.2% and in the 18.4% of the cases T3. Differentiation was grade 1 25%, grade 2 52.8% and grade 3 22.2% of the cases. Inguinal lymph node metastases were found in 30 (31%) patients at the time of the diagnoses. In anamnesis 32 (33.3%) patient had got phimosis. Thirteen patients (13.4%) were given chemotherapy and six (6.2%) were given radiotherapy after surgical treatment. Mean survival time of all patients was 49.7 (2-168) months.

CONCLUSIONS: Phimosis plays an important role in development of penile cancer. The prevalence of this disease is higher in undeveloped cities, and there patients report themselves later. The disease behaves aggressively, spreading through lymphatic vessels, in advanced stadium, or in low differentiation cases it is already demonstrable by diagnosis. Early detection and operation is crucial to improve prognosis, preserve function and so achieve good long-term survival with acceptable cosmetical result.

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C62: Our experience with management of malignant priapism

Spacek J., Navratil P., Pacovsky J., Husek P., Kosina J., Brodak M.

University Hospital and Faculty of Medicine Charles University In Hradec Kralove, Dept. of Urology, Hradec Kralove, Czech Republic

INTRODUCTION & OBJECTIVES: Secondary malignancy of the penis is a rare clinical entity, despite its rich blood supply. The majority of the primary lesions are genitourinary organs with recto-sigmoid region. The presenting symptoms are nonspecific except for priapism. MRI and ultrasound can be used to elucidate cause of priapism and biopsy is the most common procedure to yield a histopathological diagnosis. The majority of patients with penile metastasis already have widely disseminated disease with poor prognosis.

MATERIAL & METHODS: We report three cases of malignant priapism secondary to metastatic transitional cell carcinoma (TCC) and rectum adenocarcinoma that have presented to the urology department in period 2012 – 2014.

RESULTS: All of the patients underwent previously radical surgical treatment for invasive bladder cancer (patient 2., 3.) or rectum carcinoma (1.). After initial clinical work up (blood gases and Doppler ultrasound examination) the CT scan was done. All of them were considered to be low flow priapism, with tumor masses within both corpora cavernosum. CT scan confirmed widely disseminated disease. Biopsies revealed poorly differentiated rectum adenocarcinoma (patient 1.) and transition cell carcinoma (patient 2., 3.). Total penectomy with perineal urethrostomy was made because of difficulty voiding in one case (patient 2.). Palliative chemotherapy bevacizumab/panitumumab required the patient with metastatic colorectal cancer. All of the patients were presented to the oncologist to provide palliative and supportive therapy.

CONCLUSIONS: Nearly 50% of penile metastasis present with priapism. In most cases, only palliative care or supportive therapy is indicated. Average prognosis is 6-9 months. The optimal treatment of penile metastasis, requires a multidisciplinary approach that is correlated with the disease extent.

Eur Urol Suppl 2014; 13(6) e1253
C63: Our experience on primary testicular lymphomas in 15 years period

Grubisic I., Svagusa I., Reljic A., Stimac G., Trnki D.

University Hospital Center "Sestre Milosrdnice", Dept. of Urology, Zagreb, Croatia

INTRODUCTION & OBJECTIVES: Testicular lymphoma may be a manifestation of primary extranodal disease, the first manifestation of clinically hidden nodal disease or a later manifestation of disseminated nodal lymphoma. Of all testicular tumors, the primary testicular non-Hodgkin lymphoma makes up 5% of testicular tumors and 1-2% of all non Hodgkin’s lymphomas. It is the most common malignant testicular tumor in patients over 50 years of age. The average age of occurrence is about 60 years. Usually, it is clinically presented as a unilateral painless enlargement of the testis. However, approximately 25% of patients exhibit generalized constitutional symptoms. The tumor occurs bilaterally in about 50% of the patients. Primary testicular lymphoma comprises a heterogeneous lymphoma group. The most common is diffuse large B-cell lymphoma which presents in more than 70% of the cases in the most reported series.

MATERIAL & METHODS: A retrospective analysis of all patients from 1998 to 2013 was conducted with diagnosis of testicular tumors. Patients with diagnosis of testicular lymphoma were identified.

RESULTS: In fifteen year period there were 295 patients with testicular tumors and 4 of them (1,36%) had primary testicular lymphoma. All patients underwent orchiectomy and pathologic slides were reviewed at our Clinic of pathology. Chemical treatment and follow up was conducted by our Clinic of hematology. All the patients had stage I disease where only the testicular region was involved and there was no evidence of lymph node or bone marrow involvement at the time when orchiectomy was performed. The age of the patients ranged from 66 to 86 years, with a mean age at presentation of 73 years. In all the cases testicular mass was the presenting sign: two involved the right testis, one involved left testis and one was bilateral. All cases were classified as diffuse large B-cell lymphoma and tumor cells expressed CD 20 and leukocyte common antigen.

CONCLUSIONS: The number of patients in our study is small comparing the other studies. However, due to our small sample, interpretation of these cases should be done with caution. As seen in our patients as well as in series reported by others, primary testicular lymphoma typically presents as a painless palpable testicular mass. The mean age in our study was higher than reported in other studies. Standard treatment for patients with primary testicular lymphoma has not been established yet. Orchiectomy is not only diagnostic procedure but also therapeutic procedure which removes a tumor from the site that is inaccessible to systemic chemotherapy. Surgery should not be considered as the exclusive treatment. According to other studies most of patients treated with surgery alone experience relapse within 2 years, thus orchiectomy followed by complementary chemotherapy is a widely accepted option.

Eur Urol Suppl 2014; 13(6) e1254
C64: Advantages, complications of bilateral orchiectomy made from median raphe incision

Spacek J.¹, Navratil P.¹, Pacovsky J.¹, Holub L.¹, Balik M.¹, Navratil Jr. P.², Brodak M.¹

¹University Hospital and Medical Faculty of Charles University In Hradec Kralove, Dept. of Urology, Hradec Kralove, Czech Republic, ²Arleta, Dept. of Reproductive Medicine, Kostelec Nad Orlici, Czech Republic

INTRODUCTION & OBJECTIVES: Androgen-suppressing strategies have become the mainstay of management of advanced PCa. Bilateral orchiectomy (BOE), which is either total or subcapsular pulpectomy is a simple, cheap and virtually complication-free surgical procedure used to achieve a castration level usually within less than 12 hours.

MATERIAL & METHODS: A single institutional retrospective study was performed. Two hundred seventy-eight patients who underwent bilateral orchiectomy in period of 5 years were enrolled. Two hundred forty-seven bilateral orchiectomies were performed from double incision parallel to raphe scroti and thirty-one were performed from median raphe incision. We investigated mild and serious complications for one month after surgery.

RESULTS: Mild complication was considered to be swelling of scrotum. On the other side serious complications were considered to be infections, fistulas, wound dehiscence, 30-day rehospitalization.

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<th>serious complications</th>
<th>TOTAL</th>
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<td>median raphe BOE</td>
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<td>1</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>BOE from two parallel incisions</td>
<td>210</td>
<td>8</td>
<td>29</td>
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<tr>
<td>TOTAL</td>
<td>238</td>
<td>9</td>
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CONCLUSIONS: The surgical technique of bilateral orchiectomy performed from median raphe incision is relatively simple but requires experienced and careful surgeon. This surgical approach has less mild complications mainly scrotal swelling but similar serious complications to double incision BOE. There is no difference in other complications – bleeding, scrotal hematoma and infection. Last but not least median raphe incision may be offerd to the patients who apperciate plastic benefit of this approach.

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C65: Vaseline injection, an inadequate method for penile augmentation

Rosecker Á., Pajor L., Bajory Z.

Szeged University Hospital, Dept. of Urology, Szeged, Hungary

INTRODUCTION & OBJECTIVES: In Asia and Eastern Europe penile self-injection with Vaseline for thickening is a prevalent method mainly among prisoners. Our aim is to show the complications of the Vaseline self-injection, and the reconstructive opportunities applied at our clinic. We studied the convicts’ Vaseline self-injection, and our patients who had reconstructive surgery as a result of the suffered damage.

MATERIAL & METHODS: We performed a questionnaire survey based on the answers of 4735 convicts in the six largest and most rigorous prisons in Hungary. We not only made a survey, but in practice between 2006 and 2012 at Szeged Urological Clinic we operated 78 patients due to the damage of Vaseline self-injection. In 40 patients, local excision of the granuloma and/or circumcision were performed. The removal of the Vaseline can only be done together with the affected skin. The missing skin replacement was taken mainly from the scrotal skin, but in 6 cases where the Vaseline damaged the scrotum, we used the femoral skin flaps. In other cases, the reconstruction was made in two steps. First we inserted the bare penis in a subcutaneous tunnel formed in the scrotum. After 3-5 months, we lifted the penis together with the scrotum skin on it. We followed our patients with prospective examination.

RESULTS: 1905 prisoners completed the questionnaire, the responses were statistically evaluated. 15.7% of the respondents admitted that Vaseline was injected into their penis. In this large, representative survey of the most affected population, we received a picture of a high incidence of self-injection. In the postoperative period 9 patients of our clinic there were wound healing complications, which needed local therapy and antibiotics. In 8 patients developed skin necrosis, so we performed necrectomy and local wound treatments. In one case intraoperative urethral injury occurred and a fistula developed, which required another surgery. For the three-month follow examination 48 patients appeared and they all reported successful sexual acts and they were satisfied with the aesthetic results as well.

CONCLUSIONS: The practice of inserting foreign bodies into the penis remains popular in certain subcultures even today. However, this practice frequently gives rise to the need for treatment of the defects caused by the foreign bodies, and this imposes a burden on the health-care system. The treatment of complications caused by foreign bodies is surgical, as conservative treatment does not lead to a permanent solution. The surgical reconstruction in experienced hands leads to healing with a low rate of complications.

Eur Urol Suppl 2014; 13(6) e1256
C66: The effects of intravitreal bevacizumab in benign prostatic hyperplasia

Merticariu M.¹, Balta F.², Taban C.², Merticariu A.², Badescu D.¹, Jinga V.¹

¹Theodor Burghelu Hospital, Dept. of Urology, Bucharest, Romania, ²Emergency Eye Hospital and Clinic, Dept. of Vitreo-Retinal Surgery, Bucharest, Romania

INTRODUCTION & OBJECTIVES: According to our clinical observations, patients suffering from Benign Prostatic Hyperplasia (BPH) had an improved urinary stream and decreased nocturia after treatment for wet Age Related Macular Degeneration (AMD) with intravitreal Bevacizumab. This paper studies the effects of intravitreal anti-Vascular Endothelial Growth Factor (VEGF) therapy with Avastin on BPH related symptoms.

MATERIAL & METHODS: We conducted an exploratory trial that spanned between August 1, 2013 and February 1, 2014 which included 14 patients. The evaluation consisted of uroflowmetry and International Prostate Symptom Score (I-PSS) assessment. Inclusion Criteria: men recently diagnosed with wet AMD for which no previous therapy was administered, previously diagnosed BPH, normal age-normalized PSA values, unsuspicious DRE for prostate cancer. Exclusion criteria: previous anti VEGF treatment for wet AMD, previous prostate surgery, prior Acute Urinary Retention (AUR), concurrent therapy altering the urinary flow (cyclooxygenase2 (COX2) inhibitors, amphetamines, anticholinergic drugs, opioids, antidepressants). Qmax was selected as the primary variable, while secondary variables considered were: straining, weak stream, urgency, intermittency, frequency and incomplete emptying (I-PSS score) and quality of life due to urinary symptoms. Data was analyzed using the IBM SPSS software v. 22. The significance of the difference Qmax before and after treatment was investigated using Paired Sample t-Test.

RESULTS: The maximum flow rate (Qmax) improved by a mean of 5.05 ml/sec in 9 patients (p=0.000, CI 95% 3.580-6.442), while the remaining 5 patients had a slight decrease in Qmax: mean 1.6 ml/sec (p=0.038, CI 95% 141-3.059). There was an incremental, positive effect in 4 patients already on alpha blocker therapy for BPH for several years prior to our study. The I-PSS score improved by 1.18 points - calculated as average of total mean values per indicator (average of all seven indicators composing I-PSS score) with significant decrease in nocturnal urination frequency (Question 7) and a 1.2 points per group improvement in the QoL indicator (Question 8).

CONCLUSIONS: Anti-VEGF therapy for wet Age Related Macular Degeneration (AMD) had a positive effect on BPH related symptoms as shown by uroflowmetry results and confirmed by subjective evaluation of the I-PSS indicators. Overall, the benefits of Bevacizumab injections were greatest in patients that were not taking any medication for BPH, however, data might suggest that even patients on alpha-blocker therapy may benefit from concurrent anti-VEGF therapy for wet AMD. Although the prospective scientific experiment is limited by the small number of subjects, restricted access to investigation procedures (due to financial limitations) and the current approved indications of anti-VEGF therapy (the off-label use of Bevacizumab in wet AMD), it is a first in vivo attempt to identify the link between anti-VEGF therapy and Benign Prostatic Hyperplasia, revealing promising results.

Eur Urol Suppl 2014; 13(6) e1257
C67: Do mesenchymal stem cells influence genitourinary tract cancer cells sensitivity to ciprofloxacin?

Maj M., Nalejska E., Bajek A., Kloskowski T., Drewa T.

Collegium Medicum, Nicolaus Copernicus University, Dept. of Tissue Engineering, Bydgoszcz, Poland

INTRODUCTION & OBJECTIVES: Mesenchymal stem cells (MSCs) demonstrate immunomodulatory properties and marked tumor tropism, however their exact role in tumor development remain unclear. Several studies reported that MSCs may promote cancer progression and metastasis, while other indicates that they suppress tumor growth. To better understand how stem cells affect tumors we analyzed proliferation of cancer cells cultured in conditioned medium (CM) from adipose-derived stem cells (ASCs) and assessed their sensitivity to ciprofloxacin - potential candidate agent for genitourinary tract cancers treatment.

MATERIAL & METHODS: Human renal and bladder carcinoma cell lines (786-O and T24) were cultured in CM from ASCs. Cancer cells proliferation was measured with the use of MTT assay. Similarly, viability reduction after subsequent incubation with ciprofloxacin at concentrations corresponding to previously established LC values was measured spectrophotometrically. Influence of CM on cell cycle progression and apoptosis was analyzed by flow cytometry.

RESULTS: Conditioned medium from ASCs showed moderate antiproliferative activity against both cell lines. Apoptosis induction was not observed, however cell cycle arrest in G2 phase was noted for T24 cells. In turn, incubation with CM significantly decreased cancer cells sensitivity to ciprofloxacin, but only at concentrations that correspond to LC90 values - 280 μg/ml and 160 μg/ml for 786-O and T24 cells, respectively.

CONCLUSIONS: Influence of MSCs on sensitivity to anticancer treatment is not well studied, especially for genitourinary tract cancers. We showed that CM from ASCs slightly reduces renal and bladder cancer cells proliferation and modulates cell cycle progression. Considering increased resistance to ciprofloxacin after incubation with CM, we speculate that MSCs through paracrine activity may protect cancer cells from chemotherapy, promote cancer cells survival and contribute to disease progression.

Eur Urol Suppl 2014; 13(6) e1258
C68: Negative results of the analysis of a panel of biomarkers for the diagnosis of prostate cancer

Čapoun O., Sobotka R., Soukup V., Zima T., Kalousová M., Hanuš T.

1 General Teaching Hospital 1st Faculty of Medicine Charles University, Dept. of Urology, Prague, Czech Republic, 2 General Teaching Hospital 1st Faculty of Medicine Charles University, Dept. of Medical Biochemistry and Laboratory Diagnostics, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: The aim of the study was to perform a serum multimarker analysis in patients indicated for prostate biopsy (PB) and to evaluate the statistical significance in relation to the prediction of prostate cancer (PC).

MATERIAL & METHODS: We performed a total of 387 PBs between 09/2011 and 02/2013. The median number of samples was 10 (10-36) and a total of 183 patients underwent primary PB. Peripheral blood was taken in all patients before PB and serum was frozen. Potential markers were selected on the basis of publications research on the portal NCBI PubMed. Serum levels of a total of 22 markers (neopterin, IGF-1, IGFBP-2, IGFBP-3, sarcosine, endoglin, TGF-β1, periostin, sPLA2-IIa, chromogranin A, ZAG2, clusterin, PSP94, PSP94bp, leptin, cathepsin D, Hepsin, KLK11, PSMA, AMACR, CRISP3, A1AT) were determined by ELISA (enzyme-linked immunosorbent assay). Levels of biomarkers were correlated with the results of the PB using the non-parametric analysis of variance (ANOVA).

RESULTS: A total of 169 from 370 evaluable patients (45.7%) were diagnosed with PC. Statistically significant parameters for PC prediction were age (p=0.0066), total prostate specific antigen (PSA) (p=0.0067), the ratio of free/total PSA (p<0.0001), digital rectal exam (DRE) finding (p=0.0002) and size of the prostate (p<0.0001). None of the tested markers except PSP94 (p=0.0077) was not statistically significant in univariate analysis (p>0.05). However, levels of PSP94 significantly correlated with PSA and prostate size, thus this marker did not increase the predictive accuracy of the base model (PSA, DRE, prostate volume).

CONCLUSIONS: These results suggest that multimarker assays have only limited practical benefit for the prediction of PC in the biopsy of the prostate. The work was supported by the grant MPO TIP FR-TI3/666.

Eur Urol Suppl 2014; 13(6) e1259
C70: Relationship between the fluctuation of serum PSA after radical prostatectomy and the long term treatment outcome

Vesely S., Jarolim L., Duskova K., Schmidt M., Dusek P., Babjuk M.

Charles University, 2nd Faculty of Medicine and Motol University Hospital, Dept. of Urology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: Serum prostate specific antigen (PSA) after radical prostatectomy fluctuates in some patients significantly, while in other patients remained stable. The aim of our study was to evaluate mathematically the rate of postoperative PSA fluctuation to determine whether this parameter is related to the risk of prostate cancer recurrence.

MATERIAL & METHODS: The study included 344 patients who underwent radical prostatectomy at our institution between January 2000 and May 2012. All of these patients underwent an postoperative PSA measurements at 14 days, 1 month, 2 months and 3 months after surgery and periodically thereafter at three-month intervals. Criteria for inclusion in the analysis were a minimum follow-up period of 6 months and no neoadjuvant or adjuvant therapy. The value of PSA was determined by an ultrasensitive assay (Immulite third-generation PSA assay - detection limit of 0.003 ng/ml). Prostate cancer relapse was defined as the attainment of biochemical recurrence with PSA ≥0.2 ng/ml. The fluctuation rate of postoperative PSA was determined by the fluctuation index (FI), which was calculated as the ratio of the sum of the absolute changes in PSA levels and absolute change of PSA between postoperative day 14 and 180.

RESULTS: During a median follow-up 42 months (range 6-120) a total of 113 (33%) patients experienced a relapse of prostate cancer. In these patients, the rate of fluctuation was appreciably high (77%), while in the group of patients without recurrence the fluctuation rate was significantly lower (28%, p <0.001). The presence of high fluctuation rate of postoperative PSA was significantly (p <0.001) associated with higher relative risk of prostate cancer relapse 4.26 (95% CI 3.34 to 6.68).

CONCLUSIONS: High rate of PSA fluctuation after radical prostatectomy presents a risk factor for long-term success of the treatment.

Grant support: Internal Grant Agency of the Ministry of Health of the Czech Republic no. NT13472-4.

Eur Urol Suppl 2014; 13(6) e1260
INTRODUCTION & OBJECTIVES: Soft tissues calcification is a relatively frequent disorder in the human body. In most cases, calcium salts pile up in the cells, between tissues, but on rare occasions chondrification, or even osseus metaplasia can occur in healthy as well as in metaplastic tissues. The most important factor in their occurrence beside the aging processes and chronic inflammations is diabetes. The phenomenon is mostly without symptoms, but hematospermia, painful ejaculation or infertility can also occur. Calcification of the vas deferens and vesicula seminalis is rare, but their osseus metaplasia - according to our best knowledge - has not been described yet in the literature.

MATERIAL & METHODS: Prostate biopsy was performed for a 65-year-old patient due to a touch-find of a painless, fixed prostate with irregular surface and 4.64 ng/ml PSA-value. The histological result showed Gleason 3+4 prostate adenocarcinoma. Although rectal digital findings, radical prostatectomy had been decided.

RESULTS: During the operation we detected the stony hard vesicula seminalis and ductus deferenses. However, histological result revealed: pT2cN0 prostate adenocarcinoma, Gleason: 4+3 and surgical margin was negative. The histological examination proved osseus metaplasia of the vesicula seminalis. The patient is still symptom-free, his control PSA-value is: 0.013 ng/ml.

CONCLUSIONS: Calcification of the vas deferens and vesicula seminalis is a symptomless and rare situation and in the background mostly urinary tract infection or diabetes can be found. In the literature there are many cases of calcification published since the beginning of the 1900s, but according to our best knowledge there is no publication of osseus metaplasia of the vesicula seminalis so far. Rectal digital status and contradictory low PSA-value can raise our suspicion for osseus metaplasia. The phenomenon can mimic locally advanced, anaplastic prostate cancer also before and during the operation. From differential diagnosis point of view, it has to be separated from rare malignancies of the vesicula seminalis.

Eur Urol Suppl 2014; 13(6) e1261
C73: The correlation between blood loss and oncological parameters in open radical retropubic prostatectomy

Romics M., Romics I., Majoros A., Nyirády J.

Semmelweis University, Dept. of Urology and Uro Oncology, Budapest, Hungary

INTRODUCTION & OBJECTIVES: Intraoperative blood loss and the subsequent blood transfusion is one of the main complications of open radical retropubic prostatectomy. It leads to longer hospital stay, might decrease patients’ satisfaction and also has negative financial aspects.

MATERIAL & METHODS: Surgical and oncological data (PSA, Gleason-score, rectal digital examination, prostate volume, patient’s age and history) of 389 patients underwent retropubic radical prostatectomy (operated between 2005 and 2012, mean age: 65.2y) was carefully evaluated. We were looking on the connection between these factors, intra-operative blood loss and the unit of blood given during transfusion. Student’s T-test was used to analyze significance between subgroups, with the p value of 0.05 or less.

RESULTS: Average blood loss was 650 millilitres (ranging from 100 to 3000ml), which is similar to the ones cited in international literature. In only 9.2 percent of the cases (36 patients) was blood transfusion needed. Average amount of blood given during transfusion was 2.4 units. After reviewing our cases it was also found that intra-operative bleeding is significantly related to factors like higher Gleason-score (>6, p=0,0008), bigger (30 ml and up) prostate (p=0,001837), patient’s age (50s vs 70s, p=0,013176) and history of BPH or prostatitis (neg vs pos, p=0,015215). PSA and rectal findings did not show any correlation with blood loss.

CONCLUSIONS: Patients with higher Gleason-score, higher prostate volume, older age and history of prostatitis or symptomatic BPH have a greater chance to have intra-operative bleeding and subsequent blood transfusion. More attentive pre-operative examinations (especially reviewing the patient’s haemostatic status) may help to point out those patients with higher risk for bleeding.

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A phase 2 study of technetium Tc 99m trofolastat chloride (MIP-1404) SPECT/CT to identify local disease and lymph node metastases in high-risk patients undergoing radical prostatectomy (RP) and extended pelvic lymph node dissection (ePLND) for prostate cancer (PCa): Analysis of imaging assessments with comparison to histopathology and MRI

Dér J.1, Tenke P.1, Joniau S.2, Slawin K.3, Ellis W.4, Alekseev B.5, Buzogány I.6, Mishugin S.7, Klein E.8, Stolz J.9, Student V.10, Matveev V.11, Köves B.12, Babich J.13, Youssoufian H.14, Stambler N.14, Armor T.14, Israel R.14

1 Jahn Ferenc South-Pest Hospital, Dept. of Urology, Budapest, Hungary, 2 University Hospitals Leuven, Dept. of Urology, Leuven, Belgium, 3 Vanguard Urologic Institute At Memorial Hermann-TMC, Dept. of Urology, Houston, United States of America, 4 University of Washington School of Medicine, Dept. of Urology, Seattle, United States of America, 5 Moscow Oncology Research Institute, Dept. of Urology, Moscow, Russia, 6 Peterfy Sandor Street Hospital, Dept. of Urology, Budapest, Hungary, 7 City Clinical Hospital # 57, Dept. of Urology, Moscow, Russia, 8 Cleveland Clinic Foundation, Dept. of Urology, Cleveland, United States of America, 9 University Hospital Motol, Clinic of Urology, Dept. of Urology, Prague, Czech Republic, 10 University Hospital Olomouc, Clinic of Urology, Dept. of Urology, Olomouc, Czech Republic, 11 Russian Oncology Research Center, Dept. of Urology, Moscow, Russia, 12 Jahn Ferenc South Pest Hospital, Dept. of Urology, Budapest, Hungary, 13 New York Presbyterian Hospital – Cornell, Dept. of Urology, New York, United States of America, 14 Progenics Pharmaceuticals, Tarrytown, Dept. of Urology, New York, United States of America

INTRODUCTION & OBJECTIVES: Trofolastat is a novel urea-based small molecule SPECT radiotracer with utility in imaging overexpression of PSMA in prostate cancer (PCa). Unlike earlier agents targeting PSMA, this ligand binds the external domain of PSMA and is rapidly internalized and retained in tumor cells. We conducted an open-label, multicenter Phase 2 study in Europe and the US. The primary endpoint was the ability of trofolastat to detect PCa in the prostate gland. Secondary endpoints included detection of lymph node (LN) involvement and comparison to MRI.

MATERIAL & METHODS: Patients (pts) with confirmed PCa at high risk for extraprostatic disease (≥cT3 or Godoy nomogram score ≥130) were eligible. All patients had a bone scan and pelvic MRI within 30 days of screening. After enrollment, pts received trofolastat followed by SPECT/CT imaging 3 to 6 hrs later and RP with ePLND within 21 days. Semi-quantitative scores of trofolastat uptake in prostate lobes and assessments of LN involvement were recorded by 3 nuclear medicine readers blinded to clinical information. Quantitative measures of maximal trofolastat uptake within lobes of the prostate gland versus a local background (T:B) were also obtained from the SPECT scan. All assessments were compared to pathology findings using the Gleason scoring system as the truth standard.

RESULTS: Pelvic SPECT/CT images of trofolastat uptake were acquired in 104 enrolled pts. Gleason scores (GS) were recorded for 80 pts and ranged from 3+3 to 5+5. A consensus (≥2/3) of SPECT/CT readers detected primary PCa in 98/104 (94%) pts. T:B significantly correlated with highest GS per lobe (Spearman’s ρ=0.53 P<0.0001). Patients treated neoadjuvantly (n=27) had significantly lower scores and T:B values (P<0.001). A total of 3025 LNs were excised at surgery and 79 (2.6%) were found to be positive for PCa. Mean maximum positive LN size was 5.4 mm (range 0.2-16 mm). A consensus of SPECT/CT readers detected LN metastases in 8/33 patients, including 7/20 greater than 5mm and 6/12 greater than 5mm without neoadjuvant therapy. MRI detected 4/33 patients with LN metastases including 2/20 greater than 5mm and 2/12 greater than 5mm without neoadjuvant therapy.
CONCLUSIONS: In this study, trofolastat uptake correlated the presence of prostate cancer in a given lobe of the prostate with higher Gleason scores in the primary tumor. Trofolastat SPECT/CT may also provide unique information on the presence of LN metastases, particularly in the absence of prior hormone therapy.

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C76: Biochemical status in prostate cancer patients with lymph node metastases following laparoscopic radical prostatectomy with extended pelvic lymph node dissection

Powroźnik J., Kawecki S., Piotrowicz S., Muśko N., Dobruch J., Borówka A.

European Health Centre Otwock, Dept. of Urology, Otwock, Poland

INTRODUCTION & OBJECTIVES: Radical prostatectomy (RP) is the mainstay treatment of prostate cancer patients. It is often combined with the extended pelvic lymph node dissection (ePLND). Selected cases of patients post ePLND have been observed to have better odds of prostate cancer recurrence free survival. Additionally, ePLND allows for better evaluation of the disease stage. The aim of this study was to assess the risk of biochemical status in patients with prostate cancer and lymph node metastases treated with laparoscopic radical prostatectomy with extended pelvic lymph node dissection.

MATERIAL & METHODS: Data on prostate cancer patients with histologically confirmed lymph node metastases who underwent laparoscopic radical prostatectomy with extended pelvic lymph node dissection between February 2011 and July 2014 have been retrospectively analysed.

RESULTS: Total of 216 endoscopic radical prostatectomies were performed during the study period. The extended pelvic lymph node dissection was performed in 113 patients. Of those men who underwent ePLND, metastases to lymph nodes were confirmed in 16 (14.15%) patients. The median number of dissected lymph nodes was 20 (range 5-34). The median number of disease positive lymph nodes (PLN) was 5 (range 1-18). The median pre-op TRUS biopsy Gleason sum and the median post-operative Gleason score in patients with PLN were 7. In patients with positive lymph nodes the mean initial PSA level was 18.37 ng/ml (range 3.5-39ng/ml), whereas the mean PSA 3 months after surgery was 2.17 ng/ml (0-15 ng/ml). Among those with positive lymph nodes 7 (44%) patients had undetectable PSA 3 months after surgery and 9 (56%) men had PSA above 0.2 ng/ml.

CONCLUSIONS: Extended pelvic lymph node dissection is being performed in intermediate- and high-risk prostate cancer patients. Biochemical recurrence has been observed in the majority (56%) of prostate cancer patients who had nodal disease, whereas normal biochemical status has been seen in those with minimal disease burden.

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INTRODUCTION & OBJECTIVES: Radical prostatectomy (RP) is the prime treatment method for patients suffering from organ-confined prostate cancer (PCa). The extent of the tissues removed during the RP depends, i.a., on the stage of PCa. In such cases the most detailed imaging is provided by the multiparametric 3T magnetic resonance (mpMRI). To establish the oncologic characterization of PCa in relation to the volume of the tumor determined by the multiparametric 3T magnetic resonance in patients subjected to radical prostatectomy.

MATERIAL & METHODS: Retrospective analysis of the data of PCa patients who underwent RP between 1.02.2011 and 30.06.2014. Prior to PR, the volume of the patients’ prostate tumor had been assessed by mpMRI. The patients were divided into two groups. Group 1 included patients with normal magnetic resonance imaging or the tumor volume smaller or equal 0.5 ml. Group 2 included patients with the tumor volume exceeding 0.5 ml.

RESULTS: In this period, among patients subjected to RP, 83 men (35,5%) had undergone mpMRI (prior to RP). In 26 of them (31,3%) the tumor lesion volume was ≤0.5 ml, in 3 cases (11,5%) mpMRI imaging was normal. Twenty two men (84,6%) were diagnosed with organ-confined PCa. Positive surgical margin (PSM) with no seminal vesicle invasion (SVI) nor lymph node involvement (N+) was found in one case. Mean concentration of PSA and mean Gleason score were 7.3 ng/ml and 6.3, respectively. Tumor lesion volume >0.5 ml was detected in 56 patients (68,7%). Twenty two (39,3%) of them were diagnosed with organ-confined PCa. Mean concentration of PSA and Gleason score were 13,9 ng/ml and 7,4, respectively. PSM, SVI and N+ were detected in 15 (26%), 7 (12,5%) and 5 (8,9%) men, respectively.

CONCLUSIONS: Tumor lesion volume determined by mpMRI constitutes an easily-estimated and objective parameter which contributes to establishing the oncologic characterization of prostate cancer. Owing to mpMRI, the extent of the tissues removed during radical prostatectomy can be planned more efficiently.

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**C78: Genetic studies on Romanian prostate cancer patients confirm genetic risk variants for prostate cancer**

Rascu A.S.C.1, Jinga V.1, Dumitrache M.2, Merticariu M.2, Petca R.1, Radavoi D.1, Badescu D.1

1"Carol Davila" University of Medicine and Pharmacy, Prof. Dr. Th. Burghhele Clinical Hospital, Dept. of Urology, Bucharest, Romania, 2Prof. Dr. Th. Burghhele Clinical Hospital, Dept. of Urology, Bucharest, Romania

**INTRODUCTION & OBJECTIVES:** Prostate cancer, the most common neoplasia of the male gender in developed countries, revealed consistent evidence of familial aggregation, although the causes of this aggregation are mostly unknown. Nowadays, the majority of the studies are focused on identifying biomarkers that could be used for the disease’s screening. The study was aimed to find if previously identified genetic variants on 8q24 chromosome affect susceptibility to prostate cancer in the Romanian male population, also attempting to translate recent findings in prostate cancer genetics into biomarkers of clinical utility.

**MATERIAL & METHODS:** A bio bank with blood DNA samples from 990 cases (histologically confirmed prostate cancer) and 1034 controls was used to perform a genome-wide association study. From the patients’ records, detailed lifestyle, history and medical information was collected. Illumina Infinium Platform was used for the genetic testing. Biological material was tested for 34 previously identified genetic variants in order to assess if these variants affect susceptibility to prostate cancer in the Romanian population. Furthermore, the presence of genetic risk variants was associated with clinical parameters correlated with disease severity and prognostic, by analysing the data separately for the Romanian population.

**RESULTS:** The C allele of single nucleotide polymorphism marker (SNP) rs1447295 proved to be highly associated with prostate cancer risk with both heterozygote (OR: 1.52, p: 0.002) and homozygote (OR: 1.49, p: 0.003) forms, in the Romanian male population. This marker was most strongly correlated with high values of serum PSA levels; advanced TNM stages and high Gleason’s score (8 – 10).

**CONCLUSIONS:** The genetic studies conducted in the Romanian study population showed that 8q24 chromosome is one of the most important regions in the attempt to identify genetic risk variants for prostate cancer. In the Romanian prostate cancer study group, allele C of rs1447295 was found to be strongly connected with disease severity markers (such as advanced TNM stages, high serum PSA levels and Gleason’s score from 8 to 10) at the time of diagnosis.

**ACKNOWLEDGEMENT:** This paper is partly supported by the Sectorial Operational Programme Human Resources Development (SOPHRD), financed by the European Social Fund and the Romanian Government under the contract number POSDRU 141531

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C79: Tumor size in MRI and percentage of cancer in biopsy are independent predictors of side-specific extracapsular extension or seminal vesicular invasion

Dybowski B.¹, Bres-Niewada E.¹, Lorenc T.², Powała A.³, Borkowski T.¹, Sawa F.¹, Radziszewski P.¹

¹Medical University of Warsaw, Dept. of Urology, Warsaw, Poland, ²Medical University of Warsaw, Dept. of Radiology, Warsaw, Poland, ³Medical University of Warsaw, Dept. of Pathology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: Multiparametric magnetic resonance (MP-MRI) is considered the best method for imaging of prostate cancer. Preoperative staging is one of its potential applications. Information on the localization and extension of the tumor may influence decision which neurovascular bundle should be preserved. Extracapsular extension (ECE), however, is often difficult to identify on images. The aim of this study was to find if MP-MRI is useful in predicting side-specific prostate cancer ECE or seminal vesicular invasion (SVI).

MATERIAL & METHODS: A consecutive group of 49 patients with prostate cancer diagnosed in needle biopsy, who underwent MP-MRI followed by radical prostatectomy was included in the study. The following clinical parameters were investigated: digital rectal examination, PSA and TRUS results, Gleason score, percentage of cancer in biopsy, presence and size of suspicious lesions in MP-MRI. Values of the variables have been determined for the right and the left side of each prostate separately. Logistic regression analysis was used to assess the value of those variables for predicting side-specific ECE or SVI.

RESULTS: Mean age of 49 patients was 65. ECE or SVI was found in 25 patients (51%) and in 30 prostate sides (30.6%). Logistic regression analysis revealed two independent predictors of side-specific ECE or SVI: percentage of cancer in biopsy (odds ratio 2.0; 95% confidence interval 1.2 – 3.3) and maximal diameter of the tumor in MP-MRI (odds ratio 2.2; 95% confidence interval 1.2 – 4.1). The model consisting of presence of >15% cancer in biopsy OR >15mm lesion suggestive for neoplasm in MP-MRI was characterized by 80% sensitivity, 71% specificity, 56% positive predictive value and 89% negative predictive value.

CONCLUSIONS: Size of the tumor detected by MP-MRI increases ability of biopsy parameters to predict side-specific ECE or SVI which may affect the decision on preserving neurovascular bundles.

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C80: Focal therapy - experimental treatment of prostate cancer

Adamczyk P., Tworkiewicz J., Drewa T., Dept. of Regenerative Medicine, Collegium Medicum of University of Nicolaus Copernicus in Bydgoszcz, Poland

Nicolaus Copernicus Hospital In Torun, Dept. of General and Oncologic Urology, Torun, Poland

INTRODUCTION & OBJECTIVES: Prostatectomy and radiation therapy are the main treatment methods of prostate carcinoma. Both of them have serious side effects. In that connection occurred the idea of organ preserving therapy, which is associated with a low rate of complications, such as impotency or incontinence. According to EAU Guidelines focal therapies in prostate cancers are still experimental.

MATERIAL & METHODS: The aim of the study was to determine what percentage of patients would be eligible for focal therapy of prostate cancer, based on histopathological findings after radical prostatectomies. Biopsies of the prostate were performed in 720 men. Prostate cancer was detected in 324 cases and 81 from them were subjected to the radical prostatectomy. Pre and post-operative pathological results were analyzed according to possible qualification to focal treatment.

RESULTS: Clinical evaluation indicated a monofocal disease in 25% cases and this group could be qualified to focal therapy. Post-operative evaluation revealed pT2b cancer in 5%, pT2c disease in 65% of them, and pT3a-pT4a disease in 20%. Cancer was unilateral (pT2a-b) only in 15% of cases, and as suitable for focal treatment (small disease not extending to whole lobe- pT2a disease) only in 10%.

CONCLUSIONS: Currently available diagnostic tests seem to be insufficient for accurate staging the disease, and the amount of neoplastic tissue within the prostate gland. In our opinion, the focal therapy should not be used for patients with pT2b and a higher degree. In this group is recommended radical treatment (radical prostatectomy / radiotherapy). Whereas the possibility of overtreatment for cases with low risk disease, active surveillance is a important treatment option. In this case focal therapy can be interesting therapeutic proposition for small group of patients with pT2a cancer, but it is not possible to select them with big certainty, with current methods of imagining medicine.

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"Continence" radical prostatectomy

Sernyak Y. P., Fukszon O. S., Roshchin Y. V., Frolov O. S., Sernyak P. Y.

Donetsk National Medical University Named After M. Gorky, Dept. of Urology Educational Research Institute of Postgraduate Education, Donetsk, Ukraine

INTRODUCTION & OBJECTIVES: prostate cancer - the most common non-dermatological cancer in men in the Western world, is a socially significant problem. Urinary incontinence is a condition of providing the utmost importance on the quality of life in patients after radical prostatectomy. The aim of our work was to evaluate the influence of the dissection of the dorsal venous complex without prior ligation, needling or coagulation on continence function.

MATERIAL & METHODS: 42 patients after removal of the prostate who underwent back and front anatomical reconstruction and the formation of vesicourethral anastomosis using thread V-lock. All are divided into two groups. The first group included 22 patients who carried needling the urethra before dissection dorsal venous complex, 3-0 vicryl thread. The second group included 20 patients who carried the dissection of the urethra without needling, ligation or coagulation of venous complex. Age, PSA level and stage of patients in groups (Tab. 1).

<table>
<thead>
<tr>
<th></th>
<th>The first group of 22 patients</th>
<th>The second group of 20 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>63,2±1,2 years</td>
<td>64±0,9 years</td>
</tr>
<tr>
<td>PSA level</td>
<td>6,2±0,4 ng/ml</td>
<td>5,9±0,9 ng/ml</td>
</tr>
<tr>
<td>Stage T1N0M0</td>
<td>11(50%)</td>
<td>9(45%)</td>
</tr>
<tr>
<td>Stage T2N0M0</td>
<td>8(36,3%)</td>
<td>7(35%)</td>
</tr>
<tr>
<td>Stage T3N0M0</td>
<td>3(13,7%)</td>
<td>4(20%)</td>
</tr>
</tbody>
</table>

Tab. 1.

RESULTS: In the first group complete continence for the first day after catheter removal was observed in 9 (40,9%) patients, after 3 months 15 (68%) patients, at 12 months 2 (9%) patients demonstrated a partial incontinence mild (up to two pads per day). The patients of the second group complete continence in the first day after catheter removal were noted in 17 (85%) cases, in 3 months all patients were continent. Intraoperative blood loss and the immediate results of the operation (Tab. 2).

<table>
<thead>
<tr>
<th></th>
<th>The first group of 22 patients</th>
<th>The second group of 20 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood loss</td>
<td>357+-30 ml (Me=382 ml)</td>
<td>402+-25 ml (Me=394 ml)</td>
</tr>
<tr>
<td>Positive surgical margin</td>
<td>4(18,1%)</td>
<td>3(15%)</td>
</tr>
<tr>
<td>Continents on the first day</td>
<td>9(40,9%)</td>
<td>17(85%)</td>
</tr>
<tr>
<td>Continents to 12 months</td>
<td>20(90,1%)</td>
<td>20(100%)</td>
</tr>
<tr>
<td>Biochemical recurrence</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Tab. 2.
CONCLUSIONS: The dissection of the dorsal venous complex without needling when performing laparoscopic radical prostatectomy in patients with localized forms of prostate cancer has a significant impact on the preservation of urinary function, namely 45% more patients report complete continence in the early stages, and in the later stages 10% more patients were completely continent. In this no statistically significant increase in intraoperative blood loss (p>0.05), number of positive margins and the number of biochemical recurrence.

Eur Urol Suppl 2014; 13(6) e1269
C82: The oncological characteristic of very-high-risk prostate cancer in patients subjected to radical prostatectomy

Michalak W., Borówka A., Dobruch J., Muśko N.
European Health Centre Otwock, Dept. of Urology, Otwock, Poland

INTRODUCTION & OBJECTIVES: The surgical treatment of very-high-risk prostate cancer (PCa) remains controversial. According to 2014 EAU Guidelines radical prostatectomy is a reasonable treatment option in selected patients with cT3a PCa, Gleason Score (GS) 8-10 or PSA > 20ng/ml, it is also optional in highly selected patients with very-high-risk PCa (infiltrating of seminal vesicles or other adjacent structures - cT3b-4 N0 or nodal involvement - any cT N1) in the context of a multimodality approach. The aim of the present study is to review data of those who were subjected to radical prostatectomy due to very-high-risk prostate cancer.

MATERIAL & METHODS: Between October 2011 and July 2014 radical prostatectomy was performed in 8 patients clinically classified as having very-high-risk PCa: 3 patients with cT3bN0 and 5 patients with suspected nodal disease (2 patients with cT2b-3a N1 and 3 patients with cT3b-4 N1). The preoperative and postoperative staging and Gleason Score Index were compared. The estimation of pathological surgical margins and nodal infiltration in case of positive nodal disease was done.

RESULTS:

<table>
<thead>
<tr>
<th>Patient No</th>
<th>Preoperative Gleason Score</th>
<th>Preoperative staging</th>
<th>Postoperative Gleason Score</th>
<th>Postoperative staging</th>
<th>Surgical margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>cT4 cN1</td>
<td>9</td>
<td>pT4 pN0</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>cT3b cN1</td>
<td>7</td>
<td>pT2c pN0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>cT3b cN1</td>
<td>9</td>
<td>pT3b pN1</td>
<td>+</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>cT2b cN1</td>
<td>8</td>
<td>pT2b pN1</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>cT3b cN0</td>
<td>7</td>
<td>pT3b pN1</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>cT3a cN1</td>
<td>7</td>
<td>pT3a pN1</td>
<td>+</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>cT3b cN0</td>
<td>9</td>
<td>pT3b pN1</td>
<td>+</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>cT3b cN0</td>
<td>8</td>
<td>pT3b pN1</td>
<td>-</td>
</tr>
</tbody>
</table>

In 6 cases (75%) the preoperative GS index remained constant after pathological RP specimen evaluation, in one case (12,5%) the GS was preoperatively underestimated, in one case (12,5%) the GS was preoperatively overestimated. No underestimation of the local tumour stage was recorded, in one case (12,5%) the local tumour stage was preoperatively overestimated. In 5 cases with clinically suspected nodal disease the nodal metastases were found only in 3 (60%) patients, in 2 cases (40%) the nodes turned out to be pathologically negative. Out of 3 patients preoperatively classified as N0 all turned out to be node-positive. Positive surgical margins were documented in 3 (37,5%) cases.

CONCLUSIONS: Radical prostatectomy is feasible in the treatment of selected patients with very-high-risk PCa. Local tumor stage and pelvic lymph nodes status are eventually found to be incorrectly estimated preoperatively.

Eur Urol Suppl 2014; 13(6) e1270
"Continence" radical prostatectomy. Assessing the impact of postoperative complications on urinary function

Sernyak Y.P., Fukszon A.S., Roshchin Y.V., Frolov O.S., Sernyak P.Y.

Donetsk National Medical University Named After M. Gorky, Dept. of Urology Educational Research Institute of Postgraduate Education, Donetsk, Ukraine

**INTRODUCTION & OBJECTIVES:** prostate cancer (PC) - one of the most common cancers in men. Laparoscopic radical prostatectomy (LRPE) in recent years has come a long way in developing and developed a standardized method of treatment, which has been successfully applied in a number of urological clinics. The incidence of intra- and postoperative complications according to modern data is from 0.5 to 3%. It is known that post-operative complications such as anastomosis stricture, formation rectovesical fistula (RVF), suture failure of urethra-vesical anastomosis may have an adverse effect on the function of urinary continence after LRPE. The aim of our work was to evaluate the impact of postoperative complications after LRPE on urinary function in patients with localized forms of prostate cancer.

**MATERIAL & METHODS:** 186 patients with localized prostate cancer who underwent LRPE. All are divided into two groups. The first group consisted of 165 patients, where there were no postoperative complications, the second - 21 patients, marked where the nearest postoperative complications.

**RESULTS:** The distribution of patients by age and stage of disease (Tab. 1).

<table>
<thead>
<tr>
<th>Age</th>
<th>The first group of 165 patients</th>
<th>The second group of 21 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1N0M0</td>
<td>62,8+-1,3 years</td>
<td>63,6+-0,7 years</td>
</tr>
<tr>
<td>T2N0M0</td>
<td>42(25,4%)</td>
<td>4(19%)</td>
</tr>
<tr>
<td>T3N0M0</td>
<td>96(58,2%)</td>
<td>9(42,8%)</td>
</tr>
<tr>
<td>T4N0M0</td>
<td>27(16,4%)</td>
<td>8(38,2%)</td>
</tr>
</tbody>
</table>

**Tab. 1**
Operation time, intraoperative blood loss and length of hospital stay in the two groups of patients (Tab 2).

<table>
<thead>
<tr>
<th>Blood loss</th>
<th>The first group of 165 patients</th>
<th>The second group of 21 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>3часа 17 hours +- 15 minutes</td>
<td>3 часа 55 hours +-17 minutes</td>
</tr>
<tr>
<td>Length of hospital stay</td>
<td>9 day +- 1 day</td>
<td>15 day +- 1 day</td>
</tr>
</tbody>
</table>

**Tab. 2**
Postoperative complications in the second group of patients (Tab. 3).
**Table 3**

Effect of postoperative complications on urinary function (Tab. 4).

<table>
<thead>
<tr>
<th>Type of complications</th>
<th>21 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>RVF</td>
<td>2(9.5%)</td>
</tr>
<tr>
<td>Suture failure of urethrovessical anastomosis</td>
<td>18(85.7%)</td>
</tr>
<tr>
<td>Ureteric injury</td>
<td>1(4.8%)</td>
</tr>
</tbody>
</table>

**Table 4**

<table>
<thead>
<tr>
<th>Continents on the first day</th>
<th>The first group of 165 patients</th>
<th>The second group of 21 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continents to 12 months</td>
<td>126(76.3%)</td>
<td>16(76.1%)</td>
</tr>
<tr>
<td></td>
<td>142(86.1%)</td>
<td>21(100%)</td>
</tr>
</tbody>
</table>

**CONCLUSIONS:** in our study, the early postoperative period complications occurred in 21 (11.2%) patients. Formation of RVF, suture failure of urethrovessical anastomosis after LRPE extends bladder catheterization and location of hospital. We observed no statistically significant effect on postoperative complications of urinary function in patients with prostate cancer who underwent LRPE.

Eur Urol Suppl 2014; 13(6) e1271
C84: Efficacy on testosterone levels of triptorelin pamoate 11.25 mg administered subcutaneously every 3 months in patients with locally advanced or metastatic prostate cancer

Lebret T.¹, Hublarov O.², Jinga V.³, Petkova L.⁴, Kotsev R.⁵, Sinescu I.⁶, Fages M-E.⁷, Pouget J-C.⁷, Dutilly P.⁷

¹Foch Hospital, Dept. of Urology, Suresnes, France, ²Latgalian Urology Centre, Dept. of Urology, Daugavpils, Latvia, ³"Carol Davila" University of Medicine and Pharmacy, Dept. of Urology, Bucharest, Romania, ⁴UMHAT Sveta Anna, Dept. of Urology, Varna, Bulgaria, ⁵UMHAT G. Stranski, Dept. of Urology, Pleven, Bulgaria, ⁶Clinical Hospital Fundeni, Dept. of Urology, Bucharest, Romania, ⁷Ipsen Innovation, Dept. of Research and Development, Les Ulis, France

INTRODUCTION & OBJECTIVES: For some patients, subcutaneous (SC) is preferred to intramuscular (IM) administration. Therefore the efficacy of the IM formulation of triptorelin pamoate was assessed when administered by the SC route.

MATERIAL & METHODS: In this open-label, single-arm, phase III study, adult men with locally advanced or metastatic prostate cancer and serum testosterone (T) level >125 ng/dl were treated with triptorelin pamoate 11.25 mg given by the SC route on Days 1 and 92. The co-primary efficacy endpoints were the proportions of patients with a castration level of T (<50 ng/dl) on Day 29 and still castrated on Day 183 (≤80% and ≤85%, respectively, were considered undesirable). Secondary endpoints included PSA level and safety measures. The proportion of patients with a T level <20 ng/dl was studied in an exploratory manner.

RESULTS: The primary objective of the study was met; 123/126 patients (97.6% [95% CI: 93.2-99.5]) castrated on Day 29, and of these, 115/119 patients (96.6% [91.6-99.1]) maintained castration on Day 183. The probability of being castrated after 1 month and to remain castrated for up to 6 months was 96% [0.92-0.99]. Median T levels decreased to 14.7 ng/dl and 9.4 ng/dl on Days 29 and 57, respectively. T values remained within this range until the end of the study. The proportion of patients with a T level

<table>
<thead>
<tr>
<th>Timepoint</th>
<th>Proportion with T % [95% CI*]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 29</td>
<td>77.7 [68.4-85.3]</td>
</tr>
<tr>
<td>Day 57</td>
<td>95.7 [90.1-98.6]</td>
</tr>
<tr>
<td>Day 92</td>
<td>95.9 [90.6-98.6]</td>
</tr>
<tr>
<td>Day 120</td>
<td>92.6 [86.3-96.5]</td>
</tr>
<tr>
<td>Day 148</td>
<td>92.6 [86.3-96.5]</td>
</tr>
<tr>
<td>Day 183</td>
<td>90.8 [84.2-95.3]</td>
</tr>
</tbody>
</table>

* Two-sided 95% confidence interval

The probability of maintaining a T level <20 ng/dl up to Day 183 was 90% [0.85-0.95] in the ITT population. Median PSA levels were reduced by 64.2% and 96.0% on Day 29 and at the end of the
study, respectively. The safety profile of triptorelin administered by the SC route was similar to the known safety profile of triptorelin administered by the IM route.

**CONCLUSIONS:** Triptorelin pamoate 11.25 mg administered by the SC route every 3 months achieves castration levels of T in >95% of men after 1 month and this is maintained up to 6 months. T levels were <20 ng/dl in 77.7% and 95.7% of patients on Days 29 and 57, respectively.

Eur Urol Suppl 2014; 13(6) e1272
INTRODUCTION & OBJECTIVES: Prostate cancer is the second common cancer in male population in Poland. According to Oncology Centre in Warsaw, in 2010 there were 9272 new cases of prostate cancer were reported. In 2012 in Poland 2619 radical prostatectomies were performed in total. Stress urinary incontinence after radical prostatectomy is 15.5%, while erectile dysfunction (ED) is up to 100.0% depending on a medical centre and treatment procedure. The aim of this paper is to present own experiences in artificial urinary sphincter (AUS) and penile prosthesis in patients after radical prostatectomy treated at 2nd Department of Urology, Medical University of Lodz.

MATERIAL & METHODS: Between 2012 and 2014, eight patients had been operated due to stress incontinence by implantation procedure of AUS ZEPHYR ZSI 375 (Switzerland). Two patients with erectile dysfunction were treated by Zephyr Penile Surgical Implants ZSI 475 (Switzerland). All patients were after radical prostatectomy.

RESULTS:

<table>
<thead>
<tr>
<th></th>
<th>Artificial urinary sphincter ZSI 375</th>
<th>Penile Surgical Implants ZSI 475</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient age</td>
<td>64 - 74, mean age 68.6</td>
<td>59 - 61, mean age 60</td>
</tr>
<tr>
<td>Prostate cancer</td>
<td>T T2 – 7, T3 – 1 patients</td>
<td>T2 – 1, T3 – 1 patients</td>
</tr>
<tr>
<td></td>
<td>N N0 – 8 patients</td>
<td>N0 – 2 patients</td>
</tr>
<tr>
<td></td>
<td>M M0 – 8 patients</td>
<td>M0 – 2 patients</td>
</tr>
<tr>
<td>Gleason score</td>
<td>Gl.sc 6 – 7 patients, 7 – 1 patient</td>
<td>Gl.sc 6 – 1 patient, Gl.sc 8 – 1 patient</td>
</tr>
</tbody>
</table>

Follow up time is between 6 to 18 months. All patients after AUS have full urine continence. In one patient there was need of re-operation in 3rd day after the main procedure. It was caused by usage of incorrect catheter during the main procedure. After the activation of AUS this patient is dry. Patients after penile surgical implants could start regular sexual intercourse 2 months after the procedure. Both are fully satisfied with their sexual performance.

CONCLUSIONS: Centres that carry out radical prostatectomy procedures in the treatment of prostate cancer should be able to implant urinary sphincters in patients with stress urinary incontinence on a regular basis. Penile surgical implant in sexually active men after radical prostatectomy should be introduced at the patient’s request.

Eur Urol Suppl 2014; 13(6) e1273
C86: Impact of bladder neck preservation on functional and oncologic outcomes after laparoscopic radical prostatectomy

Dudek P.¹, Golabek T.¹, Jaskulski J.², Szopiński T.¹, Wiatr T.¹, Lipczyński W.¹, Kusionowicz J.¹, Habrat W.¹, Przydacz M.¹, Chłosta P.¹

¹Jagiellonian University Medical College, Dept. of Urology, Cracow, Poland, ²Institute of Oncology, Dept. of Urology, Kielce, Poland

INTRODUCTION & OBJECTIVES: Preservation of the bladder neck during radical prostatectomy has been controversial as limited excision of the bladder neck may result in incomplete resection of the disease and urinary continence rate may not be improved. To evaluate the effect of bladder neck sparing on urinary continence and surgical margins status in prostate cancer patients treated with laparoscopic radical prostatectomy.

MATERIAL & METHODS: A retrospective analysis of 295 consecutive patients who had undergone laparoscopic radical prostatectomy for clinically localised prostate cancer in a single institution was performed. Positive surgical margins (SM(+)) and urinary continence status at 3, 6, and 12 months were evaluated.

RESULTS: The mean patient age was 62 years (range 42 to 78). The most common postoperative Gleason sum was 6. The overall positive surgical margins rate was 29.15% (86 cases). Of those, 30.2% were observed in men with pT2 stage of prostate cancer, 67.4% were detected in patients with pT3 stage, and 1.16% of SM(+) was noted in a man with pT4a disease. Overall, there were 59.23%, 85.86%, and 90.21% of men continent at 3, 6, and 12 months, respectively.

CONCLUSIONS: Laparoscopic radical prostatectomy with bladder neck preservation has been a safe procedure which has resulted in good functional outcome. The observed relatively high incidence of positive surgical margins could have been attributed to the large number of extracapsular disease cases.

Eur Urol Suppl 2014; 13(6) e1274
Bladder neck preservation and the risk of positive surgical margins after laparoscopic radical prostatectomy

Gawlas W., Golabek T., Hessel T., Szmer J., Curylo L., Chlosta P.

Collegium Medicum of the Jagiellonian University, Dept. of Urology, Krakow, Poland

INTRODUCTION & OBJECTIVES: Radical prostatectomy offers the potential for cure of localised prostate cancer, however, it carries a significant risk of urinary incontinence due to bladder neck dysfunction and damage of the neuronal innervation, which can adversely affect the continence mechanisms. Bladder neck preservation (BNP) has reduced the likelihood of urinary incontinence. However, BNP remains controversial, as it may come at the cost of high risk positive surgical margins, compromising the disease prognosis.

Aim
To evaluate the effect of bladder neck sparing on surgical margins status in the prostate cancer patients treated with laparoscopic radical prostatectomy.

MATERIAL & METHODS: Data of 41 patients with positive surgical margins (PMS), who had undergone laparoscopic radical prostatectomy with bladder neck preservation for clinically localised prostate cancer in a single institution, were retrospectively reviewed from a prospectively maintained database and correlated with clinical and pathological parameters.

RESULTS: The mean age of patients was 62.17 (range 50 to 70). The mean PSA value was 11.14 ng/ml (range 3.2 to 32), the median biopsy Gleason score was 7 (range 5 to 9), and the median postoperative Gleason sum was 7 (range 6 to 8). Six men (14.64%) had clinical stage pT2, 27 (65.85%), stage pT3a, and 8 men (19.51%) stage pT3b disease. Positive surgical margins were found in apex of the prostate in 26 cases (63.4%), whereas in 11 men (26.8%) PMS were identified in the posterior or postero-lateral aspect of the gland. There were only 4 patients (9.8%) with a positive bladder neck margin, and 3 of those men exhibited a positive surgical margin at multiple sites, indicating that a PMS would have occurred regardless of bladder neck preservation.

CONCLUSIONS: Bladder neck preservation has not compromised surgical margins, therefore it can be safely performed to achieve better functional outcome.

Eur Urol Suppl 2014; 13(6) e1275
C88: Natural history of incidental prostate cancer after transurethral resection of the prostate

Hradec T., Capoun O., Hanus T.

General Teaching Hospital of The First Faculty of Medicine, Charles University, Dept. of Urology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: To assess the management of patients with incidental prostate cancer found after transurethral resection of the prostate (TURP)

MATERIAL & METHODS: In the period 01/2007 – 10/2013 a total of 965 TURPs with bipolar or monopolar resection were performed in our department. Patients with known prostate cancer (PC) confirmed by biopsy and patients with clinically obvious tumor mass by digital rectal examination (DRE) before the procedure were excluded from the study. We collected following parameters: total and free prostate specific antigen (tPSA and fPSA) levels, prostate size, number of prostate biopsies and DRE finding before TURP, weight of the resected tissue and Gleason score (GS). We also focused on a treatment modality and if the standard biopsy was performed after TURP with incidental PC.

RESULTS: A total of 71 patients (7.36%) were diagnosed with PC after TURP. Mean age was 71,8 (57-86) years. Mean PSA level was 5,26 (0,29-64) ng/ml. A total of 57, 10 and 4 patients were diagnosed with GS ≤ 6, 7 and ≥ 8, respectively. Altogether 15 patients underwent prostate biopsy prior to the surgery with no signs of tumor in histological examination. From the different treatment modalities 12 patients underwent radical radiotherapy (mean PSA 4,73 ng/ml), 5 radical prostatectomy (mean PSA 3,43 ng/ml) and 6 patients hormonal therapy or orchiectomy (mean PSA 20,46 ng/ml). A total of 36 patients were indicated to watchful waiting (mean PSA 3,7 ng/ml). Only in eight patients a confirmation biopsy was indicated after TURP. Higher GS in this rebiopsy comparing to TURP was found in two of these cases.

CONCLUSIONS: There is no strong data suggesting a standardized management of patients with prostate cancer diagnosed incidentally by TURP. We suggest that every patient should undergo confirmation biopsy before potential watchful waiting. The work was supported by the grant MPO TIP FR-T13/666.

Eur Urol Suppl 2014; 13(6) e1276
A comparison between different MRI techniques of pre-surgery staging of prostate cancer

Vik V., Stejskal J., Ryznarová Z., Koukolík F., Hájek M., Dezortová M., Zachoval R.

1Thomayer Hospital, Dept. of Urology, Prague, Czech Republic, 2Institute of Clinical and Experimental Medicine, Dept. of Radio-Diagnostic and Interventional Radiology, Prague, Czech Republic, 3Thomayer Hospital, Prague, Dept. of Pathology and Molecular Medicine, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: To assess the contribution of various MRI techniques for pre-surgery staging of prostate cancer, the definitive histological findings after radical prostatectomy were compared with pre-op staging based on the results of MR investigation.

MATERIAL & METHODS: The study included 103 patients who underwent radical prostatectomy and had a pre-surgery MRI of prostate between October 2009 and June 2014. The mean age was 62 years (45-74), the average PSA was 7.8ug/l (2.3 - 25.5) and the average Gleason score was 7. According to the final pathological staging 60 patients were in stage T2 and 43 in stage T3. All patients with biopitically verified prostate carcinoma and indicated for surgical treatment had a multiparametric MRI performed at least 6 weeks after biopsy to minimize artefacts. Based on the used MRI technique, there were 3 groups of patients, 1.5T with dynamic contrast enhancement (DCE,) 3T without DCE and 3T with DCE. Results of pre-surgery MRI staging and localization were later compared with final histopathological stage and localization.

RESULTS: 41 patients were examined using 1,5T MRI with DCE, in 27 (66%) case a match between MRI and final staging was obtained (17% understaged, 17% overstaged) and in 36 (88%) cases there was a match in carcinoma localization. The staging of 32 patients examined on a 3T MRI without DCE matched the histological staging in 23 (72%) cases (19% understaged, 9% overstaged) and a match in localization was reached in 25 (78%) patients. Using 3T MRI with DCE, out of 30 examined patients 27 (90%) were correctly staged (10% understaged) and a match in localization was achieved in 29 (97%) cases.

CONCLUSIONS: Multiparametric MRI is presently the most powerful and precise tool in pre-surgery staging of prostate carcinoma. More advanced instruments and functional imaging improves the accuracy, which is further influenced by expertise of radiologists.

Supported by grant of Ministry of Health of Czech Republic IGA NT 13017-4/2012

Eur Urol Suppl 2014; 13(6) e1277
C90: Impact of urethral bulking agent removal on safety and technical feasibility of simultaneous artificial urinary sphincter AMS800 implantation


Collegium Medicum of the Jagiellonian University, Dept. of Urology, Cracow, Poland

INTRODUCTION & OBJECTIVES: Artificial urinary sphincter (AUS) implantation is an established and effective treatment method for stress urinary incontinence in men. Due to the relatively high cost of AUS, less invasive and less expensive treatment options including injection therapy with urethral bulking agents (UBA), such as Urolastic, are being attempted. Urolastic augments the urethral wall and increases urethral resistance to urinary flow, thereby improving continence. In case of periurethral therapy failure bulking material needs to be removed to allow for application of other continence treatment options.

The aim of this study was to determine technical feasibility and safety of removal of urethral bulking agent with simultaneous artificial urinary sphincter AMS 800 implantation.

MATERIAL & METHODS: A 77-year-old man with post-radical retropubic prostatectomy urinary incontinence treated ineffectively with urethral Urolastic injection therapy was scheduled for AUS AMS800 implantation. During the procedure, white material - Urolastic - was identified on the lateral and posterior aspects of the bulbar urethra. After meticulous urethral dissection, the material was gently removed from its lateral sides. Small amount of Urolastic was left on the posterior aspect of the urethra. The remaining steps of the surgery did not deviate from the routine course of the AMS800 implantation procedure and 4.5 cm AUS cuff was used. Continence was evaluated based on 24-hour pad test. Functional outcome was assessed 2, 4 and 6 months after the surgery.

RESULTS: Operative time was 125 min. Peri- and postoperative course was uneventful. AUS was activated 6 weeks after the procedure. At 2, 4 and 6 months patient required only one security pad per day.

CONCLUSIONS: Artificial urinary sphincter implantation with simultaneous removal of UBA was a safe and technically feasible procedure. There was no complication observed and very good functional outcome was achieved.

Eur Urol Suppl 2014; 13(6) e1278
**C91: Complexity of pre and postoperative care of the patients with Artificial Urinary Sphincter (AUS) including fluoroscopically controlled readjustment manoeuvres**

Pawlin T., Antoniewicz A.A., Scholl A., Grotthuss G.

Multidisciplinary Hospital Międzylesie, Dept. of Urology, Warszawa, Poland

**INTRODUCTION & OBJECTIVES:** Implantation of AUS is a proven method of treatment of urinary incontinence caused by intrinsic sphincter deficiency. Either pre-implantation caucelling and initial treatment, or post-implantation continuous urological care is much more complex than the implantation alone. The aim of the study is to analyze our own material, with regard to additional maneuvers done pre and post-surgically in patients who underwent AUS implantation, and to establish a systemic approach to the patients after AUS implantation with a novel concept of surgical AUS readjustments, under fluoroscopic control.

**MATERIAL & METHODS:** In our institution, between 1996 - 2014, 91 patients (86 men, 5 women) underwent AUS implantation. We performed a retrospective analysis of a subgroup of 20 patients, operated by two surgeons between 2012 and 2014 14 patients had AUS (AMS 800) implanted (all men, mean age 71), 4 men were assessed but disqualified. 1 woman and 1 man had AUS removed, 3 men had AUS readjusted.

**RESULTS:** Out of 14 implanted AUS, 11 (79%) worked perfectly (achieved level of social continence) after initial implantation. 3 patients needed revision surgery using fluoroscopy, 1st repositioning of the balloon which became the part of an inguinal hernia sack, 2nd - replacing of the pump accidentally placed within the elements of the spermatic cord, 3rd - removal of the air from the system. Success rate was 100%. Preparing for the implantation resulted in 33 hospital stays; at least one cystoscopy per patient and, 6 urethrotomies, 1 resection of the anastomosis, 1 removal of a testis with hydrocele and the treatment of a subsequent abscess, 1 circumcision. Patients post implantation underwent 56 surgery visits (2 before and 2 post activation) and 14, 2 day hospital stays for the activation 2 patients had AUS removed - one, a woman because of a purulent process due to skin erosion by the elements of AUS, and a man because of the lack of activity – (mutually a new system had been implanted) Another man underwent testis removal as a result of the abscess. All the patients are counselled, educated and provided with a leaflet about inactivation. The patients or other doctors have unlimited access, via phone to the coordinator of the project and are consulted on all topics. Deactivation of AUS is done on demand in case of cathetersation.

**CONCLUSIONS:** Only 21% of the patients needed surgical reintervention. Fluoroscopy is a very efficient way for surgical readjustement procedures. Team approach, but one person devotion, education of the patients and unlimited access to the “AUS coordinator”, influence full success.

Eur Urol Suppl 2014; 13(6) e1279
INTRODUCTION & OBJECTIVES: The high prevalence of urinary disorders in young women makes the problem of treatment decision important. Mostly, there are stress urinary incontinence and dysfunctional voiding, but there are more rare syndromes that also require attention from urologist and gynecologist. One of them – giggle incontinence in young women which apparently voiding complete occurs specifically during laughing. It needs to be differentiated from stress urinary incontinence and detrusor overactivity. Reports on the treatment outcome of this disorder are also rare. Objective: estimated efficiency of the biofeedback with pelvic floor muscles electrostimulation in treatment of giggle urinary incontinence in young women.

MATERIAL & METHODS: The study involved 22 girls with giggle incontinence. Age of the patients ranged from 10 to 18 years old. Symptoms were presented giggle incontinence from early childhood with 1-2 episodes per week (on the average), sometimes with complete bladder emptying during laughter. Urodynamics investigations were normal. Girls with detrusor overactivity and stress urinary incontinence were excluded from the study. As a treatment for young women suggested a biofeedback method with preliminary pelvic floor muscles electrostimulation. The procedures were provided one time a week throughout 10 weeks. After treatment girls subjectively evaluated the effect on its presence and degree (high, medium, low).

RESULTS: 16 of 22 girls (73%) found the biofeedback to be effective: high efficiency - 10 girls (64%), average - 4 (27%), low - 2 (9%). High total and average efficiency was 91%.

CONCLUSIONS: Biofeedback can be used in young women with giggle incontinence to strengthen their pelvic floor muscles and allow them to remain continent during laughing. Also biofeedback enables to visualize the pelvic floor muscles during exercises helping them to attain better control of their function. Biofeedback is non-invasive, safe, effective and promising method in the treatment of giggle incontinence in young women.
**C94: Adherence and persistence to antimuscarinic treatment in patients with OAB – a five year analysis**

Persu C., Mirciulescu V., Nita G., Paraianu B., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

**INTRODUCTION & OBJECTIVES:** Antimuscarinics are recognized as standard therapy for both neurogenic and idiopathic OAB, despite their side effects. Our study aims to evaluate the adherence and persistence to this therapy by the patients in our department.

**MATERIAL & METHODS:** We retrospectively analyzed the available data for 246 patients in which five years follow up was available. Idiopathic OAB and neurogenic bladders (NgB) were studied separately. Only three antimuscarinic agents could be included: oxybutinin, solifenacin and trospium. Adherence and persistence information were obtained by direct questioning, as no other source was available. Switching to a different medication was considered as non-persistence.

**RESULTS:** Since adherence could not be objectively measured, the reported value is close to 100%, which we considered unreliable data. Persistence at 12 months, evaluated for all drugs together, was 12% in the idiopathic group and 23% in the NgB group. After 36 months, persistence dropped to 6% for idiopathic and 17% for NgB. The longest persistence for solifenacin was 42 months in idiopathic OAB and 5 years for NgB. For oxybutinin, the longest persistence was at 5 months for idiopathic OAB and 4 years for NgB. Trospium had the longest persistence at 5 months for idiopathic OAB and 3 years for NgB. After 36 months, 19% of the patients started on solifenacin are still taking their drug, compared to 2% for oxybutinin and 13% for trospium. We also noticed a better overall adherence to treatment in older patients.

**CONCLUSIONS:** The overall adherence to antimuscarinics could not be objectively evaluated, while the persistence is very low. The main risk factors for non-persistence to antimuscarinics are the idiopathic ethiology of OAB, an younger age and being prescripted oxybutinin.

Eur Urol Suppl 2014; 13(6) e1281
C95: Functional outcomes after artificial urinary sphincter implantation: Experience with 100 cases

Czech A.K., Szopinski T., Golabek T., Dudek P., Przydacz M., Chlosta P.L.

Collegium Medicum of the Jagiellonian University, Dept. of Urology, Cracow, Poland

INTRODUCTION & OBJECTIVES: Artificial urinary sphincter (AUS) implantation is a well established treatment method for urinary incontinence. It can be applied in both men and women with severe stress incontinence or when other less-invasive treatment methods have failed. Despite its high effectiveness, irrespective of grade of urinary incontinence, this method is not free of limitations. The aim of this study was to evaluate long-term functional results of AUS implantation for urinary incontinence.

MATERIAL & METHODS: Between 1996 and 2013, 100 patients underwent AUS implantation. Of those, 94 (94%) males aged 26 to 78 years (mean 70.8) and 6 (6%) females aged 16 to 75 years (mean 36.8) were treated. Urinary sphincter deficiency was most commonly a complication of radical prostatectomy (53, 53% of cases), including 47 radical retropubic prostatectomies and 6 laparoscopic radical prostatectomies. Second and third most common etiologies of urinary incontinence (29% in total) were procedures for severe lower urinary tract symptoms due to benign prostatic hyperplasia: TURP in 22 patients and open surgery in 7 patients. Urinary incontinence related to other procedures or conditions was present in 18 patients. In males, AUS implantation was performed by one of the two methods. In first, cuff was located around bulbar urethra by perineal approach (77 procedures) and in second, by retropubic approach with location of the cuff around prostatic urethra (17 cases). Continence was evaluated with a 24-hour pad test.

RESULTS: After one-year follow-up, AMS implantation resulted in complete continence recovery in 52 (52%) patients: 4 women and 48 men. Of those male patients, 32 underwent cuff implantation around the bulbar urethra and 16 had cuff implanted around the prostatic urethra. Good level of continence defined as ≤10g in 24-hour pad test or wearing one pad per day was achieved in 38% of patients: in 37 males and in 1 female. Poor level of continence defined as 10 to 100g in 24-hour pad test was noted in 3 males. Incontinence defined as more than 100g in 24-hour pad test was noted in 5 patients.

CONCLUSIONS: Overall, AUS implantation has restored urine continence in 93% of patients. Despite relatively high cost and some limitations this method provides very good functional outcomes in both male and female patients with severe extrinsic sphincter-related urinary incontinence.

Eur Urol Suppl 2014; 13(6) e1282
C96: Effects of mirabegron on lower urinary tract symptoms in overactive bladder patients not responding to antimuscarinic treatment

Garcia R., Silva R., Nunes A., Oliveira T., Correia H., Lopes T.

Hospital de Santa Maria, Dept. of Urology, Lisbon, Portugal

INTRODUCTION & OBJECTIVES: Antimuscarinic drugs, also referred to as anticholinergic drugs, are currently the mainstay of treatment for urgency urinary incontinence. Systematic reviews note that the overall treatment effect of these drugs is usually small and that some patients experience side effects such as dry mouth, constipation, blurred vision, fatigue and cognitive dysfunction, leading to therapy discontinuation. Mirabegron constitutes a new drug in this field, acting as a selective beta-3-adrenoceptor agonist. We investigated the objective effectiveness of Mirabegron for patients with overactive bladder, unresponsive to antimuscarinics.

MATERIAL & METHODS: In this prospective study, 46 urgency urinary incontinence female patients previously treated with antimuscarinic agents having poor therapeutic effects (overactive bladder symptom scores (OABSS) of >3 and >1 urgency episodes a week). The patients stop taking antimuscarinics and after a 2 weeks wash out, received 50 mg Mirabegron once a day for 12 weeks. The OABSS and a urodynamic study were conducted before and after mirabegron administration to evaluate subjective symptom severity. In this urodynamic study, we assessed the maximum cystometric capacity, first desire to void and occurrence of uninhibited detrusor contraction as parameters of storage function. Maximum flow rate and detrusor pressure at Qmax were assessed as voiding function parameters.

RESULTS: The mean age was 68.2 years. Between pre- and post-administration, the mean OABSS score decreased from 8.1 to 5.1 points (p<0.001), suggesting significant improvement of subjective symptoms. From the urodynamic study results, we observed significant improvement in the storage function parameters, with mean first desire to void and maximum cystometric capacity. Although uninhibited detrusor contraction was observed in 34 patients (74%) before administration, no contraction was observed in 18 of these 34 patients (52.9%) after administration (p= 0.01). On voiding function, mirabegron does not inhibit voiding function.

CONCLUSIONS: Mirabegron was shown to be effective in women with overactive bladder that are unresponsive to antimuscarinic therapy in terms of both subjective symptoms and bladder storage function, consisting in a good therapeutic alternative for treating overactive bladder.

Eur Urol Suppl 2014; 13(6) e1283
INTRODUCTION & OBJECTIVES: Traumatic injuries to the genitalia are uncommon in great part due to its mobility. Blunt phallic trauma concerns only an erect penis. Penile fracture consists of a disruption of tunica albuginea with rupture of corpus cavernosum. It typically occurs during vigorous sexual intercourse but has other different causes. Tunica albuginea is thinnest ventrolaterally with remarkable tensile strength of intracavernous pressure of 1500 mmHg. When erect penis bends abnormally, increase of pressure exceeds the tensile strength which results in a transverse laceration of the proximal shaft. Cracking sound, pain, rapid detumescence, discoloration and swelling are typical presentation. Diagnoses consist of history, examination and imaging (ultrasound, cavernosography, urethrography, MRI). Management is surgical or conservative. Objective is an analysis of diagnosis and management of 5 patients who presented to our Department in years 2012 – 2014 and evaluating the role of MRI as decisive tool.

MATERIAL & METHODS: Five patients with suspected penile fracture presented over the course of 2 years to 1st Department of Urology in Lodz. Presentation, imaging and final management were analyzed retrospectively.

RESULTS:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age</th>
<th>Presentation</th>
<th>Imaging</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26</td>
<td>Acute, typical</td>
<td>CT Pelvis</td>
<td>Surgical repair</td>
</tr>
<tr>
<td>2</td>
<td>33</td>
<td>Acute, typical</td>
<td>-</td>
<td>Surgical repair</td>
</tr>
<tr>
<td>3</td>
<td>39</td>
<td>Acute, typical</td>
<td>MRI pelvis</td>
<td>Surgical repair</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>Acute, typical</td>
<td>MRI pelvis</td>
<td>Conservative – no evidence of rupture</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>Delayed - out patient department, atypical</td>
<td>MRI pelvis</td>
<td>Conservative - no evidence of rupture</td>
</tr>
</tbody>
</table>

MRI illustrations to be attached on poster and presentation

CONCLUSIONS: Penile fracture is a rare disease concerning younger patients. Urologist and Radiologist may have little exposure to perform ultrasound, cavernosography and MRI in this particular clinical scenario. Also vast heamatoma within the penis make physical examination and ultrasound more challenging. Additional imaging studies are unnecessary with typical history and clinical presentation and decision of immediate surgery is taken. However, smaller lesions with less typical history like in analyzed cases, or more severe lesions including concomitant urethral rupture may benefit of adjunctive imaging of ultrasound and MRI. To gain necessary information an access to MRI as well as input from an experienced Radiologist are required. These conditions are met in Poland at majority of University Hospitals. Precise rupture localization on MRI enables surgeon to perform an incision over the rupture site. Hence avoiding denudation of penis, which put the distal foreskin at risk of ischaemia and may result in circumcision / partial circumcision. MRI imaging in our study enabled to recognize rupture of tunica albuginea and lead to surgical repair in one case and allowed to avoid unnecessary operation in two other cases.
INTRODUCTION & OBJECTIVES: There exist many potential methods for substitution urethroplasty. Previously we reported the one stage urethroplasty using onlay buccal mucosa graft. The present study gives account for the two-stage urethroplasty with the utilization of buccal mucosa graft according to Bracka-principle.

MATERIAL & METHODS: Thirty-nine patients underwent two-stage urethroplasty using buccal mucosa graft between January 2004 and June 2014 who were eligible for minimum mid-term follow up. During follow-up ability of urination (uroflowmetry) was the main goal. However, when it was necessary urethroscopy was also managed. Patients were divided into three groups (good, moderate and wrong) according to patients' complaint as well as measured indicators of urination.

RESULTS: In 36 patients there was no any complication following first stage reconstruction (Bracka I.). Three patients developed stricture in neomeatus as an early complication and 2 of them had to be reoperated performing meatotomy and re-marsupialization in addition with new buccal mucosa graft. Necrosis of the buccal mucosa graft was not noticed. In 25 patients did not develop complaint and complication following the second stage of reconstruction (Bracka II.). Twelve patients had early complications in 2 clinical aspects as fistula or partial wound dehiscence. Fistula occurred in 7 patients, however only 3 man needed reoperation and 4 fistula closed spontaneously. Four patients needed additional operation because of wound dehiscence. Two patients developed stricture in long term follow-up and re-marsupialization had to be performed. Twenty six of 39 patients urinated with a flow of over 15ml/sec and scored their surgical result good (66%). Eight (21 %) patients revealed moderate urination and only 2 (5%) patients showed wrong flow and therefore need further surgery.

CONCLUSIONS: According to our findings two-stage buccal mucosa graft urethroplasty gives a good or moderate (37/39 87%) results and therefore it is a good choice of reconstruction in severe and long urethral stricture.

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**C99: “Tips and tricks” in laparoscopic pyeloplasty for pyeloureteral junction stenosis – own experience of 120 consecutive procedures**

Sutkowski B., Borkowski T., Łykowski M., Mutrynowski T., Zajączkowska J., Radziszewski P.

The Infant Jesus Teaching Hospital, Dept. of Urology, Warsaw, Poland

**INTRODUCTION & OBJECTIVES:** Background. Laparoscopic pyeloplasty is currently considered golden standard treatment for pyeloureteral junction stenosis. Our experience resulted in modifications of surgical technique facilitating the procedure and reducing time of surgery.

Objective. To present means of standardization of stages of the procedure in order to reduce time of surgery and postoperative complications.

**MATERIAL & METHODS:** Based on the analysis of 120 consecutive procedures of laparoscopic pyeloplasty the following four stages of the procedure with their technical modifications were identified: transperitoneal versus retroperitoneal access, pyeloureteral junction dissection, pyeloureteral anastomosis, double-J catheter insertion. Postoperative management strategies are also described.

**RESULTS:** After initial 50 procedures the retroperitoneal access was changed to transperitoneal allowing for: improved anatomical orientation, easier approach to the renal pelvis and, in cases of lower pole vessels, anterior ureteral transposition prior to anastomosis. In most cases we access the peritoneal cavity through 3 trocars often using percutaneous stay suture suspension of peripelvic tissues. During pelvicoureteral anastomosis the needle is passed through the ureter from the outer surface into the lumen and later from inside of the renal pelvis back to the external surface to minimize potential tissue damage. Currently the double-J catheter is introduced on a guide-wire passed in an antegrade fashion through large bore cannula inserted through the abdominal wall following completion of the posterior half of the anastomosis. This method facilitates dissection of non-decompressed renal pelvis and reduces risk of infection. Postoperative protocol based on our experience includes: double-J catheter cystoscopic removal 3 weeks after surgery, control ultrasound scan 3 months post surgery and control intravenous urography 6 months following surgery. Following this protocol allows for early detection of complications and their prompt treatment.

**CONCLUSIONS:** Application of the above intraoperative techniques and close postoperative monitoring results in shorter operative time and reduction of postoperative complications including serious complications leading to major dysfunction of the transplanted kidney.

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C100: Seven years of experience with reconstruction surgery of male distal urethra

Belej K., Drlik P., Chmelik F., Brdlikova S., Kocarek J.

Military University Hospital, Dept. of Urology, Prague 6, Czech Republic

INTRODUCTION & OBJECTIVES: Male distal urethra is a part of lower urinary tract with low morbidity but its disorders can seriously influence individual patient’s quality of life. Our work is focused on prospective data collection of surgical treatment of these diseases and summarizes our experience in this field.

MATERIAL & METHODS: Prospective data of distal male urethra surgery were recorded from January 2007 to December 2013. Two surgeons performed 106 procedures in 94 male patients with mean age of 54 years (interval 17–81 years). Urethroplasty was the most frequent procedure (90 patients) - three were anastomotic only (end-to-end suture after stricture resection), 25 with flap and 62 with graft, mostly from labial/buccal mucosa. Two-stage procedure was performed in seven patients and the rest of them included single patient procedures – urethrolithotomy, foreign body extraction, urethral diverticula resection and stricture reconstruction using postoperative diverticle after the previous surgery.

RESULTS: Mean follow-up was 34 months (interval 6–80 months). Majority (92%) of procedures was without any postoperative complications with primary healing and no recurrence was detected during the follow-up period. Only one postoperative wound infection with the secondary healing occurred in diabetic patients but no surgical treatment was needed. Urethrocutaneous fistula was recorded in two patients after primary hypospadia repair. Optical urethrotomy was necessary in three other patients because of stricture recurrence in proximal part of substitution without any further open surgery. Redo urethroplasty during above mentioned period was performed in two patients.

CONCLUSIONS: Male distal urethra reconstructions require comprehensive approach and knowledge of several types of surgical procedures. Urethral reconstruction surgery is very effective in experienced hands with low complications rate and offers safe solution of patient’s problem.

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C101: Nontransecting strategies in the treatment of urethral strictures

Gingu C.¹, Dick A.¹, Surcel C.¹, Crasneanu M.¹, Manu M.A.¹, Himedan O.¹, Domnisor L.², Harza M.¹, Sinescu I.¹

¹Fundeni Clinical Institute, Dept. of Uronephrology and Renal Transplantation, Bucharest, Romania, ²Fundeni Clinical Institute, Dept. of ICU, Bucharest, Romania

INTRODUCTION & OBJECTIVES: It’s been more than 100 years since the first urethral reconstruction for an urethral stricture was attempted. Recently, as things progresses, more conservative approaches were conceived, known as nontransecting strategies. We have adhered to these new strategies and the aim of this paper is to present the results of nontransecting anastomotic techniques, used to address bulbar urethral strictures with limited spongiofibrosis.

MATERIAL & METHODS: During the last 3 years (January 2011 – January 2014) we have performed 194 urethroplasties, for strictures with various etiology, length, location and depth of the spongiofibrosis. And during this time we started shifting towards newer and more conservative techniques. So in bulbar strictures with limited spongiofibrosis we opted for nontransecting techniques, that spare the spongiosus, in order to preserve the blood flow and the innervation of the glans. Nontransecting end to end anastomosis was performed in strictures up to 1 cm long, often post TUR-P. This consists of a dorsal incision of the stricture with 1 cm spatulation of the healthy margins and direct closing in a “Heineke-Mikulicz”fashion. For longer strictures we adopted “Nontransecting Augmented Roof Anastomosis” where we nontransectingly resected only the narrowest segment of the stricture (≤ 6 CH), a ventral strip anastomosis was performed while the dorsal part of the anastomosis was augmented using a buccal mucosa graft (BMG) or a prepuce skin graft (PSG). In total we used nontransecting techniques for 41 bulbar urethral strictures, even re-do cases. 29 of them (70.7%) were nontransecting augmented roof anastomoses (21 with BMG and 8 with PSG), while the other 12 (29.3%) were simple nontransecting anastomoses. At the end an 18 – 20 CH Foley catheter was left in place for 14 – 21 days.

RESULTS: The patients were discharged between 3 to 8 days postoperative. 3 of them (7.3%) developed perineal hematomas, 2 were minimal while the 3rd required further drainage. After a median 14 months follow-up (6 – 36 months), stricture recurrence was registered in 2 patients (4.9%), which were diaphragmatic, proximal to the graft and anastomosis. They were managed through DVIU (1 case) and dilatation (1 case). 38 patients (92.7%) are voiding at more than 15 ml/sec, without residual urine. In 3 cases the urethra was wide enough to allow resection for recurrent bladder tumors. No significant ventral chordee was recorded, and we registered no sexual dysfunction related to poor vascularization or innervation, like incomplete glans swelling or altered sensitivity.

CONCLUSIONS: Nontransecting techniques are most suited for urethral strictures with limited spongiofibrosis, as they preserve the blood flow and the innervation of the spongiosus, providing the best sexual and functional outcome.

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C102: Traditional and laparoscopic methods in surgical treatment of hydronephrosis

Kaukenov B.¹, Abatova A.¹, Badyrov R.¹, Assamidanov Y.¹, Turgunov Y.¹, Abatov N.², Yerkebulan Assamidanov

¹Karaganda Medical State University, Dept. of Surgery, Karaganda, Kazakhstan, ²Karaganda Medical State University, Dept. of Urology, Karaganda, Kazakhstan

INTRODUCTION & OBJECTIVES: To improve the results of surgical treatment of patients with hydronephrosis, through the development and implementation of optimal methods of endovideosurgical operations.

MATERIAL & METHODS: Operations to restore patency of ureteropelvis junction (UPJ) obstruction or terminal form of hydronephrosis were conducted to 97 patients. The patients were divided into two groups: control group (n=37) was operated on the traditional method (TM) and the main group (n=60) was operated on the transabdominal laparoscopic method (TALM). The new methods of laparoscopic surgery in hydronephrosis were developed and implemented in our hospital: transverse pyeloureteral plastic, resection of the pelvis with freehand suturing and the formation of antevasal pyeloureteral anastomosis, replacement of supernumerary vessel with / without resection of the pelvis, as well as resection of the pelvis using a linear stapler followed by freehand formation of antevasal pyeloureteral anastomosis.

RESULTS: The causes of hydronephrosis in the control and main groups were supernumerary vessel 21.6% and 41.6%, stricture UPJ - 16.2% and 5%, high inserting ureter - 29.7% and 6.6%, periureteritis and paranephritis - 11.8% and 28.3% respectively; urolithiasis (8.3%), failure of UPJ (3.3%) were observed only in the main group. Study of the effectiveness of surgical correction of hydronephrosis was conducted on the basis of comparative analysis of the results of traditional and laparoscopic surgical technique.

Comparative evaluation of surgical intervention in the studied groups. Table 1

<table>
<thead>
<tr>
<th>Comparison criteria</th>
<th>TM (n=37)</th>
<th>LM (n=60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of surgery (min)</td>
<td>103±29,1</td>
<td>141,4±35,6</td>
</tr>
<tr>
<td>Average blood loss (ml)</td>
<td>187,2±81,9</td>
<td>65,8±49,2</td>
</tr>
<tr>
<td>Duration of postoperative bed-days</td>
<td>17,0±4,9</td>
<td>9,6±2,9</td>
</tr>
<tr>
<td>Postoperative complications abs. (%)</td>
<td>8 (21,6%)</td>
<td>10 (16,6%)</td>
</tr>
<tr>
<td>Long-term postoperative complications abs. (%)</td>
<td>2 (5,4%)</td>
<td>2 (3,3%)</td>
</tr>
<tr>
<td>Simultaneous operation of abs.</td>
<td>-</td>
<td>9 (15%)</td>
</tr>
<tr>
<td>Disease recurrence</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Conversion abs (%)</td>
<td>-</td>
<td>1 (3,7%)</td>
</tr>
<tr>
<td>Postoperative mortality abs (%)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Patients operated on laparoscopic method were observed complications (n=10, 16.6%), of which cases of urinary leakage (n=4, 6.6%), hemoperitoneum and abdominal effusion (n=4, 6.6%), pyelonephritis and paresis of the gastrointestinal tract (n=2, 3.3%). Inadequate sanitation at the end of the operation contributed to hemoperitoneum and abdominal effusion. The observed short-term of urinary leakage in the postoperative period due to the anastomotic dehiscence after freehand suturing was liquidated conservatively. For the prevention of anastomotic dehiscence after mobilization, pelvis resection was performed with a linear stapler and the subsequent formation of pyeloureteral anastomosis by intracorporal freehand suturing. Having applied this technique to 10
patients, we did not observe any anastomotic dehiscenses.
In the control group some patients (n=3, 8.1%) in the early postoperative period had persistent
dynamic ileus, which was controlled with a conservative way.

**CONCLUSIONS:** Developed and introduced into clinical practice transabdominal laparoscopic
methods for the treatment of hydronephrosis are alternative high effective methods, which allow to
restore urodynamics, decrease traumatization of operation, and reduce the time of hospitalization
and rehabilitation in the postoperative period.

Eur Urol Suppl 2014; 13(6) e1289
INTRODUCTION & OBJECTIVES: We evaluated outcomes of our robotic-assisted laparoscopic transperitoneal pyeloplasty (RAPL) procedures.

MATERIAL & METHODS: Between July 2011 and March 2014, 18 RAPL procedures were performed at our institution. Uretero-pelvic junction obstruction (UPJO) diagnosis was made on clinical presentation and intravenous urography. All patients underwent basal and diuretic isotopic renography to evaluate the degree of obstruction and impaired renal function. Anderson-Hynes dismembered pyeloplasty technique was used with a transperitoneal approach by using the da Vinci-S 4-arm surgical robot. Outcomes were assessed retrospectively.

RESULTS: Mean patient age was 31.3±11.7 (13-62) years. Male: female ratio was 9: 9. All procedures were primary surgeries. Of the patients, 10 (%55.5) had a crossing vessel and 8 (%44.5) had intrinsic obstruction. Mean operative time was 150.4±17.2 (115-185) minutes. Mean anastomosis time was 21.4±5.5 (10-33) minutes. Mean blood loss during the operation was 33.6±17.3 (10-60) cc. Mean hospital stay was 2.6±1.0 (1-6) days. No conversion to open surgery was required. No intraoperative and perioperative (0-30 days) complication occurred. Readmission rate during perioperative period was 0%. Median follow-up was 16.6±10.3 (3-35) months. Postoperative intravenous urography and renography showed improved results in all cases.

CONCLUSIONS: Due to our experience, RAPL is a safe and feasible minimally invasive approach in patients with UPJO with excellent surgical and functional outcomes.

Eur Urol Suppl 2014; 13(6) e1290
INTRODUCTION & OBJECTIVES: Laparoscopic pyeloplasty is a minimaly invasive method of treatment of stenosis of pyeloureteral (PU) segment. In comparison with the open approach, laparoscopic pyeloplasty has the same percentage of successful outcomes with the advantage of shorter hospitalization time and faster patient recovery. The goal of this study is to evaluate the results of laparoscopic pyeloplasty in our Clinic.

MATERIAL & METHODS: We extracted medical histories of patients treated laparoscopically for pyeloureteral stenosis from March 2007 till March 2014. The diagnosis was established on the basis of symptoms and radiological imaging (intravenous urography or CT urography and dynamic diuretic scintigraphy of the kidney).

RESULTS: In the aforementioned period we operated on 83 people (46 women and 37 men). Average age of the women was 32.2 years (17-76), and for the men 27.8 years (17-60). Average time of hospitalization was 3.2 days (2-5). On the basis of the intraoperative find, we performed 65 discontinued (Hynes-Anderson) and 18 continued (Fenger, Y-V) laparoscopic pyeloplasties. The cause of PU stenosis in 50 cases were accessory renal blood vessels. All of the patients were operated by transperitoneal approach. In one female patient we performed laparoscopic pyeloplasty on an ectopic kidney. In all cases we performed an antegrade intubation of the ureter with a JJ stent. The average duration of the procedure was 145 minutes (80-250), follow up time was 27.2 months (2-82). We report one distal migration of the JJ stent which was endoscopically solved. One patient had a dynamic diuretic scintigraphy on follow up that suggested restenosis but this was disputed by a retrograde ureteropyelography.

CONCLUSIONS: Literature shows that laparoscopic pyeloplasty has become the standard of care for PU stenosis. This procedure has the same percentage of success as the open approach with the advantages of shorter patient stay and faster recovery.

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C106: Intraureteral reconstruction in treatment of megaureter

Stakhovskyi O., Vitruk I., Voylenko O., Vukalovych P., Kononenko O., Pikul M., Stakhovsky E.

National Cancer Institute, Dept. of Plastic and Reconstructive Onco-Urology, Kyiv, Ukraine

INTRODUCTION & OBJECTIVES: Surgical treatment of megaureter is a complicated and difficult procedure with less than optimal outcomes. Difficulties in megaureter implantation are associated with following requirements: the adequate permeability of the reimplanted ureter should be restored; the operation should prevent the development of the reflux; the blood supply of the reimplanted ureter should be preserved. It’s very difficult to meet those requirements performing ureteronecystostomy when the ureteral width exceeds 1 cm with low peristalsis. Taking into account all the above we suggest the method of ureteronecystostomy with modelling of megaureter.

MATERIAL & METHODS: Since 1996 the method of intaureteral plastics has been used in 67 patients. Atonic and dilated ureters of about 1,5-2,5 cm in diameter required the modelling procedure. The megaureter was diagnosed by complex urological methods including intravenous urography. Our concerns about more effective use of ureteral lumen with maximum blood supply and muscular layer preservation prompted us to test the procedure of intraureteral plastics.

RESULTS: Operative technique. After freeing and resecting of stenosed megaureter distal 4-6 cm are everted and folded over so that mucosa is outwards. The mucosa of the everted part is incised longitudinally at the 12 and 6 o’clock. On the line of incision, a continuously locked suture is placed with gradual unfolding of the everted part of the ureter. This forms a double-barreled terminal lumen. The length of double lumen should be chosen so that the ratio of width and length of each barrel is one to five. A submucosal tunnel is created in the bladder into which the modelled portion of the megaureter is placed. The length of the submucosal tunnel depends on the ureteric diameter. In one of the two canals, a ureteral stent is introduced. Positive results were seen in 92% of cases, based on termination of disease progression, normalization and decrease in size of the ureter, kidney function increase or preservation.

CONCLUSIONS: Intraureteral plastics of the terminal ureter allows the microcirculation, the continuity and the contractile function of the ureter to be maintained. The creation of two canals in the terminal part of the megaureter allow the restoration of contractile activity and the prevention of reflux.

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C107: Ureter's intestinal plastics indications

Kononenko O., Voylenko O., Vukalovich P., Stakhovsky O., Vitruk I., Stakhovsky E.

National Cancer Institute, Dept. of Plastic and Reconstructive Onco-Urology, Kyiv, Ukraine

INTRODUCTION & OBJECTIVES: Loss of contractile ability and ureteral damage are complicated problem, that may be resolved with replacement of afunctional ureter. To study indications and evaluate efficacy of intestinal ureter substitution we analysed patients, who underwent different variants of ureter substitution with segment of ileum.

MATERIAL & METHODS: Retrospective analysis of 154 patients data, that were operated from 1982-2013 with intestinal plastics of the ureter. Mean age was 41 ± 4,2 years. All patients underwent complex investigation that included clinical, laboratory and radiological methods. Patients were followed from 6 months to 25 years.

RESULTS: Indications for intestinal substitution of the ureter were: 48 (31%) cases with megaureter (diameter>2,5 cm) and loss of ureteral contractile ability; 51 (33%) - traumatic injury of the ureter; 13 (8%) – retroperitoneal fibrosis, 42 (27%) – recurrent megaureter. 39 (25,4%) patients underwent segmental ureteral plastics, 52 (33,9%) – subtotal, 63 (40,7%) – total ureteral substitution. Substitution of one or both ureters was performed with isoperistaltic graft, anastomoses were formed with antireflux mechanisms. In 126 (81%) cases we had positive long-term results.

CONCLUSIONS: Intestinal plastics of the ureter remains the most effective method of preserving kidney function in patients with irreversible ureteral lesions.

Eur Urol Suppl 2014; 13(6) e1293
INTRODUCTION & OBJECTIVES: Vesicovaginal fistulas (VVF) are the most common type of urogenital fistulas resulting from radical histerectomy with or without radiotherapy. In most cases, surgery is required for treatment. The study presents the cases of a 5 year period.

MATERIAL & METHODS: The retrospective descriptive study was carried out in the urological department of Clinical Hospital "Prof.Dr.Theodor Burhele", Bucharest. The study included 41 cases with vesicovaginal fistulas, between January 2009 and January 2014. The following parameters were studied: age, cause of VVF appearance, radiotherapy influence on VVF repair success, the surgical approach and outcome.

RESULTS: Hysterectomy and radiotherapy, in combination or alone, were detected as primary risk for vesicovaginal fistulae. In all cases, the diagnosis was based on clinical presentation, intravenous pielography and cystoscopy. The age range of the 41 patients included in this study was 28 to 80 years old, with a mean of 49 years. First surgical approach was made in 36 cases (87.8%), while reintervention was applied in 4 cases (9.7%) and 1 case (2.5%) was canceled due to multiple associated pathologies. In our study we found that the closure technique was accomplished in 28 cases (68.3%), of which 9 patients (22%) undergone to surgery without flap and 19 patients (46.3%) had interpositioned lap in the vesicovaginal fistula repair. In 5 cases (12.91%) the fistulae closed without surgery. Three patients (7.3%) needed vesicovaginal fistula repair and reimplantation of the urether. In four cases (9.7%) the repair could not be performed and an external urinary derivation was needed. In three cases (7.3%) a permanent nephrostoma was the applied surgical conduit. Two cases (4.8%) presented both vesicovaginal fistula and rectovaginal fistula. One case (2.5%) was treated with a closure technique and reimplantation of the urether and the other case (2.5%) needed external urinary derivation. 26 of 28 cases which undergone repair surgery remained continent after catheter removal, without urinary leakage until last follow up and we lost track of two patients which not appeared at follow-up exam. In 12 cases (29.3%) simple closure with restoring the continence was not possible due to radiotherapy after hysterectomy.

CONCLUSIONS: The simple closure technique has very high cure rate for vesicovaginal repair. Successful repair is possible with 1st surgery. Radiotherapy influence the outcome of VFF repair success.

Eur Urol Suppl 2014; 13(6) e1294
C109: Clavien classification of complications after 41 laparoscopic pyeloplasty

Diaconescu D.S., Rosoga G., Braticevici B., Sallahedyn Y., Petca R., Chira I., Popescu M.C., Jinga V., Predoiu G.

Prof. Dr. Th. Burghele Clinical Hospital, Dept. of Surgery, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Our aim was to evaluate the complications of the laparoscopic transperitoneal pyeloplasty performed for ureteropelvic junction obstruction using the Clavien classification.

MATERIAL & METHODS: This prospective study has been going on during 1 Jan 2011 – 1 Jan 2014 period in the Urology Department of “Prof Th Burghele” Hospital upon 41 patients with ureteropelvic junction obstruction. All procedures were performed using laparoscopic transperitoneal dismembered Heyness Anderson pyeloplasty. The postoperative complications were subdivided according to the 5 grade Clavien classification of surgical complications. The patients were divided in 2 groups and the compared parameters was: the degree of hydronephrosis, the results of uroculture, the presence of the crossing vessel, the operative time. All patients were clinically and imaginistically evaluated in the postoperative period at 3 month.

RESULTS: The success rate was 83.34%. The conversion to conventional surgery was necessary in 4 cases. Early postoperative complications occurred in 17 (41.4%) patients and tardive complications occurred 4 (9.7%) cases. No statistically significant differences were seen in the compared groups.

CONCLUSIONS: The most common complication was urinary leakage and did not seem dependent on surgeon experience. The operative time decrease with the surgeon experience but not have a greater risk of postoperative complications.

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C110: Laparoscopic management of endometriosis involving urinary tract

Macek P.1, Fanta M.2, Novak K.1, Hanus T.1

1General University Hospital and 1st Faculty of Medicine of Charles University, Dept. of Urology, Prague 2, Czech Republic, 2General University Hospital and 1st Faculty of Medicine of Charles University, Dept. of Gynecology, Prague 2, Czech Republic

INTRODUCTION & OBJECTIVES: Endometriosis (EM) is common gynecological problem, but uncommonly encountered by urologists. We present series of patients with EM and its urinary tract involvement managed by combined one-stage surgery.

MATERIAL & METHODS: Combined laparoscopic (LAP) surgery, were initially gynecologist manages all sites of pelvic EM and afterwards urologist resects EM lesions involving the ureter (with either resection and anastomosis = UUA or reimplantation = UCNA or nephrectomy) or urinary bladder (UB). Preop imaging includes transvaginal ultrasound and IVU or CT urography in ureteral involvement and cystoscopy if UB involvement is likely. We perform transperitoneal approach with 4-5 ports.

RESULTS: 10 women were operated on between 10/2011 and 4/2014 – 2 with involvement of UB and 8 of ureter (stricture). Age median was 31 years (range 21-36). Following pelvic EM resection and sometimes basic ureterolysis, the urologist continues with reconstruction. If UB lesion is present bilateral ureteric catheterization is always performed and affected bladder part is resected with primary closure. In 8 patients with ureteric strictures 1 nephrectomy was performed (due to complete loss of function) with one additional 10mm port and kidney morcelation, 7 other case were managed by – 5x UUA, 2x UCNA (1x psoas hitch, 1 bilateral case – psoas hitch left and Boari flap right), always with preop or periop stent. There were no intraoperative complications. Postoperatively one patient present for follow-up with abdominal fullness but no other symptoms and fluidoperitoneum was detected, but immediate CT urography and cystography failed to identify potential leak outside urinary tract. The patient was managed by indwelling catheter for 2 weeks and complete resolution, therefore Clavien-Dindo grade II was assigned. All patients are 2-28 months following surgery had complete symptom improvement and no subjective or objective EM recurrence.

CONCLUSIONS: EM is less common condition encountered by urologist as it rarely affect urinary tract. It is never isolated, therefore joint management with gynecologist is necessary. Optimal management is individual, but we do not have to be afraid of combined one-stage LAP approach. However advanced reconstructive LAP skills are necessary. Combined surgery enables one-stage repair with acceptable morbidity, but we should be aware of time-consuming nature of the reconstruction and potential combination of complications should they occur.

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C111: Maximal urethral closure pressure values after botulinium toxin injection

Ho C.¹, Granitsiotis P.², Small D.²

¹Universiti Kebangsaan Malaysia Medical Centre, Dept. of Surgery, Kuala Lumpur, Malaysia, ²Southern General Hospital, Dept. of Urology, Glasgow, United Kingdom

INTRODUCTION & OBJECTIVES: Maximum urethral closure pressure (MUCP) is the maximum difference between the urethral pressure and the intravesical pressure. The aim of the study was to determine whether there are differences in MUCP values of patients with detrusor overactivity (DO) who are incontinent and patients with DO who are dry and of patients with USI. Also, to determine whether there are differences between MUCP of overactive bladder patients requiring catheterization after intravesical Botulinium toxin (Botox) injection and those without.

MATERIAL & METHODS: Retrospective study of all patients in Southern General Hospital, Glasgow who underwent urodynamic studies and had their MUCP measured. Subanalysis of patients who had Botox injection was also done. Patient records and notes were identified from the NHS Greater Glasgow and Clyde Clinical Portal system from January 2009 till November 2013.

RESULTS: Patients with DO, be it wet or dry have lower MUCP than those without DO. Those with wet DO have lower MUCP compared to dry DO. The MUCP for incontinence secondary to DO is lower than stress incontinence. A higher MUCP was seen in idiopathic DO who needed catheterization after intravesical Botox injection (60 vs 57 cm H₂O) although this was not significant statistically. In neuropathic patients with DO, again those requiring catheterization after Botox injection had higher MUCP (70 vs 30 cm H₂O). This was statistically almost significant (p=0.057).

CONCLUSIONS: There are significant differences in MUCP of patients who present with symptoms of OAB incontinence and OAB without incontinence. However, there was no significant difference noted in MUCP between patients requiring catheterization and those not needing it after Botox injection in idiopathic patients but in neuropathic patients the MUCP was higher in those requiring catheterization and this was almost significant.

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C112: Treatment of neurogenic detrusor overactivity using intravesical detrusor injection with botulinum toxin - pilot study

Borcaias R.¹, Jinga V.¹, Nedelea S.², Dragomiristeanu I.², Belinski C.³, Manu-Marin A.³

¹University of Medicine and Pharmacy "Carol Davila", Spitalul Clinic Prof. Th. Burghele, Dept. of Urology, Bucharest, Romania, ²Spitalul Clinic Prof. Th. Burghele, Dept. of Urology, Bucharest, Romania, ³Spitalul De Urgenta Prof. Dr. Dimitrie Gerota, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: The overactive bladder (OAB) syndrome is defined, according to the International Continence Society (ICS), as urinary urgency, that is usually accompanied by frequency and nocturia, with or without urinary incontinence, in the absence of urinary tract infection. Detrusor overactivity is diagnosed by urodynamic study. When an underlying neurological condition occurs, the term used would be neurogenic detrusor overactivity. The usual pharmacological treatment (the antimuscarinic drugs) has limited efficacy, due to the systemic adverse events (dry mouth, constipation, blurred vision), which lead to low treatment compliance. Therefore, the purpose of this pilot study is to determine the efficacy and safety of a single dose Botulinum Toxin A in subjects with Neurogenic Detrusor Overactivity (NDO) and urinary incontinence, with non-adequate response to antimuscarinic agents or treatment discontinuation.

MATERIAL & METHODS: Our study included 12 patients with diagnosed neurogenic detrusor overactivity (NDO), presenting with at least 1 episode of urinary incontinence per 24 hours, according to their bladder diary. After signing the informed consent and the initial evaluation including compulsory urodynamic study, they received intravesical therapy with Botulinum Toxin A (AbobotulinumtoxinA – Dysport 500 UI), which was injected cystoscopically into the detrusor muscle in 15 different sites, sparing the bladder trigone. After the procedure, the patients are evaluated for 6 months, assessing the bladder diary (for the number of incontinence episodes, number of voidings per day, number of urgency episodes, and the mean voided volumes) urodynamic parameters at 3 months, post voiding residual and episodes of urinary tract infection (UTI) as well as the need for intermittent catheterisation.

RESULTS: In terms of results, the bladder diary showed an improvement regarding daily incontinence (decreased by approximately 50%) and catheterisation episodes (-15%), as well as the urodynamic parameters – maximum cystometric capacity (MCC), reflex volume and maximum detrusor pressure (MDP), that were improved with 60%, 50% and -40% respectively. In terms of UTI, there was a slight increase regarding these episodes, with an average of +25%.

CONCLUSIONS: Intravesical botulinum toxin proved to be an efficient alternative for patients with NDO that fail on conservative or medical treatment, improving symptoms and urodynamic parameters, as well as the patients’ quality of life. We are evaluating in a second study the appropriate dosage number of injection sites, long term adverse events, as well as the effectiveness of reinjection.

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C113: Quality of life in the population of Polish patients with prostate cancer

Kutwin P.¹, Konecki T.¹, Jabłonowski Z.¹, Wolski Z.², Sosnowski M.¹

¹Medical University of Lodz, Dept. of Urology, Łódź, Poland, ²Medical University of Bydgoszcz, Dept. of Urology, Bydgoszcz, Poland

INTRODUCTION & OBJECTIVES: Due to advances in medicine, a prolongation of life among patients with prostate cancer (PCa) have taken place, thus it requires greater interest in the issue of the quality of life (QoL) in patients who undergo treatment. The quality of life questionnaire of patients with cancer (QLQ-C30) and the quality of life questionnaire specific to the PCa (QLQ-PR25) are tools used worldwide to conduct research on this subject. The aim of this study is to assess the QoL in the population of Polish patients with PCa depending on the stage of the disease.

MATERIAL & METHODS: A prospective, multicenter, observational study included 1,092 patients who have been suffering from the PCa. The study involved 110 urologists from outpatient clinics. Patients were divided into 3 groups: patients with localized, locally advanced and metastatic PCa. The quality of life was evaluated based on two EORTC questionnaires. QLQ-C30 concerns the functional aspects of quality of life related to health (HRQOL) and symptoms which are frequently seen in cancer patients. Moreover it contains 5 scales assessing functional status of the three scales assessing fatigue, nausea and vomiting, pain, the scale of the overall assessment of the health status / quality of life and evaluation of symptoms such as loss of appetite, diarrhea, insomnia, constipation, dyspnoea, and financial difficulties as a consequence of the disease. The second questionnaire QLQ-PR25 assesses the quality of life specific to the PCa. The study consisted of filling questionnaires EORTC QLQ-C30 and QLQ-PR25 by the patient, implementation of an educational program during the first outpatient visit, and re-evaluation of the quality of life based on the previously mentioned questionnaires after three months. The study time was 15 months.

RESULTS: Based on the study found cancer localized to the organ at 34.9% and locally advanced cancer in 47.8% of patients. Metastatic disease was found in 17.3% of patients. The validation process of the questionnaires showed overall Cronbach's alpha coefficient for the QLQ-C30 at 0.898 and 0.908 respectively for the first and second visit. For the questionnaire QLQ-PR25 figure was 0.870 and 0.849 respectively. Quality of life assessed by the QLQ-C30 was the best in the PCa localized to the organ, and the worst of metastatic disease. Statistical relationship at the level of p performed educational process had a positive impact on the emotional functioning area. Quality of life was most influenced by fatigue, insomnia, pain and dyspnoea.

CONCLUSIONS: The educational process has not significantly affected the overall QoL among patients in this study. The use of educational materials led to improvement in emotional functioning. The increase in the advancement of PCa is associated with the quality of life worsening.

The study was funded from scientific grant by Ipsen Poland.

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INTRODUCTION & OBJECTIVES: Cancer of the prostate (PCa) is now recognised as one of the most important medical problems facing the male population. Radical prostatectomy (RP) is the mainstay therapy for prostate cancer and in selected patients should be accompanied by bilateral pelvic lymph node dissection (LND). However, pathological features of PCa and the extent of this procedure are still controversial.

To assess the extent of lymph node dissection during radical prostatectomy in selected centers in Poland.

MATERIAL & METHODS: A thematic survey was conducted simultaneously in 7 Polish cities. Data of all patients, subjected to RP in 2013 were analyzed. In 15% of cases we did not receive complete data concerning the extent of LND.

RESULTS: During this period, 248 men underwent RP. The minimally invasive technique – endoscopic radical prostatectomy (ERP) was performed in 138 (55%) men. Among them, the extraperitoneal approach (EERP) was used in 86 (62%) and the transperitoneal (TERP) in 52 (38%). Radical retropubic prostatectomy (RRP) was performed in the remaining 110 (45%) men. RP was accompanied by bilateral LND in 170 (70%) cases. The mean number of removed lymph nodes was 13 (2-34), median 10. Obturator, common, external and internal iliac, as well as presacral lymph nodes were removed in 170 (97%), 57 (32%), 99 (56%), 62 (35%) i 51 (29%) patients, respective. In 11 (6%) men obturator lymph nodes were involved, in one of them additionally common iliac and presacral nodes were positive. The mean percentage of positive nodes was 12.3 (1-25%).

CONCLUSIONS: Endoscopic radical prostatectomy is a leading method of treatment of men with prostate cancer. The mean number of removed lymph nodes is small. This number does not fulfill the recommendations of European Association of Urology.
C115: The optimal time for the first PSA evaluation post radical prostatectomy


1Fundeni Clinical Institute, Dept. of Uronephrology and Renal Transplantation, Bucharest, Romania, 2Fundeni Clinical Institute, Dept. of ICU, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Although an imperfect tool for prostate cancer screening, the PSA remains important in monitoring disease recurrence after primary prostate cancer treatment and subsequent therapies. The serum half life of the PSA ranges between 2 and 3 days so this marker should be undetectable in 3-4 weeks after radical prostatectomy (RP). There is no general consensus regarding the moment in time on which the first PSA value should be obtained after RP, intervals varying between 4 and 12 weeks. The aim of this paper is to determine the earliest PSA valid result after prostatectomy, which is important in patients who need further salvage therapies (radiation and/or hormonal).

MATERIAL & METHODS: During 3 years (2010 – 2013), 324 prostatectomies were performed in our center, of which 176 were patients with high risk prostate cancer, where the post prostatectomy PSA value has a very important role (PSA persistence / PSA recurrence) in further treatment strategies. The study was conducted on 78 patients that had their postoperative serum PSA dosed at 4, 6, and 12 weeks respectively, and afterwards every 3 months. An ultra-sensitive PSA assay was used in all cases (0.003 ng/ml detection limit).

RESULTS: In a number of 21 patients (26.9%) the PSA value obtained at 4 weeks post RP was higher than the detection limit (median 0.05 ng/ml) and dropped under the detection limit at 6 weeks, remaining there for the rest of the study period, requiring no further treatment. In 16 patients (20.5%) the PSA value was undetectable at 4 weeks. For 41 patients (52.6%) the value at 4 weeks was above the detection limit, and rose during the study period. These patients were referred for further therapies (salvage radiotherapy and / or continuous ADT) in concordance with clinical and histopathological features.

CONCLUSIONS: Four weeks is not enough time for the complete PSA clearance in all patients, as mentioned in the literature. Six weeks was the appropriate time for a valid PSA result post RP, with an important role in the therapeutic sequence, especially in high risk and very high risk groups of prostate cancer patients.

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INTRODUCTION & OBJECTIVES: Diagnostics and treatment strategies underlie a continuous evolution. In a consecutive series of radical prostatectomies, trends of clinical and tumour characteristics over a 21-year period since the beginning of the prostate-specific antigen (PSA) era were analysed.

MATERIAL & METHODS: Between 1993 and 2013 a consecutive series of 2435 patients underwent radical prostatectomy for clinically localized prostate cancer (PCa) in a single referral institution for about 800,000 inhabitants. Clinical and histopathological information was entered into our computer database and analysed for changes over time. In 2004 the Mostofi grading was replaced by the Gleason scoring system. The D’Amico classification was used for preoperative risk stratification.

RESULTS: The annual frequency of surgical interventions increased from 44 to 161 in 2004. Subsequently the number of interventions decreased steadily to 104 in the year 2013. From 1993 to 2013, the detection of PCa solely based on pathological PSA levels rose from 7% to 77% (p<0.001). Mean PSA level went down from 16.2 ng/ml in 1993 to 7.1 ng/ml in 2013. Interventions for low risk disease decreased in an undulant manner from 44% in 2004 to 17% in 2013. The rates of organ-confined disease also increased from 47% to 82% in 2009 and decreased afterwards to 76% in the year 2013. On the other hand non organ-confined disease showed an undulant trend to lower frequencies from 56% in the year 1993 to 18% in 2009. Afterwards the number increased to 24% in the year 2013.

CONCLUSIONS: During the 21-year period, PCa was increasingly detected on the basis of a pathological PSA level only. Despite a trend to a lower number of interventions for low risk disease, pathological stages shifted significantly to more organ-confined diseases hitting one’s peak in the year 2009 with slightly decreasing frequencies afterwards. Nevertheless, it appears still premature to argue for a turnaround to an inverse stage migration.

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C117: Robotic assisted radical prostatectomy – oncological and functional outcomes at 2 years follow-up – the Romanian experience

Andras I.M.¹, Crisan N.², Logigan H.¹, Manea C.¹, Stanca V.D.¹, Coman I.²

¹County Hospital Cluj-Napoca, Dept. of Urology, Cluj-Napoca, Romania, ²University of Medicine and Pharmacy "Iuliu Hatieganu", Dept. of Urology, Cluj-Napoca, Romania

INTRODUCTION & OBJECTIVES: Prostate specific antigen (PSA) testing used as a screening method in prostate cancer increased the number of patients diagnosed with localised prostatic cancer suitable for minimally invasive procedures such as robotic assisted radical prostatectomy. The aim of the study was to assess the long-term benefits of this new complex surgical technique in a country where screening programs are not widely used.

MATERIAL & METHODS: Between November 2009 and June 2014, 200 patients with localised and locally-advanced prostate cancer underwent robotic-assisted radical prostatectomy at the Robotic Surgery Center of the Cluj-Napoca County Hospital. Of the total of 200, 58 were monitored at 2 years after surgery. The oncological (positive margins, PSA recurrence) and functional (continence and erectile dysfunction) results were evaluated at 1, 6 and 24 months.

RESULTS: Characteristics of the patients in the study group were: mean age 62 years, mean BMI 27 kg/m², mean PSA level 8.4 ng/ml and mean prostate volume 40 g. The rate of positive surgical margins was 24.1% (p=0.0001): 4 patients in pT2c stage, 4 patients in pT3a stage and 6 patients in pT3b stage (p=0.01). There was no statistically significant correlation between the positive margins and the PSA level preoperatively, BMI, clinical stage and type of nerve sparing. The presence of positive margins correlated with the pathological stage and the number of positive biopsies. At 24 months follow-up, the biochemical recurrence rate was 9.1% (p=0.0001). The rate of postoperative erections was 36.4% at 1 month follow-up, 56.2% at 6 months follow-up and 51.2% at 24 months follow-up. The age of the patient at the moment of the surgical procedure represents a predictive factor for recovery of sexual function. Continence rate assessed at 1, 6 and 24 months postoperatively was 54.5%, 72.7% and 87% (p=0.001).

CONCLUSIONS: The oncological results of this minimally invasive procedure seem very promising while functional outcomes in terms of the recovery of continence and potency are maintained. The absence of the screening methods, however, can alter the results due to a higher rate of the advanced stages of prostate cancer at diagnosis.

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C118: Radical prostatectomy quality – what do we know about ourselves? A single surgeon experience

Drogosiewicz I., Zapala Ł., Antoniewicz A.

Multidisciplinary Hospital Warsaw-Miedzylesie, Dept. of Urology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: Positive surgical margins (PSM) are one of the basic parameters regarding assessment of the quality of radical prostatectomy, comprising one of the pentafectic outcomes: continence, potency, cancer control, peri-operative complications and positive surgical margins rates (pentafecta). Low rates of PSM that have been described in the literature are often discussed during the urological consultation with the patient prior to the surgery. However, the results of high volume centers may not reflect the quality of management in provincial hospitals. The aim of the study was to analyze oncological results of radical prostatectomies with a special interest to radicality in terms of percentage of PSM.

MATERIAL & METHODS: In the period 01.2009 and 04.2014 there were 71 patients operated on by a single surgeon. The age range of patients was from 51 to 74 years mean 64,3. Patients were operated via open (n=43) or laparoscopic (n=28) approach based on local agreement on qualification (open: < cT3, 10-year life expectancy; additional for laparoscopic: cT1c Gleason 6-7, PSA < 10 ng/ml). The standard pathological examinations of the specimens were performed by two pathologists. The p value was calculated with T test.

RESULTS: The mean blood loss was 600 ml. The transfusion rates were 67%. As for intraoperative complications, in one (1.4%) patient rectal injury occurred. In case of late complications, anastomotic strictures were noted in 4 (5.6%) patients. Out of 71 patients, in 16 cases (25,3%) pathological report revealed the presence of PSM. The PSA value range in patients with PSM was: from 4.5 to 13 ng/ml, mean 8.41. In case of LRP there were 32,1% of PSM (n=9), while in RRP – 16,3% (n=7), p>0.05. In case of PSM, Gleason score was as follows: Gl. Sc.=6 in 11 cases (68,75%), 7 – in 4 cases (25%) and 8 – 1 case (6,25%). PSM were found in following pT stages: pT1 – 6 cases (37,5%), pT2 – 5 cases (31,25%), pT3 in 1 case (6,25%).

CONCLUSIONS: The PSM rate was 25%, which corresponds with worldwide literature. Surprisingly, there was higher PSM rate for laparoscopic approach, but no statistical difference was noted. The authors emphasize the necessity of internal assessment in the department in terms of basic oncological outcomes, so as to establish clinical decision making pillars and to present it, when taking informed consent prior to surgery.

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Five-year results of treatment of localized prostate cancer using high intensity focused ultrasound

Nicolescu S.1, Pop C.D.1, Logigan H.1, Boc A.1, Manea C.2, Coman I.3

1Clinical Municipal Hospital, Dept. of Urology, Cluj Napoca, Romania, 2Endo Plus Urology Clinic, HIFU Center, Cluj Napoca, Romania, 3University of Medicine and Pharmacy "Iuliu Hatieganu", Dept. of Medicine, Cluj Napoca, Romania

INTRODUCTION & OBJECTIVES: High-Intensity Focused Ultrasound (HIFU) therapy represents an alternative choice in minimally invasive treatment of clinically localized prostate cancer. The Romania Endoplus study aims to demonstrate the oncological and functional efficiency of this procedure.

MATERIAL & METHODS: From June 2009 to July 2014, we performed 204 HIFU procedures using the Sonablate 500 TCM system. For 193 cases we applied HIFU as first-line therapy, while for the other 11 cases, HIFU was used as salvage therapy of local recurrence after radical prostatectomy (4 cases), external radiation therapy (7 cases) or after brachytherapy (2 cases). We included in this study 173 patients which have been followed minimum 6 months up to 55 months. We used the Stuttgart criteria to highlight post-therapeutic oncological local recurrence and to demonstrate HIFU effectiveness. All interventions were carried out by the same surgeon.

RESULTS: The medium operating time was 85 minutes. Biochemical disease-free outcome was recorded in 84.5% of cases at five years, and 33.5% of patients have a PSA value <= 0.03 ng/ml after 48 months. Erectile dysfunction was noted in 14.42% of cases, urethral stricture in 10.5%, bladder neck sclerosis in 11.6%, and urinary incontinence in 2.84% of cases. No patient developed rectal fistula and no intraoperative complications were recorded.

CONCLUSIONS: The results and the number of patients treated with HIFU therapy demonstrate that this minimally invasive radical procedure has low morbidity and high efficiency. Strict compliance with the criteria for inclusion renders the procedure feasible and secure, while oncological and functional results are comparable with those of prostate excision.

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C120: Clinical efficiency of the Diffusion Weighted Imaging /T2 image fusion for prostate cancer diagnosis in multiparametric magnetic resonance imaging – a pilot study

Nechifor-Boila I.A.¹, Borda A.², Loghin A.², Buruian M.³, Vasilescu M.⁴, Martha O.¹, Chibelean C.¹

¹Targu-Mures University of Medicine and Pharmacy, Dept. of Urology, Targu-Mures, Romania, ²Targu-Mures University of Medicine and Pharmacy, Dept. of Histology, Targu-Mures, Romania, ³Targu-Mures University of Medicine and Pharmacy, Dept. of Radiology and Medical Imaging, Targu-Mures, Romania, ⁴Targu-Mures Emergency County Hospital, Dept. of Radiology and Medical Imaging, Targu-Mures, Romania

INTRODUCTION & OBJECTIVES: Diffusion Weighted Imaging (DWI), as part of the multiparametric MRI (mMRI) protocol, is a newly-introduced functional sequence that promises a high sensitivity for prostate cancer diagnosis. However, due to its poor spatial resolution, prostatic lesions are difficult to assess both as morphology and topography, resulting in a poor specificity. DWI/T2 image fusions are innovative hybrid images, aimed to improve DWI spatial resolution and, implicitly its specificity. We performed this pilot study as a preamble of a large prospective trial expected to improve the diagnostic of prostate cancer diagnosis using MRI.

MATERIAL & METHODS: We examined a series of five prostate cancer patients which were subjected to radical prostatectomy together with one healthy control. DWI was performed at 3 B values (0, 500 and 1000 s/mm²). Fusions were created using the Osirix® software from the B-1000 diffusion and the corresponding T2 images. Interpretation was performed according to an adapted PI-RADS scale, using the pathological examination of the corresponding tissue samples as gold standard. All images were assessed in terms of lesion conspicuity (a scale ranging from 1 to 5) and topography.

RESULTS: All lesions visible in the peripheral zone were assessed, measured and charted for the DWI and T2 sequences separately. Each lesion was assessed using the PI-RADS scale and classified as benign/malignant. Before fusion, the average conspicuity score was 3 for DWI and 4 for T2 alone. For the DWI/T2 fusion images, an average conspicuity score of 5 was obtained. The DWI/T2 fusions revealed a sensitivity of 58% and a specificity of 73%, while the corresponding figures for the separate images were 53% and 62%, respectively. Plus, fused images offered more accurate morphologic details, thus enhancing both precision and speed of the interpretation.

CONCLUSIONS: DWI/T2 image fusion is a feasible technique that highlights lesion borders and extension, allowing a more efficient preoperative staging and surgical planning. Plus, its lack for contrast use makes the exam more cost and time-efficient, bringing mMRI further towards a non-contrast era.

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C121: Early post-RALRP outcomes and health-related quality of life assessment

Pop C.D., Coroi T., Logigan H., Stanca D.V., Crișan N., Coman I.

Municipal Hospital Cluj-Napoca, Dept. of Urology, Cluj-Napoca, Romania

INTRODUCTION & OBJECTIVES: Due to the technological advances, the Da Vinci Si™ surgical system is being increasingly employed for prostate cancer treatment with promising outcomes in our service. The aim of this ongoing study is to assess the changes in functional status as well as the quality of life, in patients undergoing robot-assisted radical prostatectomy for prostate cancer.

MATERIAL & METHODS: Since March 2013, we applied the EPIC, AUASI and SF-12 questionnaires as a preoperative means of assessment to consecutive RALRP patients and asked them to complete the same forms 6 months postoperatively. To date, there are 46 patients that received the second set of survey forms out of which 34 responded. We observed the variation in urinary, sexual, bowel and hormonal function status, the physical and mental components of the health-related quality of life and evaluated the association between surgical technique and pathology related relevant items.

RESULTS: The median age at the intervention time was 62.5 years and the median follow-up time was 6.6 months. A nerve-sparing approach was devised in 61.8% of cases, as well as a form of sphincter reconstruction in 67.6% of patients. Among the 24 cases where lymph node dissection was performed, 4 presented with lymph node involvement. A statistically significant decrease was observed in urinary functioning (p<0.001), continence status (p<0.001), sexual functioning (p<0.001), erectile function (p<0.001) and AUASI score (p<0.05), where the mental component of QoL presented an ascending tendency (p<0.01). Nerve-sparing positively correlated with sexual functioning (p<0.05) and the positive surgical margins negatively correlated with the mental aspect of the QoL (p<0.05). Treatment satisfaction proved to be mainly influenced by the AUASI score (p<0.05) and postoperative sexual life bother (p<0.05).

CONCLUSIONS: There is a clear impairment in the sexual and urinary functions early after RALRP, however the patients are mostly concerned about the surgical outcomes of the intervention and the lower urinary tract symptoms. The higher QoL early after RALRP is explained by the increase in its mental component.

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**INTRODUCTION & OBJECTIVES:** Transrectal, high-intensity focused ultrasound (HIFU) is a new method of treatment of prostate cancer using ultrasound waves generated by an ultrasound probe inserted into the rectum. The probe emits both 3 and 7.5 MHz waves. 7.5 MHz probe allows for imaging of the prostate gland in high resolution and 3D imaging option. 3MHz probe provides energy which increases temperature of prostate tissue up to 80-90°C, thus causing necrosis of the prostate tissues with cancerous foci. The aim of this study was to present the initial experience in HIFU in Poland using new, innovative Focal One apparatus.

**MATERIAL & METHODS:** Medical procedure using apparatus Focal One was performed for the first time in Poland in “Eskulap” hospital in Osielsko near Bydgoszcz on the 18th February, 2014. The procedure was carried out in 3 patients by dr Albert Gelet who is the co-creator of HIFU. Since that time, 14 patients aged 60-78 with prostate cancer cT2a- cT2b, N0, M0, Gleason 6-7, PSA in the range of 5.7-12, have been treated using Focal One technique. The procedures were carried out with general anesthesia. The treatment procedure consists of three steps. The first step involves precise imaging of the prostate gland, using 3D, 7.5MHz ultrasound probe and its combination with earlier MRI images to give 3D pictures of the prostate. This combination increases specificity and sensitivity of each examination and makes the treatment easier. Thus, the lesion can be destroyed preserving precisely determined margin of healthy tissue. In the second step, the diseased tissue is destroyed through ablation to 80-90°C which leads to necrosis of the whole gland or only the part of the prostate with diagnosed tumor. The third stage of the procedure involves validation of the procedure using a radiopaque medium SonoVue. After administration of medium the blood vessels within the prostate are made visible, together with the “silent” area where the procedure was effective. The re-ablation of the tumor may be performed during the same session when the first procedure was not effective.

**RESULTS:** The results of the first procedures are promising and are not associated with the risk to the patient. The most significant benefits of the procedure include the opportunity of validation at the end of the procedure and the possibility of extension in case the tumor is not fully destroyed. All patients responded well to treatment. A follow up was planned and it consisted of: MRI study (3 months after the procedure), blood serum PSA examination, and possibly, in some cases, a prostate biopsy, if needed.

**CONCLUSIONS:** High intensity focused ultrasound prostate ablation enables safe, total or focal ablation of the prostate, with significantly less complications, in patients with prostate cancer. The concomitant use of ultrasound and magnetic resonance imaging can increase the accuracy of the performed ablation of the prostate. The use of SonoVue medium allows to visualize a vascular network of the prostate as well as the prostate tissue destruction area. In case of incomplete destruction of the tumor tissue, or if the ischemic area is considered insufficient, it is possible to repeat and extend the scope of ablation during the same session.

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C124: Correlation between the evaluation of bladder tumors staging performed by an operator and the evaluation of bladder tumors staging performed by histopathologist

Grzegółkowski P., Słojewski M., Gołąb A., Lemiński A., Petrasz P., Soczawa M.

Pomeranian Medical University, Dept. of Urology and Urological Oncology, Szczecin, Poland

INTRODUCTION & OBJECTIVES: Carcinomas of urinary bladder are one of the most common types of cancer in the urological practice. Transurethral resection (TUR) is a basic method used to diagnose and treat bladder cancer. Does the fact that the procedure is so commonly performed allow for a close evaluation of intra operational clinical staging of the neoplasm?

The objective of the research was to compare urinary bladder carcinoma staging during the TURB procedure performed by the operator (cT) with the staging performed by histopathologist (pT).

MATERIAL & METHODS: From 07.01.2014 to 31.12.2013 the retrospective analysis of 258 patients who had the TURB procedure was conducted. The average age of patients who participated in the research was 67,6 (ranging from 35 to 94 years old). The urinary bladder carcinomas staging was based on the 2002 TNM Classification and performed by the operator as well as on the staging of postoperative material analyzed by histopathologist.

RESULTS: The number of compatible cT and pT ratings amounted to 132 (51.16%) of the analyzed cases. In 116 (44.96%) cases, these assessments differed, the number of upstagings was 98 (37.98%), and the number of downstagings was 18 (6.98%). In the study of 8 intraoperative cases the diagnosis was not given in accordance with the current TNM classification by the operator (3.10%), while in 2 cases (0.78%) did not have the appropriate material for histopathological evaluation of bladder tumors.

CONCLUSIONS: There is a strong tendency for upstaging of urinary bladder carcinomas during the TURB procedures.

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C125: Analysis of perioperative complications with Clavien-Dindo classification after cystectomy

Mezei T., Tenke P.

Jahn Ferenc South-pest Teaching Hospital, Dept. of Urology, Budapest, Hungary

INTRODUCTION & OBJECTIVES: With improvements in intra and perioperative care, surgical techniques, lower complication rates have been reported and cystectomy made a widely performed low mortality procedure. We retrospectively reviewed our last 6 years experience of cystectomy to evaluate perioperative complications and morbidity relating them to Clavien-Dindo Classification.

MATERIAL & METHODS: Between November 2008 and June 2014, 62 cystectomies were performed, 56 (90,3%) were radical cystectomy and 6(9,7%) simplex. Of these 62 patients, 25 (40,3%) were female and 37 (59,7%) male. We performed 78,5% of Bricker reconstructions, 21,5% of orthotopic ileal neobladder. We reviewed the records of all patients evaluating the complications with Clavien-Dindo classification. Death within 90 days after cystectomy and complications arising within 30 days were recorded and graded.

RESULTS: 3 (4,8%) patients died within 90 days after cystectomy. Total perioperative complication rate of our patients was 58%, main part of them (85%) are classified Clavien II due to blood transfusion. 8 (13%) patients needed a second look under general anesthesia (Clavien IIIb): paralytic ileus 2, wound dehiscence 1. 5 patients needed interventions not under general anesthesia (Clavien IIIa): lymphocele drainage 2, transrenal drainage 3.

CONCLUSIONS: Radical cystectomy is the preferred standard treatments for patients with muscle-invasive bladder cancer and remained for over forty years the main method of treatment. The complications rate of cystectomy is high, but procedure providing excellent cancer specific survival rates. Despite significant complications rate our results demonstrate an acceptable morbidity and mortality.

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INTRODUCTION & OBJECTIVES: Early diagnosis of urothelial bladder carcinoma (UCB) is essential to prevent progression to muscle invasive stadium. Despite initial transurethral resection, approximately 70% of patients with non-muscle invasive disease recur, and up to 15% progress, requiring radical cystectomy. The aim of our study was to integrate distinct and, potentially, competing molecular events into single phenotype to predict tumor behavior (progressive from non-progressive).

MATERIAL & METHODS: We analysed prospectively 186 primary bladder cancer tissue (tumor grade 1/2/3:111/52/23, stage Ta/T1:78/108) to detect TP53, FGFR3 and PTEN mutations. In urine samples UroVysion test based on fluorescence in situ hybridization (FISH) technique was performed (assessment of copy numbers of chromosomes 3, 7, 17 and deletions of 9p21). We used new subclassification into two groups: low risk of progression (presence of FGFR3 mutations and/or 9p21 deletions) and high risk of progression (TP53, PTEN mutations and/or aneuploidy of chromosomes 3, 7, 17) and compared these results with conventional clinicopathological data.

RESULTS: New molecular classification significantly better predict the progression of disease than standard histopathological examination.

CONCLUSIONS: Clinical phenotype of UBC reflect the presence both chromosomal aberrations and mutations in tumor cells. The analysis shows that the combination of these genetic changes in one classification helps to distinguish patients at high- and low risk of disease progression. However, it should be emphasized that the use of this classification has many limitations.
INTRODUCTION & OBJECTIVES: The trial aimed to assess the impact of narrow band imaging (NBI) cystoscopy in cases of non-muscle invasive bladder cancer (NMIBC). A single centre, prospective comparison to the standard white light cystoscopy (WLC) was performed targeting the specific diagnostic accuracy.

MATERIAL & METHODS: Over a period of 12 months, a total of 95 NMIBC suspected consecutive cases were enrolled in the study. The inclusion criteria were represented by hematuria, positive urinary cytology and/or ultrasound suspicion of bladder tumors. All patients underwent both WLC and NBI cystoscopy. Standard resection was performed for all lesions visible in WL and NBI-TURBT for solely NBI observed tumors.

RESULTS: The overall NMIBC (96.2% versus 87.2%) and CIS (100% versus 66.7%) patients’ detection rates were significantly improved for NBI when compared to WLC. Also, on a tumors’ related basis, NBI cystoscopy emphasized a significantly superior detection concerning the CIS (95.2% versus 61.9%), pTa (93.9% versus 85.2%) and overall NMIBC (94.8% versus 83.9%) lesions. Additional tumors were diagnosed by NBI in a significant proportion of CIS (55.5% versus 11.1%), pTa (26.5% versus 10.2%), pT1 (30% versus 10%) and overall NMIBC (30.8% versus 10.3%) patients. More over, pathologically confirmed positive tumoral margins secondary to white light TURBT were found at the NBI final control in 10.3% of the cases. The postoperative intravesical instillation treatment was significantly improved due to NBI results (16.7% versus 5.1%).

CONCLUSIONS: NBI cystoscopy represents a valuable diagnostic alternative in NMIBC patients, bringing a significant improvement of the tumor visual accuracy as well as detection rates. NBI found significantly more malignant lesions and subsequently provided a substantial amelioration to the bladder cancer therapeutic management.

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INTRODUCTION & OBJECTIVES: Early repeat transurethral resection of bladder tumour (re-TUR) in non-muscle invasive bladder cancer (NMIBC) improves staging accuracy and prognosis in patients with NMIBC. Residual tumour is present in 33-53% of re-TUR specimens and the rate of upstaging after re-TUR is 4-25%. The aim of the study was to retrospectively evaluate the outcome of re-TUR in the Department of Urology, Motol University Hospital, Prague.

MATERIAL & METHODS: A total of 105 re-TURs were performed on 101 patients between January 2010 and February 2014. The indications for re-TUR included T1/T2 tumours (n=78 and 5, respectively); high-grade/G3 tumours (n=55); no detrusor muscle in the primary TUR specimen (n=16); multiple/large tumours (n=38) and combinations thereof. Positive re-TUR results were recorded, as well as changes to tumour grade and/or stage. Regression methods were applied in an effort to find a significant predictor for re-TUR positivity.

RESULTS: Positive outcome of re-TUR was observed in 55/105 cases (52.4%). Median time between primary TUR and re-TUR was 9 weeks. Out of 55 positive findings, 29 were more favourable, 11 worse and 13 identical to the primary TUR. No clinical or histopathological factor was found to be a significant predictor for re-TUR outcome in terms of positivity or upstaging. A control group of patients (who have not undergone re-TUR for various reasons) matched by age, sex and EORTC recurrence and progression risk was selected in our institutional database. Recurrence rate was 27.6% and 33.0% in the re-TUR and control group, respectively (p=0.35).

CONCLUSIONS: The outcomes of re-TUR in our department are in line with those reported in the literature. EAU guidelines for NMIBC should be used when deciding upon indication for re-TUR.

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C129: Diagnostic and safety advantages of a combined NBI – plasma vaporization approach in large non-muscle invasive bladder tumors

Stanescu F., Geavlete B., Jecu M., Moldoveanu C., Ene C., Bulai C., Adou L., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: A retrospective study evaluated a multi-modal approach (narrow band imaging – NBI cystoscopy and bipolar plasma vaporization – BPV) when compared to the standard protocol (white light cystoscopy – WLC and transurethral resection of bladder tumors – TURB).

MATERIAL & METHODS: 260 patients with at least one bladder tumor over 3 cm were included in the trial based on abdominal ultrasound, contrast CT and flexible WLC. 130 patients underwent conventional and NBI cystoscopy followed by BPV. The standard WLC-TURBT approach was applied in a similar number of cases of the second arm. Monopolar Re-TUR was performed at 4-6 weeks after the initial intervention. The follow-up protocol included abdominal ultrasound, urinary cytology and conventional WLC performed every 3 months for a total period of 2 years.

RESULTS: When compared to monopolar resection, the BPV related obturator nerve stimulation (2.7% vs. 18.4%), bladder wall perforation (0.9% vs. 6.4%) and postoperative bleeding (5.4 % vs. 8.3%) rates, mean hemoglobin level drop (0.4 g/dl vs. 0.9 g/dl), catheterization period (47.8 hours vs. 74.6 hours) and hospital stay (2.8 days vs. 4.2 days) were significantly reduced. NBI superiority over WLC was established regardless of tumor stage (95.3% versus 65.1% for CIS, 93.3% versus 82.2% for pTa, 97.4% versus 94% for pT1 and 95% versus 84.2% for NMIBT formations in general). Significantly lower overall (6.3% versus 17.4%) and primary site (3.6% versus 12.8%) Re-TUR residual tumors’ rates were described in the NBI-BPV group. The 1 (7.2% versus 18.3%) and 2 (11.5% versus 25.8%) years’ recurrence rates were substantially decreased for the combined approach by comparison to the WLC-TURBT series.

CONCLUSIONS: NBI cystoscopy significantly improved the NMIBT diagnostic accuracy. BPV displayed substantially higher surgical efficiency, lower perioperative morbidity and faster postoperative recovery. The combined technique provided a reduced residual tumors’ rate as well as significantly decreased 1 and 2 years’ recurrence rates.

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C130: Correlation between ureteroscopic biopsy and pathology reports after nephroureterectomy for patients with upper urinary tract tumors

Nita G., Multescu R., Dragutescu M., Geavlete B., Arabagiu I., Persu C., Goman L., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: The standard treatment for upper urinary tract urothelial tumors (UUTUT) is nephroureterectomy with bladder cuff excision, but low grade tumors can benefit from a more conservative type of treatment. Preoperative staging is essential for optimal care.

MATERIAL & METHODS: From 2008 to 2013, a total of 195 patients have been biopsied and treated for UUTUT at St. John’s Clinical Emergency Hospital. The endoscopic approach was used in 65 cases, and in the other 130 cases, nephroureterectomy with bladder cuff excision was performed. The diagnostic protocol consisted of i.v. urography, CT urography, urine cytology (selected cases), cistoscopy and rigid or flexible ureteroscopy with tumor biopsy in case of diagnostic uncertainty or conservative management (98 cases). Basket catheters, 5 or 3 F forceps or the Storz ureteral resectoscopes were used for biopsying. Radical nephroureterectomy was proposed for 38 of the 98 cases which underwent ureteral biopsy. Three cases were a no-show for the follow-up and were not analysed. The correlation between the pathology report for the ureteroscopic biopsy fragments and the one for the final tumor specimen after nephroureterectomy was retrospectively analysed for 35 cases. Additionally, the tumor grade and tumor stage correlation was analyzed.

RESULTS: For 32 of the 35 cases (91.4%) that were analyzed, the ureteroscopic biopsy established the diagnosis of urothelial carcinoma. In 2 cases, the biopsy fragments were too small and couldn’t be used for diagnostic purposes, and in 1 case the diagnosis was of a benign lesion. For those 32 cases with ureteroscopic diagnosis of urothelial tumor, a tumor grade correlation of 84.37% (27 cases) was established between the pathology report of the nephroureterectomy specimen and that of the endoscopic biopsy fragments. The other 5 patients were preoperatively undergraded. As for the correlation between tumor grading and tumor staging, the pathology report of the nephroureterectomy specimens revealed 14 cases of low or medium grade tumors, 12 (85.7%) of which were non-invasive tumors (pTa, pT1). Of the other 21 cases with high grade tumors, 15 (71.4%) were invasive tumors (pT2, pT3).

CONCLUSIONS: Ureteroscopic biopsy of UUTUT does not allow accurate tumor staging, because the fragments are too small and do not include all the layers of the affected segment. Still, the correlation between diagnostic ureteroscopy and the pathology report is significant in regards to tumor grading, thus helping to establish therapeutic strategy, which is especially relevant in cases were conservative management is sought.

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C131: Predictors of postoperative mortality after radical cystectomy

N.N. Alexandrov National Cancer Centre of Belarus, Dept. of Urology, Minsk, Belarus

INTRODUCTION & OBJECTIVES: Radical cystectomy (RC) is associated with significant morbidity and mortality. We identified predictors of 30- and 90-day mortality after radical cystectomy in patients with bladder cancer.

MATERIAL & METHODS: We analyzed data from consecutive 849 patients with bladder cancer who underwent radical cystectomy in our institution between 1999 and 2012. Preoperative variables retrieved from medical records included age, gender, body mass index, preoperative creatinine and eGFR, clinical tumor stage and grade, pathologic type, primary/recurrent tumor, American Society of Anesthesiologists (ASA) score and Charlson Comorbidity Index (CCI). Univariate and multivariate logistic regression analyses were performed to find variables associated with higher odds of 30- and 90-day mortality.

RESULTS: In our study 30- and 90-day mortality rates were 4.8% and 13.2%, respectively. From all the variables tested we did not find any predictors of 30-day mortality. In univariate analysis age (odds ratio [OR]: 1.037; p=0.001), lymph node status (N0-1 vs N2-3; OR 3.485; 95% confidence interval [CI] 1.883–6.447; p=0.0001), clinical T-stage (cT≥3, OR 1.744; 95% CI 1.167–2.606; p=0.007), CCI (0-2 vs ≥3; OR 3.257; 95% CI 1.676–6.332; p=0.0001) and ASA score (1-2 vs ≥3; OR 1.849; 95% CI 1.219–2.806, p=0.004) were significant predictors of 90-day mortality. Multivariate analysis identified N-stage (N0-1 vs N2-3; OR 3.891; 95% CI 2.060–7.349; p<0.0001), age (OR 1.036; 95% CI 1.012–1.061; p=0.004) and advanced CCI (0-2 vs ≥3; OR 2.545; 95% CI 1.269–5.104; p=0.009) as an independent predictors of 90-day mortality.

CONCLUSIONS: Reporting 30-day mortality results may underestimate true mortality burden after radical cystectomy. Considering preoperative characteristics (regional lymph node status, age and CCI) could identify patients with high risk of dying within 90 days after surgery.

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C132: NBI technology in upper urinary tract tumors diagnosis

Georgescu D.A., Multescu R., Geavlete B., Miriculescu V., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Diagnosis flexible ureteroscopy become a routine procedure. However, identifying characteristics suggestive for a malignant nature of a lesion and consequently the indication for biopsy is difficult. In this regard, the relatively new NBI technology allows a better detection. We aimed to determine the value of digital flexible ureteroscopy combined with NBI in upper urinary tract pathology diagnosis.

MATERIAL & METHODS: We evaluated 64 white light and NBI digital flexible ureteroscopic procedures performed in our department. The procedures were divided in two groups. Group I (50 cases) included patients in which the procedures were performed for: upper urinary tract filling defects (20 cases), unilateral hematuria (19 cases), abnormal urinary cytology (11 cases). The second group (14 procedures in 7 cases) included follow-up cases with conservative treated upper urinary tract urothelial tumors. An Olympus URF-Vo ureteroscope with NBI capability was used in all cases.

RESULTS: Ureteral access sheath was used in 10.9% of the cases. Only 6.2% of the cases were pre-stented due to difficult ureteral access. In 2 cases, the large tip of the ureteroscope prevented the access in thin caliceal infundibulum. In Group I, diagnosis flexible ureteroscopy identified upper urinary tract lesions in 98%; malignant tumors in 14 cases and benign lesions in 35 cases. All the malignant lesions were identified by both white light and NBI in 7 cases. Only NBI detected the tumors in 4 cases, while in 3 cases it identified supplementary lesions. In 1 case an unnecessary biopsy was performed (biopsy taken under NBI proved to be benign). In Group II, tumoral recurrence was found in 1 of the 7 cases with conservative treated upper urinary tract tumors, visible both in white light and NBI (after a mean follow-up of 12 months, ranging between 6 and 30 months).

CONCLUSIONS: Flexible retrograde ureteroscopy with NBI capability is a useful diagnosis method in upper urinary tract pathology, especially when imaging data are equivocal and malignant lesions are suspected.

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C133: A role of endourology in a treatment of urothelial cancer of upper urinary tract (UC-UUT)

Ürge T. 1, Stránský P. 1, Kalusová K. 1, Hes O. 2, Petersson F. 3, Hora M. 1

1 University Hospital Plzeň, Dept. of Urology, Plzeň, Czech Republic, 2 University Hospital Plzeň, Dept. of Pathology, Plzeň, Czech Republic, 3 National University Health System, Dept. of Pathology, Singapore, Singapore

INTRODUCTION & OBJECTIVES: A standard treatment for UC-UUT is/was open nephroureterectomy (NUE). Modern endourology gives many options to replace this approach. We assess a role of endourology in this topic.

MATERIAL & METHODS: We treat at our institution all patients with UC UUT from region with 571 thousand of inhabitants. Between 1/2007 and 6/2014, 152 surgeries were performed for UC-UUT.

RESULTS: In 23 cases (15.1%) were accomplished organ sparing surgeries (20 – 87% ablation with Ho:YAG laser (semirigid of flexible) – 14 - or operating ureteroscope with resection loop - 5), in 2 – 8.7% open resection of ureter and in 1 – 4.3% percutaneous resection of pelvis tumour with resectoscope. In 129 cases (84.9%), NUE was indicated. In 89 of them (69%) was used laparoscopy (58 – 65% complete laparoscopic NUE (CLNUE), 32 – 35% laparoscopic nephrectomy with open ureterectomy). In CLNUE, in the last 34 cases, technique of endoscopic excision of ureteral orifice with Collin’s knife and application of Hem-o-lok® ML clips followed with CLNUE was used. Formerly was employed technique of really CLNUE with excision of ureterovesical junction laparoscopically with Ligasure® Atlas (abandoned due to incomplete resection of intramural ureter in some cases). In rest 39 of 152 surgeries (25.7%) was carried out open NUE (mainly for locally advanced tumour or N+ tumours).

CONCLUSIONS: Endourology plays crucial role in treatment of UC-UUT. In nephron sparing methods (taking 15%) dominate ureteroscopic Ho: YAG ablation. In NUE, the most frequent method is CLNUE with clip. Open surgery is applied only in open ureterectomy in distal ureter tumour or in nephrectomy phase in advanced tumours.

Dedication: Supported by MH CZ - DRO (Faculty Hospital in Pilsen - FNPI, 00669806), by the Charles University Research Fund (project number P36) and grant IGA NT 12010-5.

Eur Urol Suppl 2014; 13(6) e1318
C134: Early complication rates and perioperative mortality after radical cystectomy in the elderly

Mirvald C.¹, Surcel C.¹, Gingu C.¹, Pavelescu C.¹, Cerempei V.¹, Najjar S.¹, Olaru V.¹, Chirita M.¹, Savu C.², Gluck G.¹, Sinescu I.¹

¹Fundeni Clinical Institute, Dept. of Urology, Bucuresti, Romania, ²Fundeni Clinical Institute, Dept. of ICU, Bucuresti, Romania

INTRODUCTION & OBJECTIVES: Due to marked improvements in medical technology and increased life expectancy, radical cystectomy (RC) may be considered an option for elders who suffer from muscle-invasive bladder cancer (MIBC). The purpose of this study was to evaluate the early complication rates and perioperative mortality after radical cystectomy in elderly patients.

MATERIAL & METHODS: We conducted a retrospective analysis of all patients who underwent radical cystectomy for MIBC in our Clinic from January 2011 through December 2013. From all 413 RC patients, 124 (30%) with age>70 were included in our analysis and divided in 2 groups: 108 patients with age 70–79 years and n=16 patients with age >80 years. All patients underwent RC/anterior pelvectomy with pelvic lymphadenectomy. Most frequent urinary diversion was cutaneous ureterostomy (93.8%), followed by ileal conduit (6.2% of the patients). Age-adjusted Charlson comorbidity index (ACCI), early perioperative complications were analyzed and classified according to the modified Clavien Dindo system. Paired samples t-test was used to evaluate the differences between different age groups and uni- and multivariate analyses were perform in order to identify predictors for complications.

RESULTS: The median hospital stay was 21 and 32 days, respectively (P<0.001), with a 3.7% and 15% early mortality rates (p=0.43). The corresponding rates of overall early complications were 34% and 40%, respectively (P=0.02), most of them minor, Clavien grade II-IIa (65.6% vs75.3%, p=0.071), with no difference between the 2 groups regarding early diversion-related complications. Preoperative Hb7, were associated with a higher risk of developing perioperative complications and increased mortality.

CONCLUSIONS: Cystectomy appears to be reasonable in elderly people who have a life expectancy of more than 2 years, in a rigorous setting of pre-operative assessment and anesthetic management. Chronological age alone does not represent a contraindication for radical cystectomy.

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C136: Laparoscopic adrenalectomy for metachronous ipsilateral metastasis following nephrectomy for renal cell carcinoma

Trávníček I., Stránský P., Hora M., Ürge T., Dolejšová O., Kalusová K., Krčma M., Hes O.

1Faculty Hospital Pilsen, Dept. of Urology, Pilsen, Czech Republic, 2Faculty Hospital Pilsen, Dept. of Internal Medicine, Pilsen, Czech Republic, 3Faculty Hospital Pilsen, Dept. of Pathology, Pilsen, Czech Republic

INTRODUCTION & OBJECTIVES: Although laparoscopic adrenalectomy (LA) is considered as a gold standard approach for adrenalectomy, there are minimal data describing options and outcomes of LA after previous ipsilateral nephrectomy (PIN).

MATERIAL & METHODS: From August 2004 to April 2014 we performed at our institution 103 LA. Of this amount we performed 7 LA for metachronous metastasis of renal cell carcinoma (RCC) after PIN. This group was compared to a group of LA without previous nephrectomy.

RESULTS: The group of 7 LA after PIN comprised 5 men (71%) and 2 woman (29%); the mean age at the time of surgery was 63 years (range: 50-78); the mean period between nephrectomy and adrenalectomy was 5,1 years (range: 1-14,3). Comparison of the group of LA after PIN and the group of LA without previous ipsilateral renal surgery; the operating time was longer in patients after PIN for 5 min (72 vs. 67 min) but the mean blood loss was lower in this group (39 vs. 45,4 ml); duration of hospitalization was similar in both groups (6,6 vs. 6,1 days). There was no need for conversion to open surgery and we did not observe any other complications.

CONCLUSION: Laparoscopic adrenalectomy for metastasis of RCC after PIN is a technically feasible method in selected patients (less advanced metastases) and it is associated with no significant differences in perioperative data in comparison with the group without prior nephrectomy. The patients benefit from minimally invasive surgery. The performance has required an experienced laparoscopic surgeon.

MH CZ - DRO (Faculty Hospital in Pilsen - FNPI, 00669806), the Charles University Research Fund (project number P36), grant IGA NT 12010-5

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INTRODUCTION & OBJECTIVES: At our institution, LESS was established at very well chosen cases as a standard option of laparoscopic nephrectomy since 2011. Since 2012, LESS is applied in selected cases for AE as well. We assess our group of LESS AE and we compare it with SLAE.

MATERIAL & METHODS: Since 3/2014 to 4/2014, 32 adrenal surgeries were performed. In 18 cases (56%), LESS approach was chosen. Indications were non-complicated cases only (BMI < 34, size of tumour ≤ 7 cm, non-malignant aetiology, no previous surgery). All LESS were done by one surgeon. Equipment standard 10 mm rigid 0° camera, Triport®, one pre-bent grasper, sealing instrument (Ligasure 35 mm blunt tip®). Approach was pararectal, in only one slim man transumbilical. Three LESS were exclude (2 partial AE only, one adrenal cancer with rapid progression between CT and operation – converted to SLAE and then to open surgery). This group of 15 LESS AE compared to 15 SLAE with similar characteristics chosen among 54 SLAE performed 1/2008 - 2/2012.

RESULTS: In 8 cases of LESS-AE, 3 mm port added to elevate of liver/spleen. Mean parameters of LESS-AE vs. SLAE (F-test of T-test): maximal diameter of tumour 43.7 vs. 42.2 mm (p=0.295), time of surgery 63.3 vs 69.8 (p=0.29), blood loss 38.0 vs. 38.2 ml (p=0.0012), BMI 26.9 vs. 28.5. (p=0.23), discharging form hospital 5.4 vs. 4.2 (0.03). No complications in both groups.

CONCLUSIONS: Based on objective data, LESS is a feasible and alternative method for AE, but only in very well selected cases. Subjectively assessed, it must be done by more skilled surgeon. Nevertheless, it is more complicated to solve any peroperative complications. Profit of patient is questionable and not proved at this study.

Dedication: Supported by MH CZ - DRO (Faculty Hospital in Pilsen - FNPI, 00669806), by the Charles University Research Fund (project number P36) and grant IGA NT 12010-5.
**C138: Laparoscopic adrenalectomy. 10-year experience of a single institution**

Korzeklik I.¹, Obarzanowski M.¹, Jaskulski J.¹, Buras-Pitek J.¹, Orłowski P.¹, Chłosta P.²

¹Holycross Cancer Center, Dept. Of Urology, Kielce, Poland, ²University Hospital, Jagiellonian University, Dept. of Urology, Cracow, Poland

**INTRODUCTION & OBJECTIVES:** Since minimally invasive techniques of suprarenal gland surgery have been incorporated into clinical practice they are commonly performed using transperitoneal laparoscopy. The aim of the study was to establish safety and usefulness of procedure in our department.

**MATERIAL & METHODS:** We retrospectively analysed data of 58 patients who underwent laparoscopic adrenalectomy between 2003 and 2013. All the patients were consulted by endocrinologist as well as abdominal CT was performed before the procedure. We established our outcomes according to preoperative size of the tumor (CT scan results), perioperative data, complications rate, pathological report, duration of hospitalization.

**RESULTS:** Prevalence of patients were woman and the tumor was mainly localized on the left side. Mean time of procedure was 129min. In 2 patients blood loss was more than 150ml. During two of the left side procedures the spleen was injured and it was necessary to remove spleen due to hemorrhage. Once there was a necessity to supply vena cava due to bleeding, without conversion to open surgery. There were no blood transfusion in patients during the hospitalization. We noticed two complications after surgery. In most of pathologic specimen the adenoma was found. Mean time of hospitalization was 6.8 days.

**CONCLUSIONS:** Laparoscopic adrenalectomy is the standard treatment in patients suffered from suprarenal tumours nowadays. We proved high safety level of procedure. It is a useful way of treatment and good alternative for open surgery in case of adrenal tumours in both benign and this with malignant potential.

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INTRODUCTION & OBJECTIVES: Objective of this study is to find out, whether patients with urinary leakage from ureterocystoneoanastomosis after renal transplantation have different values of urodynamic parameters before renal transplantation in comparison with a patient without urinary leakage.

MATERIAL & METHODS: We have evaluated prospectively 127 men who went through renal transplantation between years 2007-2013 and who went through urodynamic investigation in our department before renal transplantation. The statistic significance was estimated on the border p ≤ 0.05.

RESULTS: Within a group of 127 men urinary leakage after renal transplantation was present in 11 (8.6%) cases. In the group of the patients with urinary leakage there was significantly lower volume at the feeling of normal desire to void (NDV) in comparison with the rest of the patients (mean 83 (SD±33) ml against 177 (SD±106) ml), higher maximal detrusor pressure in the filling phase of the urinary bladder (mean 82 (SD±72) cm H2O against 43 (SD±35) cm H2O), lower capacity of urinary bladder (mean 148 (SD±73) ml against 266 (SD±164) ml), lower detrusor compliance (mean 25 (SD±58) ml/cm H2O against 35 (SD±56) ml/cm H2O), higher detrusor pressure during micturition (mean 128 (SD±53) cm H2O against 72 (SD±35) cm H2O) and higher index of bladder outlet obstruction (BOOI) (mean 85 (SD±45) against 36 (SD±31)). Age and residual diuresis were without statistically significant difference between the group of the patients with and without urinary leakage from ureterocystoneoanastomosis. To predict the risk of urinary leakage after renal transplantation parameter X was defined. X = - 0.9383 - 0.1157 * logNDV + 0.3255 * log(BOOI+100). Patients with the value of parameter X higher than 0,192 have 16,2x higher risk of development of urinary leakage (CI 3,7-70,4) with 86% specificity and 80% sensitivity.

CONCLUSIONS: Our results show that urodynamic investigation could help with the recognition of men with higher risk of urological complications after renal transplantation within the population of men with negative urologic history.
C140: Technical aspects of double-J catheter use in post kidney transplant patients – 3 years single-centre experience

Sutkowski B.S., Bres-Niewada E.B., Łykowski M.Ł., Zajączkowska J.Z., Mutrynowski T.M., Radziszewski P.R.

The Infant Jesus Teaching Hospital, Dept. of Urology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: Background. Endourological techniques are widely used in cases of both early and late post kidney transplant complications. Due to altered post-transplant anatomy of vesicoureteral junction (VUJ), certain technical modifications in double-J catheter insertion and removal are necessary.


MATERIAL & METHODS: Between 2011 and 2014 we performed 106 procedures of double-J catheter insertion or removal in our department. We analyzed type of equipment used, technical modifications, and intraoperative events in four general types of procedures: catheter insertion, catheter removal, catheter replacement, and emergency kidney graft hydronephrosis decompression.

RESULTS: Apart from one case of failed ureteral catheterisation in early post-operative period all intended procedures were performed successfully. Based on several representative cases for the 4 general procedure groups we present step-by-step technical modifications such as: catheter length issues, access to distal ureter in unfavorable VUJ location including guide-wire insertion techniques, use of ureteral catheters with straight or adequately angulated tips as well as catheters with side eyes, ureterorenoscopy or potential lithotripsy use in case of catheter incrustation, techniques for emergency renal decompression in case of retrograde catheter insertion failure (percutaneous renal decompression, methylene blue or guide-wire antegrade insertion for identification of ureteral openings).

CONCLUSIONS: Availability and ability to use described methods with their specific technical modifications is often necessary to guarantee successful endourological treatment of post-transplant complications requiring ureteral catheterization.

Eur Urol Suppl 2014; 13(6) e1324
INTRODUCTION & OBJECTIVES: Patients with kidney transplant who have been long time on dialysis have problems with small and defuntionalized urinary bladder. We will show our successful results of urinary bladder restoration after kidney transplantation.

MATERIAL & METHODS: From June 2008 till June 2013 we studied 200 patients with kidney transplant at University Hospital Center Zagreb. We analyzed time being on dialysis, anuria duration, urinary bladder capacity before and after transplantation, time till complete urinary bladder function restoration (>2.5 dcl), need for α blockers and need for endoscopic procedures.

RESULTS: We studied 200 patients, 120 men (60%) and 80 women (40%). Mean time being on dialysis was 6 years but the longest time was 19 years. Mean anuria duration was 2.5 years. Urinary bladder capacity before transplantation was >100 ml (45%), 50-100 ml (27%) and 250 ml) was 4.4 weeks (1.1 months). In 80 % patients extravesical ureteral anastomosis with „JJ” stent was performed and only in 20% patients transvesical ureteral anastomosis with prothesis was performed. Alfa blockers used 30% patients and endoscopic procedures (TUIP or TURP) were performed in 30 patients (25%). In this study 12 children were analyzed.

CONCLUSIONS: In all studied patients except one we noticed full urinary bladder function restoration. Time needed to full restoration was longer and in correlation with longer time on dialysis. Kidney transplantation in patients with small and defuntionalized urinary bladder is feasible and successful without previous nor following augmentation. Special care need children and early correction of urinary system anomalies.

Eur Urol Suppl 2014; 13(6) e1325
INTRODUCTION & OBJECTIVES: The authors assessed the efficacy of nephron-sparing surgery and the long-term changes in renal function after surgery in patients with solitary kidney.

MATERIAL & METHODS: From 2000 to 2013, 43 patients underwent nephron-sparing surgery for renal cancer in patients with solitary kidney. Previously the contralateral kidney was removed for renal cancer in 28 patients and for non-malignant disease in 14 patients. One patient had agenesis of the contralateral kidney. The mean age of the patients was 61±10 years (range 28 to 81 years). There were 12 females and 31 males. The age factored Charlson comorbidity index was: 4.9±2.3. The tumor resection was performed with laparoscopic technique in 3 cases and in all other patients open surgical approach was used.

RESULTS: The average diameter of the removed tumors was 33.6±13.4 mm. The mean PADUA score was 7.6±0.7. The mean renal ischemic time was 10.5±8.4 minutes, however the renal artery was not clamped in 12 cases. Histology proved renal cell cancer in all cases. The mean preoperative and the early postoperative serum creatinine levels were 115±47 umol/ml and 154±65 umol/ml (p= 0.0008), while the eGFR was 60±21 ml/p/1.73m² and 43±18 ml/p/1.73m² (p=0.0001). Haemodialysis treatment was necessary in two cases in the early postoperative period. One year after the surgery chronic haemodialysis treatment was administered in three patients. The mean serum creatinine level and the eGFR were 159±78 umol/ml and 44±20 ml/p/1.73m² in 1 year (n:43), while there were 148±64 umol/ml and 44±19 ml/p/1.73m² in 3 years (n:37) after the resection. In patients with zero warm ischemic time the early postoperative GFR decreased with 26% compared to the preoperative value. The decrease was 25%, 30% and 39% at 1 year, 3 year and 5 years. In patients with warm ischemic time the early postoperative GFR decreased with 35% compared to the preoperative value. The decrease was 34%, 34% and 38% at 1 year, 3 year and 5 years. The changes in the postoperative creatinine and GFR values were significant in patients with preoperative GFR>60 ml/min/1.73 m², however these were non-significant when the preoperative GFR was ≤60 ml/min/1.73 m². The median follow-up time was 38 months (range 14 to 141 months). During this period local recurrence occurred in 2 patients és distant metastasis was diagnosed in 4 occasions. All patients had synchronous or asynchronous tumor. During the follow-up period cancer related death occurred in 2 patients, while non-renal tumor related death was present in 6 cases.

CONCLUSIONS: The oncological outcome of partial nephrectomy in solitary kidneys is good. After the nephron sparing surgery failure of renal function can occur, however haemodialysis treatment is necessary only in some cases.

Eur Urol Suppl 2014; 13(6) e1326
INTRODUCTION & OBJECTIVES: Definition of serum markers in patients with newly diagnosed renal tumor and their correlation with clinical and histopathological parameters.

MATERIAL & METHODS: A total of 113 patients underwent surgery for kidney tumor between 09/2011 and 03/2013. Demographic, clinical and routine laboratory data were recorded prospectively. Histological examination established a type and size of the tumor. Grade, stage and other histological parameters were determined in renal cell carcinoma (RCC). The control group consisted of 50 patients without cancer. Serum from blood samples taken in fasting status was frozen. A total of 21 serum proteins were tested by ELISA method (leptin, midkine, sRAGE, uromodulin, CA9, CD117, fibronectin, clusterin, NGAL, MMP9, IGF1, S100P, APOA2, Tum2PK, TK1A, HPX, DcR3, parvalbumin, CRP, LDH, prealbumin). Significance of each parameter was evaluated using the non-parametric ANOVA method (Wilcoxon test). Multivariate analysis was done by using the Cox regression model.

RESULTS: The average age of patients was 65 (22-84) years, 79 (70%) were males. Benign tumor was found in 12 (10.6%) patients, most common cancer was clear cell RCC in 74 (65.5%) patients. Primary metastatic RCC (mRCC) was found in 11 (9.7%) patients. Different levels in the control group versus RCC patients were found in CA9, CD117, fibronectin, APOA2, Tum2PK and CRP. In patients with mRCC there were higher levels of Tum2PK, HPX and CRP. Levels of CA9, CD117 and IGF1 could distinguish benign tumor from RCC. Levels of CA9, NGAL, Tum2PK, HPX and CRP were significantly different in stage pT3 RCC compared to pT1. Statistically significant values were defined as p <0.05. Multiplex of markers for distinguishing RCC from healthy controls and benign tumors from RCC was designed by multivariate analysis. Specificity and sensitivity were defined for each marker in the models.

CONCLUSIONS: The combination of different serum markers has the potential to enhance the diagnosis of primary RCC. Individual statistical models should be confirmed by further studies. The work was supported by grant MPO TIP FR-TI3/666.
C145: Open partial nephrectomy; only optimal option for small renal tumors

Nabi N., Barea B., Cham A., Nusrat N., Rogers E., Syed S., Walsh K., Durkan G., Ghous H., Forde J.

Galway University Hospital, Dept. of Urology, Galway, Ireland

INTRODUCTION & OBJECTIVES: The detection rate of incidental small renal masses in earliest stage (SRMs) has increased with improvements in modern imaging modalities such as Ultrasound (US), Computed Tomography (CT), and Magnetic resonance imaging (MRI). Nephron Sparing Surgery (NSS) offers similar oncological outcomes as radical nephrectomy for SRMs whilst preserving renal function. The aim of this study was to compare the outcome benefit of open partial nephrectomy for incidental small renal tumors.

MATERIAL & METHODS: A total of 35 patients between 2012 January till January 2014 who underwent open partial nephrectomy for incidental small renal masses (SRMs) analyzed retrospectively. Data collection was performed through electronic discharges, summaries, operation theatre records and the clinical notes. Primary outcome measured was adequacy of the resection determined by pathological proved negative surgical margins. Secondary outcome included operating time, blood loss at the time of surgery, length of hospitalization and post operative renal function.

RESULTS: Mean age of patient was 57 years (range =32-77). Regarding tumor position; 7 were upper pole, 12 inter-polar and 16 lower pole. Mean tumor size was 3.1 cm (range 5-7). Warm ischemia time (WIT) was 0 minutes in 22 patients while remaining 13 had a mean WIT of 12.8 minutes (range =5-15). No patients required ureteric stenting. Mean estimated blood loss was 410mls (range =100 -1,825). Mean operative time was 138 minutes (range= 90 -180). Median length of stay was 6 days (range 5-18). Post operative complications include pneumonia (n=1), peri nephric abscess (n =1), Urinoma requiring stenting (n =2) and wound infection (n =1). Histologically, there were 2 benign tumors and 33 renal cell cancers with all surgical margins negative. Pathological staging was as follows; 27/33 (81.8%) were pT1 and 6/33 (18.2%) were pT3. Renal cell subtype was as follows; 25/33 (75.7%) clear cell type, 7/33(21.2%) papillary and 1 patient had chromophobe subtype. Fuhrman Grade was reported as Grade 1 in 6/33 (18.2%). Grade 2 in 25 (75.7%), Grade 3 in 1 patient and Grade 4 in 1 patient. On follow up, no patient had deterioration in renal function.

CONCLUSIONS: Partial Nephrectomy (PN) in appropriately selected cases offers good local oncological and functional outcomes. NSS is considered as the treatment of choice in patients with kidney tumors when technically feasible irrespective of tumor size. NSS still remains as the gold surgical treatment option for small renal tumors.

Eur Urol Suppl 2014; 13(6) e1328
C146: Early complications after laparoscopic nephron-sparing surgery

Soczawa M.P., Słojewski M., Petrasz P., Gołąb A.

Pomeranian Medical University, Dept. of Urological Oncology, Szczecin, Poland

INTRODUCTION & OBJECTIVES: New diagnostic techniques, popularization ultrasonography, computed tomography and magnetic resonance imaging, contribute to the detection of small renal tumors at low clinical stage. Until recently, nephrectomy by open technique was performed when tumor was presented in the kidney. Currently, when small tumor is localized in peripheral part of the kidney it is possible to remove only the tumor, leaving the healthy renal parenchyma (NSS-Nephron sparing surgery). Laparoscopic nephron-sparing surgery is possible in specialized centres. Objectives: To evaluate early complications in patients who underwent laparoscopic nephron-sparing surgery.

MATERIAL & METHODS: Between February 2009 and November 2013, we performed laparoscopic nephron-sparing surgery in 128 patients (63 women and 65 men), average age 58 years (30-86). 25 patients underwent transperitoneal access and 106 retroperitoneal, 63 on the left side, 65 on the right. Bleeding was controlled by the use of: electrocoagulation, suture kidney, coagulation with argon, TachoSil®, Surgicel®, Spongostan™. Complications were stratified using the Clavien-Dindo classification system.

RESULTS: Average hospitalization time after surgery was 4.1 days (1-17 days). Nine patients (7.8%) underwent conversion to the open method. The conversions were done because of: perirenal fibrosis - in four patients, the lack of coverage tools - in two patients, diathermy failure - in one patient, the absence of tumor in the resected parts of the kidney - one patient, prolonged procedure - in one patient, suspected infiltration of kidney fat - one patient. Four conversions were done by the surgeon who performed 81 procedures and six conversions were done by three surgeons. Two patients (1.6%) underwent nephrectomy, in one case due to bleeding, in another one because the tumor was not found (pathological report after the procedure: renal clear cell carcinoma). In the postoperative period in two patients (1.6%) due to prolonged leakage from the drain, DJ catheter was inserted to the operated kidney (Clavien - Dindo Grade IIIa). Two patients (1.6%) underwent laparotomy due to bleeding from the kidney (Grade IIIb), which in one case (0.8%) resulted in nephrectomy. Elevation of serum creatinine level to 3.5 mg/dL (grade II) was observed in 2 patients. In one patient (0.8%) acute abdomen symptoms were observed, the patient was transferred to the department of surgery and the patient underwent appendectomy due to appendicitis (Stage IIIb). In one patient (0.8%) atrial fibrillation (Grade II) was found.

CONCLUSIONS: Laparoscopic nephron-sparing surgery is technically difficult. It requires a lot of experience from the operating team. The number of complications above 2nd level was small. Surgeon’s experience is an important factor which influences the number of complications after surgery.

Eur Urol Suppl 2014; 13(6) e1329
C147: Kidney cancer with synchronic distant metastases – a department’s data for a one-year period

Lisiński J., Słojewski M., Sikorski A.

Pomeranian Medical University, Dept. of Urology and Urological Oncology, Szczecin, Poland

INTRODUCTION & OBJECTIVES: Metastatic kidney cancer is a significant problem in urology which requires a multidisciplinary approach. 25-30% of patients diagnosed with kidney cancer have metastases. The median survival is 22 months.

Objectives: analysis of basic data concerning the study group. Clinical assessment of kidney tumour before treatment (TNM scale). Evaluation of tumour size difference between preoperative CT scans and postoperative specimens. Presentation of treatment following urological procedures and survival data.

MATERIAL & METHODS: 30 patients with kidney cancer were included to the study basing on synchronic distant metastases diagnosed in imaging studies. Data concerning hospitalization in urology department and imaging was gathered and analyzed. A prospective follow-up data regarding further treatment and survival was included (when available).

RESULTS: Among the analyzed cases there were 17 men and 13 women (1.3:1). The median age was 64.3 (46-80). The clinical assessment of the tumour was cT4 in 11 patients (36.7%), cT3 in 8 patients (26.7%), cT2 in 6 patients (20.0%) and cT1 in 5 patients (16.7%). The chest x-ray was false negative in 11/13 patients (84.6%). 23 patients underwent nephrectomy (76.7%). The average difference between preoperative CT tumour size and postoperative specimen tumour size was -0.25 cm (bigger size in CT). Treatment following urological procedures was thoracic surgery in 10 cases (33.3%), chemotherapy in 10 cases (33.3%) and palliation in 7 cases (23.3%). 3 patients were sent to other departments (10.0%). At present there are 16 patients alive in our follow-up (53.5%). There is no data about 5 patients (16.7%). 9 patients died (30.0%). The median survival time of those patients was 152.8 days (64-293).

CONCLUSIONS: Most patients with metastases have a high stage kidney tumour based on clinical assessment (cT3-cT4). A significant number of patients have small size tumours- cT1. Both low sensitivity of chest x-ray and no routine preoperative chest CT assessment in patients with kidney cancer cause understaging of M parameter in TNM scale. The survival evaluation and prognostic factors in metastatic kidney cancer are both the subject of further study.

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Partial versus radical nephrectomy: Analyses of the perioperative complications

Styopushkin S., Bondarenko I., Chebanov K., Sokolenko R., Chaikovyi V.

1 Dnipropetrovsk City Multifield Clinical Hospital #4, Dept. of Urology #1, Dnipropetrovsk, Ukraine,
2 Dnipropetrovsk State Medical Academy, Dept. of Kathedra Oncology, Dnipropetrovsk, Ukraine

INTRODUCTION & OBJECTIVES: At this stage partial nephrectomy (PN) is the operation of choice for the treatment of kidney tumors to 7 cm. Its main advantages are excellent oncological outcome with preservation of the renal function. However, PN is more complex surgery than radical nephrectomy (RN). According to a number of publications PN involves a lot of perioperative complications. Objective: to compare perioperative complications rates between laparoscopic radical nephrectomy (LRN) and PN.

MATERIAL & METHODS: One surgeon operated 133 patients with renal tumor size of 7 cm in our department from January 2010 to June 2014. Of this group, 14 patients were excluded from renal cell carcinoma (RCC) in stage pT3a. The analysis includes patients with benign tumors and RCC in stage pT1: 60 LRN and 59 PN (42 open and 17 laparoscopic). 50 (85%) PN performed under warm ischemia (total or selective). In 9 (15%) patients PN was performed without warm ischemia. Suturing pyelocaliceal system was performed in 32 (55%) patients with a PN. Both groups of patients were comparable with clinical features. Average tumor size was larger in the group of LRN. All tests were two-sided, and the values of P

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<th>LRN (n = 60)</th>
<th>PN (n = 59)</th>
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<tr>
<td>Mean (median; range)</td>
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<tr>
<td>Age at surgery, yr</td>
<td>58,0 (60; 27-78)</td>
<td>56,4 (57; 30-75)</td>
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<td>Body mass index, kg/m²</td>
<td>27,1 (26,7; 16,2-58,4)</td>
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<td>4,9 (5; 2-10)</td>
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<td>Tumor size, cm</td>
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<td>3,8 (3,5; 1,5-7)</td>
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<tr>
<td>Male</td>
<td>26 (43)</td>
<td>22 (37)</td>
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<td>Female</td>
<td>34 (57)</td>
<td>37 (63)</td>
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<td>Symptoms at presentation</td>
<td>37 (62)</td>
<td>28 (47)</td>
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<td>ECOG performance status:</td>
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<td>0</td>
<td>33 (55)</td>
<td>34 (58)</td>
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<td>&gt;0</td>
<td>27 (45)</td>
<td>25 (42)</td>
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<td>Histologic subtype:</td>
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<tr>
<td>RCC T1a</td>
<td>7 (12)</td>
<td>38 (64)</td>
<td>&lt;0,001</td>
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<tr>
<td>RCC T1b</td>
<td>50 (83)</td>
<td>8 (14)</td>
<td>&lt;0,001</td>
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<td>Bening neoplasms</td>
<td>3 (5)</td>
<td>13 (22)</td>
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<td>Early surgical complications (within 30 d):</td>
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<td>Intraoperative injury of the main vascular</td>
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<td>Hematoma</td>
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<td>Arterio-Cup fistula</td>
<td>1 (1,7)</td>
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<td>Wound infection</td>
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<td>Gipervolemia</td>
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<td>Hospital stay &gt; 6 days</td>
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**RESULTS:** In-hospital mortality was not in both groups of patients. In our series there was no significant difference in perioperative complications in groups of LRN and PN. It should be noted that there was not such complications as urinoma in the group of PN. But it is necessary to note the presence of such a pathognomonic complications for LPN as arterio-cup fistula. In our observation that occurred in 1,7% cases.

**CONCLUSIONS:** PN is a safe and effective treatment for renal tumors up to 7 cm. Our data suggest that PN in appropriately selected for NSS patients may have similar complication rates compared with LRN.

Eur Urol Suppl 2014; 13(6) e1331
C149: Optimal management of renal angiomyolipomas, our experience in 10 years series

Ürge T., Hora M., Chudacek Z., Strasky P., Hes O., Ferda J., Eret V., Travnicek I., Kalusova K., Pitr T.

1University Hospital Plzeň, Dept. of Urology, Plzeň, Czech Republic, 2University Hospital Plzeň, Dept. of Radiology, Plzeň, Czech Republic, 3University Hospital Plzeň, Dept. of Pathology, Plzeň, Czech Republic

INTRODUCTION & OBJECTIVES: The natural history of renal angiomyolipoma (AML) is not well defined. Current management options include observation, embolization and partial or total nephrectomy. Recommendations for processing are usually based on the patient's symptoms or the size of the lesion. In order to help define the optimal treatment of renal angiomyolipomas we performed a retrospective study of 42 patients diagnosed with AML over a ten year period at our medical centre.

MATERIAL & METHODS: Mean follow-up was 89±30 months. Lesions were classified as small (< 4 cm), medium (4-8 cm) or large (> 8 cm) based on the single largest lesion in each kidney. The relationship between the size, symptoms and treatment was reviewed. Patients were also analyzed with regard to the diagnosis of tuberous sclerosis (TS).

RESULTS: Our findings indicate renal AMLs less than 4 cm (19±10 mm) in 60% (25/42) of patients. All patients were without any symptoms and AMLs were found incidentally. We were not able to differentiate between renal cancer and AML in 10/25 (40%) cases using radiologic methods and nephron sparing surgery was provided (laparoscopically 8 cases). We found in this group 3 leiomyomatous variant of AML, two epitheloid AML and one with tumors duplicity with papillary RCC. There are all primary followed patients (15/42, 28%). We found progression in 4 patients in this group after 49±42 months later and resection was provided in 4 cases and radiofrequency ablation in 1 case. Medium-sized lesions had a less predictable natural history, with 23% (10/42) requiring intervention. We provided 3 times nephrectomy (33%) for multiple tumour, ruptured tumour with hard haemorrhagic complication and central localized tumour. Resection underwent 4 patients (3 laparoscopically). Three patients underwent embolization. A girl 18 years old with TS and endophytic grow AML had re-embolization after 5 years, others had embolization with good effect. Large AMLs (17% 7/42) were symptomatic and were treated electively prior to the development and potential complications in 6 cases. One patient underwent nephrectomy (14%) for ruptured 150 mm large tumour.

CONCLUSIONS: Small sized AMLs are founded incidentally and intervention is not generally recommended. Small asymptomatic lesions tend to remain stable but should be periodically evaluated. But differential diagnosis of AML based on radiologic investigation (CT, MRI, US) is not simple. Medium-sized lesions have the most variable behavior. These lesions should be followed closely with serial imaging studies, and if significant changes in size or symptoms are noted, or the patient is at risk for flank trauma, elective intervention should be initiated promptly to increase the chances of renal salvage. Large asymptomatic AMLs will most likely become symptomatic and should be treated electively prior to the development of symptoms and potential complications.

Supported by MH CZ - DRO (Faculty Hospital in Pilsen - FNPI, 00669806).

Eur Urol Suppl 2014; 13(6) e1332
C150: Outcomes of robotic-assisted laparoscopic transperitoneal partial nephrectomy: A series of 16 patients

Ener K.1, Canda A.E.2, Altinova S.3, Asil E.3, Ozcan M.F.3, Atmaca A.F.2, Akbulut Z.3

1Ankara Ataturk Education and Research Hospital, Dept. of Urology, Ankara, Turkey, 2Yildirim Beyazit University, School of Medicine, Ankara Ataturk Training and Research Hospital, Dept. of Urology, Ankara, Turkey, 3Ankara Ataturk Training and Research Hospital, Department of Urology, Ankara, Turkey

INTRODUCTION & OBJECTIVES: To report the outcomes of robot-assisted laparoscopic partial nephrectomy (RAPN) procedures performed at our institution.

MATERIAL & METHODS: Between 2009-2014, 16 patients underwent RAPN. Male: Female ratio was 13: 3. Mean ASA score was 1.6±0.6. A transperitoneal approach was used by using the da Vinci-S 4-arm surgical robot. Outcomes were assessed retrospectively.

RESULTS: Mean patient age was 53.5±9.6 (37-68) years. Mean body mass index was 27.6±3.6 (23.2-36) kg/m2. Mean tumor size was 2.9±0.8 (1.4-4.5) cm. R.E.N.A.L. nephrometry and Padua scores were 5.8±1.4 (4-9) and 7.7±1.2 (6-11) respectively. Mean operation time was 126.5±13.3 (100-155) minutes. Mean estimated blood loss was 74.3±41.3 (20-150) cc. Mean warm ischemia time was 19.5±6.1 (0-25) minutes. No intraoperative complication occurred. Perioperative (0-30 days) complication rate was assessed using the modified Clavien complication scale and only 2 Grade I complications occurred in 2 patients. Readmission rate during perioperative period was 0%. Mean duration of hospital stay was 3.8±0.8 (2-5) days. Fourth robotic arm was used in 9 cases. All but one patient had hilar clamping during RAPN. Histopathology included renal cell carcinoma in 12 cases (clear cell in 9 cases, chromophobe cell in 1 case, papillary cell in 1 case, clear cell-papillary in 1 case, Fuhrman grade I in 4 cases, Fuhrman grade II in 5 cases, Fuhrman grade III in 3 cases), oncositoma in 2 cases, adenoma in 1 case and chronic pyelonephritis in 1 case. Surgical margins were negative in all cases. After a mean follow-up of 13.3±8.8 (3-29) months, no local recurrence or distant metastasis was detected.

CONCLUSIONS: Due to our experience, RAPN is a safe minimally invasive surgical approach that has excellent surgical and oncological outcomes in the treatment of small kidney masses.

Eur Urol Suppl 2014; 13(6) e1333
C151: Typical signs of papillary renal cell carcinoma type 1 - typical spherical shape, exophytic growth and low histological grade

Kalusová K.1, Hora M.1, Urge T.1, Travniecek I.1, Eret V.1, Chudacek Z.2, Ferda J.2, Hes O.3

1Charles University Hospital, Dept. of Urology, University Hospital, Pilsen, Czech Republic, 2Charles University Hospital, Dept. of Radiology, University Hospital, Pilsen, Czech Republic, 3Charles University Hospital, Dept. of Pathology, University Hospital, Pilsen, Czech Republic

INTRODUCTION & OBJECTIVES: The aim of the study is to determine typical characteristics of surgically solved papillary renal cell carcinoma type 1 (PRCC 1).

MATERIAL & METHODS: PRCC 1 was verified in 63 of 1260 (5.0%) kidney tumours treated in period 2007 – 2013. R.E.N.A.L. nephrometry scoring system was used for classification of PRCC 1. We recorded clinical and radiological characteristics of tumour, type of surgery and histopathology.

RESULTS: The mean tumour size was 59 (11 – 180) mm, 98.4% of the tumours showed a spherical shape. Clinical stage category cT1a was detected in 26 cases (41.3%), cT1b 25.4% (16), cT2a 15.9% (10), cT2b 7.9% (5), cT3a 9.5% (6), histologically pT1a even in 32 (50.8%), adverse pT3a was only in 1 case (1.6%). Exophytic growth tumour recorded in 81.0% (51).
We found by R.E.N.A.L score low complexity (nephrometry sum 4 - 6) in 19.0% (12), moderate complexity (7 - 9) 50.8% (32), high (10 - 12) 30.2% (19). In 8 cases (12.7%), tumour was in contact with major vessels - suffix “h”, however, 3 of these cases were solved by resection. Nephron sparing surgery was accomplished in 74.6% (47 cases – 31 open, 16 laparoscopic), in all 1260 tumours, it was 45.6% (575) only. Histological grade 1 by Fuhrmann was found in 60.3% (38).
At the time of diagnosis all cases had proved localised disease, except one patient who underwent adrenalectomy for suspicious metastasis histologically not confirmed.

CONCLUSIONS: Typical signs of papillary renal cell carcinoma type 1 are a typical spherical shape, exophytic growth, rather moderate complexity and low histological grade. All but one tumours were ≤ T2N0M0. Nearly ¾ of PRCC 1 can be solved by resection. Supported by MH CZ - DRO (Faculty Hospital in Pilsen - FNPI, 00669806).

Eur Urol Suppl 2014; 13(6) e1334
C152: Implementation of own local scale useful for small renal masses management

Banyra O., Dobrovolskiy V., Lesniak O., Grytsyna Y., Stroy A.

12nd Municipal Polyclinic, St. Paraskeva Medical Center, Dept. of Surgery, Lviv, Ukraine. Khmelnytsky Central Regional Hospital, Dept. of Urology, Khmelnytsky, Ukraine, Clinical Municipal Communal Emergency Hospital, Dept. of Urology, Lviv, Ukraine, Lviv Railway Clinical Hospital, Dept. of Endourology, Lviv, Ukraine, Danylo Halytsky Lviv National Medical University, Dept. of Urology, Lviv, Ukraine

INTRODUCTION & OBJECTIVES: The improved accuracy in imaging has increased the number of incidentally diagnosed solid small renal masses (SRMs) sized < 4.0cm. Nephron-sparing surgery (NSS) is preferred to remove SRMs because it ensures the preservation of involved kidney. Except partial nephrectomy (PN), simple enucleation (SE) and radiofrequency ablation (RFA) are the methods of choice that achieve similar survival rates. If the above are not initially feasible or conversion occurs, simple nephrectomy (NE) without limphadenectomy is indicated.

MATERIAL & METHODS: Based on retrospective study of 237 patients (pts) who underwent different methods of treatment for unilateral SRMs we developed our own classification system (the Local Varieties of Intrarenal tumour Visualisation [LVIV]) that by counting of individual total score (LVIV score) help to choose adequate treatment in every case. According to LVIV total score in SRM patients the following methods should be performed: 0 – SE; 0-1 – RFA; 2-8 – PN; 9-11 – NE. If RFA is not available in institution, for patients with LVIV score 1 partial nephrectomy should be made.

RESULTS: We prospectively analyzed 46 pts with SRM who were treated at our clinics from September 2013 to June 2014. All SRMs were appropriate the points according to varieties of following anatomical parameters: size, lateral or medial localization; distance from and invasion into urinary collecting system or vessels; presence/absence of capsule. By ranging parameters and summarizing points each tumour was allocated a total LVIV score accordingly to previously developed system. Correspondingly to LVIV score all patients were divided into three groups: Group 1 (LVIV score 0) – 10 pts, Group 2 (LVIV score 1) – 2 pts, Group 3 (LVIV score 2-8) – 25 pts, Group 4 (LVIV score 9-11) – 9 pts. Following by developed algorithm in Group 1 we performed SE, in Group 2 – RFA, in Group 3 – PN. Anyone case from Group 4 technically was feasible for NSS performing, so nephrectomias were made. In Groups 1-3 no serious complications or conversion were registered.

CONCLUSIONS: It seems that LVIV scoring system could be effective tool during the safe treatment choice in SRM cases. Proposed scoring system is able to stratify the proper patients for different methods of surgery.

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INTRODUCTION & OBJECTIVES: Ciprofloxacin is an antibiotic used in the treatment of the urinary tract infections however is also known for its anticancer properties. Due to accumulation in high concentration of ciprofloxacin in the urine and prostate gland it seems to be a good candidate in the treatment of bladder and prostate cancers. Aim of the study was to evaluate the anticancer effect of ciprofloxacin on selected cell lines.

MATERIAL & METHODS: In this study three cancer cell lines: bladder cancer (T24), renal cell adenocarcinoma (786-O), prostate cancer (DU-145) and one normal prostate cell line (RWPE-1) were tested for evaluation of cytotoxic properties of ciprofloxacin. Three different LC (Lethal Concentration) values of ciprofloxacin, calculated earlier, were tested. Viability was established using Real-Time Cell Analyzer (RTCA) belongs to xCelligence system. Additionally apoptosis detection and cell cycle analysis were performed.

RESULTS: Results obtained from RTCA analyzer showed that ciprofloxacin is more effective against cancer cell lines compared to normal prostate cell line. Ciprofloxacin inhibits cell cycle in G2/M phase in case of cancer cell lines and in G1 phase in normal prostate cell line. Normal prostate cell line responded with apoptosis after incubation with ciprofloxacin, on the opposite cancer cells responded with apoptosis and necrosis as well.

CONCLUSIONS: Our results showed that ciprofloxacin can be potentially used as anticancer agent in case of genitourinary cancers. Nevertheless additional animal and clinical analysis have to be performed.

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C154: Clinicopathological prognostic factors for patients’ survival for mediastinal primary malignant germ cell tumor

Nowara E.¹, Drosik-Rutowicz K.², Leśniak A.², Nieckula J.²

¹Maria Skłodowska-curie Memorial Cancer Centre And Institute Of Oncology, Gliwice Branch, Dept. of Oncology and Experimental Chemotherapy, Gliwice, Poland, ²Cancer Center and Institute of Oncology Gliwice Branch, Poland, Dept. of Oncology and Experimental Chemotherapy, Gliwice, Poland

INTRODUCTION & OBJECTIVES: Primary mediastinal malignant germ cell tumours (MGCT) are rare entity as typical localization of MGCT are gonads. The treatment of choice seems to be cisplatin based chemotherapy followed by surgery. The primary aim of the study was to evaluate the clinicopathological prognostic factors for survival.

MATERIAL & METHODS: Patients’ with mediastinal of MGCT medical records were analysed according to national low regulation. During last 15 years 13 patients (pts) with median age of 27 years (range 21-41) were admitted to Clinical and Experimental Oncology Department Cancer Center and Institute of Oncology Gliwice Branch, Poland (COI). All of them were male. The most frequent symptoms of disease were mediastinal pain (69%), cough (62%) and fever (54%). In 2 pts mediastinal mass was discovered accidentally during periodic testing. All pts had microscopic confirmation of MGCT, 38% had seminoma and 31% tumor mixed. The impact of clinicopathological features were analyzed by chi-squared test with Yates’ correction. Survival evaluation was performed using the Kaplan Meier estimate with log rank test.

RESULTS: Median tumor size was 15cm (range 7-10). In 46% of pts surgery was the primary treatment and the remaining started therapy from chemotherapy. 46% of pts received mediastinal radiotherapy. Total median dose was 40Gy. Cisplatin based chemotherapy was given to all of pts. All patients with seminoma achieved partial or complete response. 54% of pts had disease recurrence. One pts had twice high-dose chemotherapy followed by bone marrow transplantation (he died two months later). 46% of the pts died due to disease progression or treatment complication. Median overall survival was 26 months with 5-OS of 51%. Pts with smaller tumor lived longer, p=0.1. Pts with mediastinal pain, cough or fever at the time at diagnosis lived shorter, p=0.19, 0.42 and 0.8 respectively. Pts with mediastinal radiotherapy lived longer, p=0.6. Pts with normal BMI lived longer than overweight pts, p=0.2.

CONCLUSIONS: Primary mediastinal germ cell tumours occur mainly in male. Pts with mediastinal MGCT still had poor prognosis. Size of primary tumor is the most important prognostic factor. Overweight patients seems to have worse prognosis. The results of this study have many limitations mostly due to small group of pts. That is why the results should be taken into consideration with caution.

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INTRODUCTION & OBJECTIVES: We present a rare occurrence of serious vascular complications in two urological patients admitted in our institution in the years 2007 and 2014.

MATERIAL & METHODS: We present a retrospective analysis of a small sample of patients from the years 2007 and 2014 with an arterial-bleeding complication on the basis of urological diseases.

RESULTS: A 65-year-old woman and a 78-year-old man were hospitalized in the urology center in 2007 and 2014 for severe arterial complications in the course of urological diseases. Primarily, both of them were treated for oncological diseases. The woman with accidentally found left retroperitoneal tumor and shrunken left kidney underwent a palliative operation of left nefroureterectomy and adjuvant actinotherapy. After five months she was hospitalized for acute massive hemorrhage from the fistula scar after lumbothomy. The 78-year-old man with primary colorectal cancer after completion of chemoradiotherapy with subsequent amputation of the rectum, with final sigmoideostomy. Urologically he was followed up for stricture of the urether, which was secured by a stent. Due to the obstruction potentiated by bacterial colonization and symptomatic urinary tract infection, the patient needed more frequent exchanges of the inner urethral catheter. After four years he was hospitalized for acute massive hematuria with bladder tamponade. Both patients were admitted to the urology department for massive bleeding and overall deterioration of the organism. The essential for the diagnosis was to perform angio-CT scans and a prompt cooperation with the vascular surgeon. An arterial extravasation was confirmed in both cases. In the 65-year-old female patient, extravasation resulted from the arterioles leaving the beginning of the left common iliac artery. In the 78-year-old patient, communication was demonstrated in the intersection of the right urether and the external iliac artery. In both patients endovascular intervention with implantation of stentgrafts was performed.

CONCLUSIONS: Vascular complications stand for a rare but serious complication of urological diseases. The diagnosis and treatment are difficult and require a multidisciplinary approach. Effective solution goes hand in hand with early endovascular treatments.

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C159: Comparison of effectiveness of percutaneous nephrolithotripsy and retrograde pyelolithotripsy on kidney stones

Mansurova I.1, Alchinbayev M.2, Malikh M.2, Kaimbayev A.2, Mami D.2

1Scientific Center of Urology, Dept. of General Urology, Almaty, Kazakhstan, 2Scientific Center of Urology, Dept. of Endourology, Almaty, Kazakhstan

INTRODUCTION & OBJECTIVES: Guidelines from the European Association of Urology (EAU) for the treatment of renal stones recommend extracorporeal shock wave lithotripsy and percutaneous nephrolithotomy (PNL) as the standard therapies. PNL is the standard treatment modality for large stones >20 mm, staghorn stones, calyceal diverticular stones, or stones in the lower pole (Tiselius GH, 2008). Although the stone-free rate following PCNL is between 78% and 95%, significant complications may be associated with the procedure, including urinary extravasation, bleeding, and fever (Michel MS, 2007). In the recent years, retrograde intrarenal surgery has emerged as an alternative therapy to treat renal calculi. We provided comparative analysis of effectiveness of minimally invasive surgery of kidney stones – percutaneous nephrolithotripsy (PNL) and retrograde pyelolithotripsy (RPL).

MATERIAL & METHODS: From October 2013 we observed 106 patients with kidney pelvis stones with a diameter greater 15 mm. 64 patients underwent (59%) PNL and 42 (41%) – RPL. The main indications for RPL were the absence of calyx expansion, renal parenchyma more than 1.8 cm, narrow calyx isthmus. Stone free rate (SFR) and efficiency of operation defined as no visible stones or clinically insignificant residual stones less than 4 mm on postoperative ultrasound immediately and after 1 month. All operations ended by installation of stent for internal drainage.

RESULTS: Median age of patients was 48 years. Of 106 patients 61 were female (57,5%) and 45 - male (42,5%). Average size of stone was 2,2 ±1,4 cm and density – 856 HU. 17 patients (16%) had diabetes mellitus, 22 patients (20,7%) were hypertensive. Patients with congenital anomalies and renal insufficiency were excluded from study. The immediate post-operative SFR after PNL was 65,6% and it increased up to 82,8% after 1 month. Though 7 patients (10,9%) had intraoperative bleeding, that requested to end the operation or to delay it. Acute urinary infection was revealed at 6 patients (9,4%) on second day after operation. Evaluation of renal function after PNL (serum creatinine, GFR) showed that the average level of GFR before surgery was 108,8 ± 20,5 ml / min. After 1 month the control study showed that average GFR was 74,4 ± 12,8 ml / min. After 6 months, average GFR was 86,6 ± 20,2 ml / min. Persistent renal failure was detected in 5 patients. The average level of GFR before RPL was 112,3 ± 17,6 ml / min. 3 months after surgery average GFR was 105,5 ± 18,1 ml / min. In group of 42 patients who had RPL, immediate efficiency was 69,0% and 88,1% after 1 month. After RPL only 3 patients (7,1%) had acute urinary infection. No delayed complications after RPL were revealed.

CONCLUSIONS: Statistically significant differences in the effectiveness of PNL and RPL had not been identified. SFR directly depends on diameter and density of stones. But in despite of efficacy of PNL, it has serious complications – bleeding, infection and renal insufficiency due to parenchymal damage. RPL has the same effectiveness and low rate of complications and could be safe method of surgical treatment of kidney stones.

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C160: Evaluation of efficacy of the extracorporeal shockwave lithotripsy in patients with and without stent in the ureter

Kaczmarek K., Gołąb A., Słojewski M.

Independent Public Clinical Hospital No. 2 In Szczecin, Dept. of Urology and Urological Oncology, Pomeranian Medical University, Szczecin, Poland

INTRODUCTION & OBJECTIVES: Extracorporeal shockwave lithotripsy (ESWL) is a noninvasive type of treatment for renal and ureteric stones. Effectiveness of this method is well established in many studies. The outcome depends on various factors like: size and composition of the stone, localization, patient's physique and urinary tract anatomy. In our study we investigate the effect of the presence of an ureteric stent on the outcome of ESWL in patients with ureteric stones.

MATERIAL & METHODS: This retrospective study analyzed results of a treatment of patients who have been hospitalized in 2013 and underwent ESWL on account of ureteric stones. The procedure was carried out using electroconductive lithotripter EDAP TMS Sonolith I-move. For treatment were qualified patients whose urography results or CT scans presented stones with diameter below 10 mm in the ureter. Patients divided into two groups. The first consisted of patients who had placed double J stent in the ureter. Control group was formed with patients without stent. Stenting were performed in patients with intolerable pain or deteriorating renal function and when there was a risk of sepsis. Both of groups were dominated by men, respectively 64% and 68% of patients. The average age was 51 years old. Effectiveness of treatment was evaluated in radiological verification 2 weeks after procedure. Successful treatment was described as complete elimination of the stone from the urinary tract. The analyzes of groups was performed using chi squared test.

RESULTS: 42 procedures were performed in patients with stents and 137 procedures in patients without stents in urinary tract. 55% of stones were placed in the middle part of ureter. Stone free rates for first and second group were 55% and 72%, respectively. The statistically significant difference between groups was determinated.

CONCLUSIONS: The presence of a stent is associated with a worse outcome after ESWL for ureteric stones what should be considered in planning of a treatment.

Eur Urol Suppl 2014; 13(6) e1340
C161: Experience on 1000 cases on retrograde flexible ureteroscopy

Geavlete P., Dragutescu M., Constantinescu E., Multescu R., Nita G., Georgescu D., Satalan R., Geavlete B.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Nowadays flexible ureteroscopy is, in many centers, a routine procedure. The aim of this study was to evaluate the indications, limits and efficacy of flexible ureteroscopy on a significant number of cases.

MATERIAL & METHODS: Between January 2002 – January 2014 1000 diagnosis and treatment retrograde flexible ureteroscopic procedures were performed in “Saint John” Emergency Clinical Hospital. We retrospectively reviewed the indications, endoscopes’ types, procedural efficacy and complications rates.

RESULTS: A fiberoptic first generation Storz flexible ureteroscope was used in 194 cases, a digital Flex-Xc in 588 cases, a fiberoptic Wolf Cobra in 68 cases and a digital Olympus URF-V in 150 cases. 9.8% of the procedures were diagnostic, 2.4% therapeutic for upper urinary tract tumors and 87.8% for pyelocaliceal lithiasis (associated or not with other patologies such as pyelocaliceal diverticulum or infundibulum stenosis). During the diagnostic procedures inspection of the entire upper urinary tract was possible in 91% of the cases (89 patients). Stone free rate in lithiasis cases was 92.5% (812 cases) after one procedure, 97.9% (860 cases) after two procedures and 98.8% (867 cases) after three procedures. Complication rate was 19.2%, 16.2% Clavien I and II, 3% Clavien III, 0% Clavien IV and V.

CONCLUSIONS: Retrograde flexible ureteroscopic approach is an efficient diagnostic and treatment method for upper urinary tract pathology. Technological progress during the last years modified method’s indications. The safety of this procedure is very good, most of the complications being minor.

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C162: Routine use of ureteral access sheath during retrograde flexible ureteroscopy

Multescu R., Geavlete P., Dragutescu M., Georgescu D., Nita G., Satalan R., Geavlete B.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Use of ureteral access sheath (UAS) during retrograde flexible ureteroscopy is still an issue of debate. The aim of our study was to evaluate the particularities of routine use of such a device.

MATERIAL & METHODS: We prospectively evaluated 200 patients treated by retrograde flexible ureteroscopic approach for single pyelocaliceal stones between 1 and 2 cm in size: 100 in which a Cook Flexor 10/12F ureteral access sheath was used and 100 in which the procedure was performed without it. Pre-ureteroscopy stenting necessities, intraprocedural characteristics, stone-free rates and complications were evaluated and compared.

RESULTS: 7% of the first group and 10% of the second one were already JJ stented. Due to difficulties to ascend the UAS a supplementary 8% of the cases from the study group were also stented, while in the second group impossible ureteral passage of the flexible ureteroscope imposed this maneuver in 2% of the cases. Intraprocedural visibility was better when the UAS was used (mean score 4.5 vs. 3.9). Perioperative complications rate and stone free rate were similar among the two groups (13% vs. 9% and 96% vs. 97% respectively). Septic complications were significantly reduced in the study group (30% vs. 55.5%). No late ureteral stenosis was encountered.

CONCLUSIONS: Routine but careful use of ureteral access sheath does not increase the complication’ rates specific for the flexible ureteroscopic approach. It offers some clear advantages regarding access, visibility and seems to be associated with less septic complications, probably by maintaining a low pressure.

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C163: Durability assessment of the Flex-Xc digital flexible ureteroscope

Multescu R., Geavlete P., Soroiu D., Georgescu D., Nita G., Satalan R., Geavlete B.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: New digital flexible ureteroscopes offer certain advantages by comparison to their predecessors. We aimed to retrospectively analyze the ureterorenoscopic procedures performed with the Storz Flex-Xc model in order to evaluate its particularities.

MATERIAL & METHODS: Between May 2012-January 2014, all the flexible ureteroscopic procedures performed with Storz Flex-Xc were analyzed. A total number of 5 ureteroscopes were used: (the first and last ones previously used in another center and 3 new ones).

RESULTS: 558 procedures were performed on 510 patients: first endoscope used on 62 procedures (55 patients), second one on 96 procedures (90 patients), third one on 151 procedures (139 patients), the fourth on 159 procedures (143 patients) and the last one, still operational on 90 procedures (83 patients). Ureteral access sheath was used in 71% of the cases. The endoscopes were used for 51, 67.1, 107.7, 107.2 and 69 hours, respectively. Difficulties to effectively access the stone were encountered in 0.4% of the cases. Overall stone free rate was 92.8% after one, 96.9% after two and 97.8% after three procedures. Major repairs were needed after optical system chip failure (first endoscope), significant damages of the outer coating (second one) and severe deterioration of the deflecting mechanism (third and fourth endoscopes).

CONCLUSIONS: The digital Storz Flex-Xc seems to be a durable model of flexible ureteroscope. It offers excellent maneuverability and visibility, translating in great effectiveness.

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INTRODUCTION & OBJECTIVES: To review our experience in percutaneous nephrolithotomy (PCNL) for horseshoe kidney stones.

MATERIAL & METHODS: During 4 years (01.01.2010 to 31.12.2013), we analyzed 16 patients with horseshoe kidney stones. PCNL was done under general anesthesia, in supine position. We evaluated patients (age, gender), stones characteristics, surgical technique, and outcomes.

RESULTS: In 14 patients we could access the system. Eleven were men and 3 were women, with the mean age of 45.6 (28-62) years. Six patients had one stone, 3 – 2 stones and 5 – more than 2 stones. Positive urine culture was in 3 cases. The most common access site was superior posterior calyx in 7 cases, middle calyx – 5 cases and inferior calyx – 2 cases. Stone clearance after primary PCNL was achieved in 9 cases. Of the remaining 5 patients 2 underwent second PCNL with stone clearance. One underwent single session ESWL and became stone-free (85.7% stone-free). Transfusion and arterial embolization was necessary in one case, 2 patients had fever after PCNL.

CONCLUSIONS: PCNL is generally safe and successful in the management of stones in horseshoe kidneys. Location of the stones, pyelocaliceal system anatomy and surgeon’s experience dictates the proper tool for optimal stone clearance result.

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C165: Definitive ureteroscopic treatment of ureteral lithiasis in patients with obstructive anuria


Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Several controversies are related to the indications of primary or secondary ureteroscopic approach in patients with urolithiasis and obstructive acute renal failure. The aim of our study was to determine the efficacy and safety of primary retrograde approach in such cases.

MATERIAL & METHODS: Between January 2004 and January 2014, in our department were 432 obstructive anuria secondary to urolithiasis. Among these patients 122 were treated by primary ureteroscopic approach. The selection of such cases was based on satisfactory clinical status, absence of septic changes and patient’s choice.

RESULTS: In 93 cases we encountered uretral lithiasis on single kidney, while 29 cases presented bilateral urolithiasis. Only retrograde ureteroscopic approach was performed in 109 cases. The retrograde approach was associated with controlateral nephrostomy in 4 cases and with controlateral JJ indwelling in 9 cases. Stone free rate was 97.5%. In the other 3 cases a percutaneous nephrostomy was performed. The safety of the procedure was satisfactory, only minor complications being encountered. In 1 case associated hemodialysis was necessary.

CONCLUSIONS: Primary retrograde ureteroscopic approach may be a safe and effective method in patients with urolithiasis and obstructive anuria. However, a judicious selection of the cases should be performed prior to the intervention.

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C166: Ureteroscopic versus percutaneous treatment for medium size renal calculi

Mihai V.B., 1, Cauni V., 1, Mitroi V., 1, Chuaiib A., 1, Buraga I. 2

1Spitalul Clinic Colentina, Dept. of Urology, Bucuresti, Romania, 2Spitalul Clinic Colentina, Dept. of ATI, Bucuresti, Romania

INTRODUCTION & OBJECTIVES: The aim of this paper is to present the outcomes of percutaneous nephrolithotomy (PCNL) and flexible ureteroscopy (F-URS) for 1 to 2 cm renal calculi with specific reference to the stone free rate and morbidity.

MATERIAL & METHODS: Between 1st July 2012 – 1st February 2014, the records of 71 patients diagnosed with renal calculi who underwent either PCNL (38) or F-URS (33) were reviewed retrospectively. Lithotripsy for F-URS was performed using a 20 W Holmium laser Calculase II. The mean age was 53 years, the mean operative time was 61.5 minutes and the mean stone burden was 14mm (range 11-23mm). All 38 PCNL procedures were completed through a single percutaneous tract.

RESULTS: The PCNL and URS groups were equivalent with respect to operative time (67.0 minutes v 74 minutes) and incidence of complications (4 v 1). The overall stone-free rate was 95% for PCNL and 82 % for F-URS. No patient in either group had significant hemorrhage or required blood transfusion. The postoperative complications were represented by postprocedural pain (16% vs 9%), fever (13% vs 9%), hematuria (16% vs 6%), pyelonephritis (3% vs 6%) and urinary sepsis (0% vs 3 %).

CONCLUSIONS: PCNL and URS are effective options for medium size renal calculi (1 to 2 cm). The stone free rates for PCNL are higher, but the differences were not statistically significant in our series. Also, the complication rates are usually higher for PCNL. The operative times are equivalent, despite the longer fragmentation time required for F-URS. The choice of treatment in the end depends on the renal anatomical factors and the surgeon’s level of expertise.

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Flexible ureterorenoscopy as a new possibility of treating nephrolithiasis in children – preliminary reports

Haliński A., Haliński A.

Provincial Hospital, Zielona Góra, Dept. of Paediatric Surgery and Urology, Zielona Góra, Poland

INTRODUCTION & OBJECTIVES: Flexible ureterorenoscopy is a surgery technique used for the treatment of the upper urinary tract. It is very often used in adult patients, however, due to the advancing miniaturization of the equipment as well as its precision, this technique has also become possible in the treatment process in children.

MATERIAL & METHODS: We would like to present 16 cases of flexible ureterorenoscopy carried out in children with nephrolithiasis of the upper urinary tract aged 6 to 15 years. The average age was 8.5 years and the children were treated in our department from June to December, 2013. The first surgery in Poland took place in our Department on 06.06.2013. Because of nephrolithiasis all the children had been subjected earlier to ESWL treatment, which was unsuccessful.

RESULTS: 12 children had deposits in the lower calyx, 3 children had deposits in the middle and lower calyx and in one child a stone was located in the initial ureter. An efficiency of about 88% was achieved.

CONCLUSIONS: Flexible ureterorenoscopy is an effective and minimally invasive tool both for the diagnosis and treatment of upper urinary tract. We believe that the advancing miniaturization of the equipment and gaining experience will enable carrying out of this procedure in smaller children with high efficiency.

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INTRODUCTION & OBJECTIVES: Caliceal diverticula are rare nonsecretory cavities, associated with calculi when urinary stasis inside the diverticulum leads to stone formation. We report a retrospective review of outcomes and complications from our series of patients who were treated with a percutaneous endourological approach for symptomatic diverticular lithiasis.

MATERIAL & METHODS: A retrospective study was performed on 40 patients during a 5 years period, 2009-2013. Our preferred method in these patients is direct puncture into the diverticulum under fluoroscopic guidance, tract dilatation with a nephrostomy dilator set, use of a rigid nephroscope, advancement of a guidewire through the infundibular neck and diverticular neck incision/dilatation, improving drainage. Ablation/fulguration of diverticulum was performed only in patients with long communicating diverticular neck.

RESULTS: The mean age was 48.2 years (range 21-71 years). Diverticula were located throughout the kidney including the upper [18], middle [13] and lower [9] calices. All patients presented a single or multiple diverticular calculi. Size of diverticula ranged from 14 to 35 mm. The average duration of surgery was 71 minutes (43-129 min) with an average hospital stay of 4.1 days. Trans-diverticular drainage was maintained from 3 to 4 days. Thirty-two patients underwent infundibulum incision/dilatation (80%) and eight (20%) experienced ablation/fulguration of diverticular neck. There were a total of 7 complications, of which 3 necessitated additional intervention. Complication that occurred during the procedure include: renal pelvis perforation, haemothorax, haemorrhage, urine/irrigation liquid extravasation. An 90% stone free rate was achieved at 1 year. Patients returned to normal activity in 11 days (±1.54).

CONCLUSIONS: The percutaneous management of caliceal diverticular calculi is highly effective and offers long-term symptomatic relief with minimal complications. PCNL is the first option treatment in selected cases with this pathology, when small, posterior calyceal diverticula are present.

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INTRODUCTION & OBJECTIVES: To determine the efficiency of Extracorporeal Shockwave Lithotripsy in the treatment of upper urinary tract calculi.

MATERIAL & METHODS: We used the Modulith SLX-F2 lithotripter for the treatment of 2468 cases, aged 17-85yr, of pielocaliceal and ureteral lithiasis, between January 2009- December 2013. The device has the following characteristics: it has two focal distances, allows us to reach pulse frequency up to 4 Hz, SMLI index registers (indicating energy transferred calculation, depending on the number of pulses and their intensity), using that feature we have increased the number of pulses / session at an average of 3500.

RESULTS: The success rate of the method, evaluated by ultrasound and / or using X ray at 3-4 weeks was 94.89% (2342 cases). We recorded 126 (5.10%) therapeutic failures, each failure declared after four SWL procedures, 98 of these were treated percutaneous after. Success rate after one session was 72.67% (1702 cases), other cases have required repeated procedures: 21.26 % (498 cases) two procedures, 5.38% (126 cases) three procedures and 0.68% (16 cases) four procedures. Maximum size of a treated stone was 31 mm. We treated 146 cases of ureteral calculi - upper third and near bladder - success rate was 96.57%. Pain intensity during the procedure was considered acceptable by 97.85% of the patients. 72.81% of the cases were ambulatory treated.

CONCLUSIONS: The success rate was higher and the selection of cases was probably better than in the past, because the collective experience gained. Patient tolerability during the procedure is better, because the ability to choose the optimal focus, size stones correlated. During elimination of the stone fragments, the majority of patients were almost asymptomatic, due to the small size of the fragments.

Eur Urol Suppl 2014; 13(6) e1349
C172: Percutaneous Nephrolithotomy results in patients with staghorn calculi vs nonstaghorn

Braticevici B.¹, Salaheddin Y.², Petca R.C.¹, Tanase F.², Danau R.², Diaconescu D.², Jinga V.¹

¹UMF Carol Davila, Dept. of Urology - Prof. Burghele Clinical Hospital, Bucharest, Romania, ²Prof. Burghele Clinical Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Comparing results in patients with staghorn or nonstaghorn stones who were treated with percutaneous nephrolithotomy (PCNL) in Prof. Dr. Th. Burghele Clinical Hospital.

MATERIAL & METHODS: This is a two years long retrospective study, between 01.01.2011 and 31.12.2013. We collected data from 1180 patients treated for renal stones with PCNL. The following parameters were analyzed: patient characteristics, access method, puncture frequency, complications and duration of hospital stay.

RESULTS: Patient average age was 53,3 ± 4.7 years old. There were 376 (31,86%) patients with staghorn calculi and 804 (68,13%) with nonstaghorn calculi. Incidence of stagohrn calculi was higher in women 20.5% - 242, compared to men 11.35% - 134. Positive urine culture was found 29,4% in staghorn and in 20,5% of patients with nonstaghorn calculi. Patients with staghorn stones underwent multiple punctures, more frequently than those with nonstaghorn stones (35,3% vs 11,4%). Stone free rates were 62,1% vs 89.4% (staghorn vs nonstaghorn stones) at three months postoperative. Hospital stay was longer in patients with staghorn calculi, mostly because some of them needed a second intervention for residual stone in upper calix or due to massive bleeding during the procedure.

CONCLUSIONS: PCNL is a safe procedure with good results in renal stones treatment and represents first-line treatment in staghorn calculi. Patients with staghorn stones have a longer hospital stay due to more frequent complications and the need for a second procedure.

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C173: Chemical structure of urolithiasis in Romanian population and variations by gender and age – a retrospective study

Bratievici B.¹, Danau R.², Salahheddin Y.², Petca R.¹, Predoiu G.², Petca A.¹, Jinga V.¹

¹UMF Carol Davila, Bucharest, Romania, ²Prof. Burghele Clinical Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: The incidence of urolithiasis among people depends on geographical area, race, diet and social-economic factors; the last ones alter both the prevalence and the chemical composition of calculi. In this article, where the studied lot is represented by the Romanian population, we have analyzed the chemical structure of calculi, their homogeneity, correlation with age and the necessary surgical procedures.

MATERIAL & METHODS: We have analyzed 1076 patients diagnosed with urinary lithiasis and treated during the period 01.01.2013 –31.12.2013. We included in the study the lithiasic pathology of the upper and lower urinary tract, and we recorded their chemical composition, homogeneity and distribution on age groups, using infrared spectroscopy and x-ray diffraction as determination methods.

RESULTS: The analysis included 1076 patients, 444 men (41.3%) and 632 women (58.7%) respectively, aged between 23-86, with the average age being 53, and IQR=42-62. Calcic lithiasis, both in pure and combined form, was the most frequent, with a higher weight of calcium oxalate in men (82.88% vs 67.72%) and calcium carbonate in women (41.66% vs 74.20%). In the case of non-calcic lithiasis, struvites had a low weight (4.5%), being significantly more frequent in women (6.01% vs 2.47%). Uric acid was found in 10.9% of the cases, the maximum incidence being in the third decade of life. From the surgical approach point of view, the election treatment was the endoscopic treatment with ESWL, open surgery (classic and laparoscopic) having a limited role.

CONCLUSIONS: Modern methods of calculi determination showed the predominance of calcium phosphate in Romanian population. Currently, infectious lithiasis is very rarely encountered, with maximum incidence in the second decade of life. Mixed forms have been found in 72.22% of the patients, which shows the low homogeneity of urinary lithiasis, without finding notable differences according to age and regarding the chemical structure of the calculi. It is also worth pointing out the absence of xanthine in the studied lot and the low incidence of cystine (1.3%). The classic 3:1 ratio in favor of men tends to be off the map, with a tendency of balancing the two genders among the Romanian population.

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C175: The treatment of renal lithiasis through flexible ureteroscopy and Holmium laser in patients with renal malformations

Dumitrache M., Geavlete P., Nita G.

1Prof. Dr. Th. Burghele Clinical Hospital, Dept. of Urology, Bucharest, Romania, 2Saint John Emergency Clinical Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: The incidence of renal lithiasis in patients with congenital abnormalities of the kidney and collecting system is greater than that in the normal population, owing to a deficit in urinary drainage and consecutive urinary stasis. The treatment modalities are diverse and include ureteroscopy, PCNL and ESWL in selected cases. The purpose of this study is to analyze the operative technique and results of flexible ureteroscopy, using the Holmium laser in this special population.

MATERIAL & METHODS: Flexible ureteroscopy was undertaken in 18 cases of renal lithiasis with abnormalities of the kidney and collecting system: Pelvic kidney (5 cases), horseshoe kidney (6 cases), ureteral duplication (7 cases). For accessing the urinary tract, Storz and Olympus flexible ureteroscopes were used with 270micrones optic fibers. The lithotripsy was done using a 20W Dornier Medilas Holmium laser. We assessed the stone-free rate as well as the occurrence of intraoperative and postoperative complications.

RESULTS: The mean dimension of the stones was 1,6cm (between 1 and 2,2 cm). The calculi were located as follows: in the renal pelvis (5 cases), inferior calices (5 cases), superior calices (3 cases) and multiple affected calices (5 cases). Preoperative JJ stenting was needed and performed in 4 cases. In 2 cases an ipsilateral ureteral stone was present and was addressed and resolved first. The stone-free rate after the first procedure was 77.7% (14 cases), in the other 4 cases a second procedure was needed. Postoperatively only minor complications were recorded – hematuria (4 cases), colic/pain (2 cases), urinary tract infection (1 case).

CONCLUSIONS: The treatment of urolithiasis in patients with anatomical abnormalities of the kidney and/or the collecting system represents a challenge for the urologist. But it has been improved by the advent of flexible ureteroscopy, SIRS and laser lithotripsy. Flexible ureteroscopy and the Holmium laser represent an efficient method with minimal complications for these patients.

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C177: Is age a barrier for percutaneous nephrolitotomy?

Todea-Moga C., Boja R.M., Porav-Hodade D., Chiujdea A., Chibelean C., Maier A., Vida O., Moldovan V., Buszi E., Martha O.

University of Medicine and Farmacy Targu Mures, Dept. of Urology, Tg Mures, Romania

INTRODUCTION & OBJECTIVES: PCNL represent the main indication for patients with kidney stones, even in the presence of various comorbidities. In our clinic open surgery for this pathology is less than 0.5% of all procedures for renal stones. The objective of this paper is to assess the safety and efficacy of this procedure in patients over 70 years.

MATERIAL & METHODS: A retrospective study was performed for a period of 16 years (1997-2012). A totally of 323 patients entered in this study (162 women, 161 men), aged over 70 with renal stones. They were treated endoscopically by PCNL or anterograde ureteroscopy. 85 patients (26.31%) had comorbidities that were preoperatively diagnosed and treated where necessary.

RESULTS: Overall status of "stone free" at the end of surgery was present in 263 patients (81.42%). 60 patients (18.58%) had residual fragments. Residual stones were solved by a new PCNL session, spontaneous elimination or ESWL. The most common complications were bleeding and infection. We had no deaths. No hemostasis nephrectomy was necessary.

CONCLUSIONS: Recognized preoperative comorbidities do not represent risk factors in elderly patients, but it requires a rigorous evaluation in the preoperative period. The number, size and complexity of the stones directly influence the "stone free" state at the end of the surgery.

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C178: Endoluminal treatment of ureteric stricture with the polymeric wallstent

Košina J.

University Hospital Hradec Králové, Dept. of Urology, Hradec Králové, Czech Republic

INTRODUCTION & OBJECTIVES: Endoscopic treatment of ureteric strictures is very complicated, because of common recurrence. Sufficient derivation of urine requires JJ-stent for long-term. Especially malignant strictures (extraluminal tumor) need a derivation continually. JJ-stent is necessary to change periodically and distal part causes irritating symptoms. Polymeric wallstent supports very good derivation of urine, localized just in area of stricture and can be placed in ureter over a long period.

MATERIAL & METHODS: In our urological department we performed eight insertions of the polymeric wallstent (Allium®). Chosen patients had an obstruction of the ureter by extraluminal tumor or had a stricture with potentially long-term JJ-stenting. We focused on functionality, lifetime and quality of life.

RESULTS: The group of seven patients (one patient has two wallstents) underwent the insertion of polymeric wallstent (Allium®). Two patients have a benign disease (stricture after URS and open UCNA with psas hitch) and five patients malignant extraluminal tumor. First insertion was 16 month ago, last two month ago. We replaced wallstent to women with benign disease after 4 and 12 month because of reflux and infection. The group of malignant strictures is still ongoing with better quality of life than with JJ-stent. Average time of insertion is now 11 month, median 14 month.

CONCLUSIONS: Wallstent (Allium®) appears to be very good possibility to treat malignant ureteric strictures by endoscopic miniinvasive procedure. Insertion is very similar, patient and surgeon friendly. Wallstent causes better quality of life with high potential of long-term functionality. In case of failure it is very easy way to extract or replace it.

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C179: Plasma vaporization versus monopolar TUR and cold-knife incision – Optimal treatment options in secondary bladder neck sclerosis?

Moldoveanu C., Geavlete B., Stanescu F., Jecu M., Ene C., Bulai C., Adou L., Geavlete P.

Emergency Clinical "Saint John" Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: A long term, prospective, randomized trial assessed the surgical efficiency and safety, postoperative convalescence and follow-up parameters specific for the bipolar plasma vaporization (BPV) approach by comparison to monopolar transurethral resection (TUR) in cases of secondary bladder neck sclerosis (BNS).

MATERIAL & METHODS: A total of 70 patients with BNS subsequent to TURP (46 cases), open prostatectomy for BPH (18 cases) and radical prostatectomy for prostate cancer (6 cases) were equally randomized for BPV and standard TUR (35 cases in study each arm). The inclusion criteria consisted of $Q_{\text{max}}$ below 10 mL/s and IPSS over 19. All patients were evaluated preoperatively and every 6 months after surgery for a 2½ year period by IPSS, QoL score, $Q_{\text{max}}$ and post-voiding residual urinary volume (PVR).

RESULTS: The mean operation time (10.3 versus 14.9 minutes), catheterization period (0.75 versus 2.1 days) and hospital stay (1.1 versus 3.2 days) were significantly reduced in the BPV series. During the immediate postoperative evolution period, the re-catheterization for acute urinary retention was only required in the TUR group (5.7%). The long term re-treatment requirements due to BNS recurrence were significantly lower in the BPV study arm (4.2% versus 11.2%). During all the semiannual follow-up check-ups, statistically similar values were determined for the two therapeutic alternatives concerning the mean IPSS, QoL, $Q_{\text{max}}$ and PVR parameters.

CONCLUSIONS: BPV favorably compared to standard TUR concerning surgical efficiency, perioperative morbidity and postoperative recovery. The method emphasized similar long term follow-up symptom scores and voiding parameters as well as significantly reduced BNS recurrence rate.

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INTRODUCTION & OBJECTIVES: A long term, prospective, randomized trial assessed the viability of the bipolar plasma enucleation of the prostate (BPEP) by comparison to open transvesical prostatectomy (OP) in cases of large prostates with regard to surgical efficiency and safety, perioperative morbidity, convalescence period and follow-up parameters.

MATERIAL & METHODS: A total of 140 benign prostatic hyperplasia (BPH) patients with prostate volume over 80 mL, maximum flow rate ($Q_{\text{max}}$) below 10 mL/s and International Prostate Symptom Score (IPSS) over 19 were equally randomized in 2 study arms for BPEP and OP (70 cases each). All patients were evaluated preoperatively and every 6 months after surgery for a period of 3 years by IPSS, $Q_{\text{max}}$, quality of life score (QoL), post-voiding residual urinary volume (PVR), postoperative prostate volume and PSA level evolution.

RESULTS: The 2 series were characterized by resembling preoperative features, including initial prostate volume (132.6 versus 129.7 mL). The BPEP and OP techniques emphasized similar mean operating times (91.4 versus 87.5 minutes) and resected tissue weights (108.3 versus 115.4 grams). The postoperative hematuria rate (2.9% versus 12.9%), mean hemoglobin level drop (1.7 versus 3.1 g/dL), catheterization period (1.5 versus 5.8 days) and hospital stay (2.1 versus 6.9 days) were significantly reduced in the BPEP group. Re-catheterization for acute urinary retention was more frequent after OP (8.6% versus 1.4%), while the early irritative symptoms’ rates were similar subsequent to BPEP and OP (11.4% versus 7.1%). During the 3 year’ follow-up period, no statistically significant differences were determined in terms of IPSS, $Q_{\text{max}}$, QoL, PVR, PSA level and postoperative prostate volume between the 2 series.

CONCLUSIONS: BPEP was characterized by similar surgical efficiency and BPH tissue removal capabilities when compared to OP. BPEP patients benefited from superior perioperative safety profile, significantly fewer complications, substantially faster postoperative recovery and satisfactory long term follow-up symptom scores and voiding parameters.

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INTRODUCTION & OBJECTIVES: The nitric oxide (NO)/cyclic GMP pathway contributes mainly to the control of the function of the human prostate. An impairment in the nitrinergic innervation may have significance in the pathophysiology of lower urinary tract symptomatology. In the cell, arginase enzymes (Arg) counteract the production of NO by degrading the amino acid L-arginine, known as the major substrate of the nitric oxide synthases. The present study aimed to investigate the significance of Arg in the human prostate.

MATERIAL & METHODS: Tissue excised from the transition zone (TZ) of the prostate was obtained from male patients who underwent pelvic surgery. Specimens were processed for immunohistochemistry and sections exposed to antibodies directed against Arg I, Arg II, cyclic GMP, the cyclic GMP phosphodiesterase type 5 (PDE5) and the neuronal nitric oxide synthase (nNOS). The effects of Arg inhibitors DFMO, H-Orn-OH HCl, H-Ile-OH and nor-NOHA (1 nM - 10 µM) on the production of cyclic GMP and the tension induced by norepinephrine (NE) of isolated prostate tissue were also assessed.

RESULTS: Immunofluorescence indicating the expression of Arg I was observed in the smooth musculature of the TZ, signals specific for PDE5 and cyclic GMP were also registered. The smooth muscle portion was seen transversed by nNOS-positive slender nerve fibers. Stainings for Arg II did not yield positive labeling. The tension induced by NE was antagonized by the drugs with the following rank order of efficacy: H-Orn-OH HCl ≥ H-Ile-OH ≥ DFMO > nor-NOHA. However, the maximal reversion of tension recorded ranged from only -13% to -25%. The enhancement in cyclic GMP production registered in the presence of the Arg inhibitors was 4-fold to 14-fold.

CONCLUSIONS: In the TZ, Arg I is co-localized with other key proteins of the cyclic GMP signalling. Inhibition of arginase enzymes may augment the activity of the NO/cyclic GMP pathway in the human prostate.

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C183: A prospective, randomized comparison of greenlight 120 W HPS laser vaporization and thulium laser 120 W vaporesection of the prostate

Nita G., Persu C., Geavlete B., Dragutescu M., Tie G., Goman L.A., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Lasers have gained a strong position between the various treatment alternatives for BPH, but, as the technology is still evolving, clinical evidence is needed to prove their safety and effectiveness. At the moment, there are 4 categories of lasers: KTP, diode, holmium and thulium. A prospective randomised study was conducted to evaluate the surgical efficacy, safety and follow-up results of two laser systems: GreenLight HPS laser (120 W, 532 nm) and Thulium laser (120 W, 1.9 µm).

MATERIAL & METHODS: A total of 59 patients with benign prostatic hyperplasia were treated using GreenLight HPS vaporization (35 cases) or Thulium laser (24 cases) vaporesection in a prospective randomized study. All patients had previously failed conservative treatment options, had a Qmax < 10 ml/s, IPSS over 18 and a prostatic volume between 30 and 70 ml. Functional outcome, improvement in maximum flow rate, residual urine volume, International Prostate Symptom Score (IPSS) and Quality of Life Score (QoL) as well as complications were compared postoperatively (3 and 6 months).

RESULTS: There was no significant difference in baseline preoperative parameters. The catheterisation period (22.9 versus 23.5 hours) and hospital stay (2.4 versus 2.1 days) were comparable between the two groups (GreenLight versus Thulium laser). The operation time was greater in the Thulium group (49.7 versus 63.2 minutes). There was no significant statistical difference in any parameter at any follow-up interval between the two groups. No major intra-operative complications occured in any group. No blood transfusions were required. The fiber resistance to degradation is better in the Thulium laser. Postoperative incontinence, irritative symptoms and dysuria were higher after Green Light vaporisation (p<0.05).

CONCLUSIONS: Both the GreenLight HPS and Thulium laser can effectively improve the preoperative parameters of BPH patients, with minimal postoperative complications. The search still continues for the ideal vaporization laser to treat BPH.

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C184: Impact on post TURP symptoms of inflammatory lesions associated with BPH

Georgescu D., Alexandrescu E., Constantinescu E., Multescu R., Geavlete B., Geavlete P.

Saint John Clinical Emergency Hospital, Dept. of Urology, Bucharest, Romania

INTRODUCTION & OBJECTIVES: Association between BPH and prostatic inflammation has been well recognized. The ways that inflammation influences prostatic growth and symptoms progression are still under investigation and generated both interest and controversies. The aim of this study was to assess the impact of prostatic inflammation on early post TURP symptoms.

MATERIAL & METHODS: We analyzed 100 consecutive patients who underwent TURP for symptomatic BPH in our clinical department. The patients with other possible causes of LUTS or with a history of prostatitis within 1 year prior to surgery were excluded. On the basis of the histopathological reports we divided the patients in 4 groups: patients without inflammatory lesions associated to BPH were included in group 1. Group 2, 3 and 4 included patients with mild, moderate and severe inflammation, respectively. All tissue samples were analyzed by the same pathologist. The correlation between the presence and the degree of inflammation and different pre, intra and postoperative parameters were assessed. The patients were evaluated at 6 weeks and 6 months.

RESULTS: The comparative evaluation of preoperative parameters of patients from the 4 groups demonstrate higher IPSS, PSA, prostate volume and urinary retention rate values in patients with inflammation on histopathological exam. No significant differences were described concerning the operative time, catheterization and hospital stay period or intra and postoperative complications. The evaluations at 6 weeks and 6 months demonstrate differences only in symptoms, Qmax and residual volume being relatively similar in the 4 groups. During the follow-up period recatheterisation was necessary in one patient from group 2 and 2 patients from group 4.

CONCLUSIONS: The presence and the degree of inflammation on histopathological exam correlate with higher IPSS, PSA and prostatic volume values and increased risk of urinary retention. Postoperative, significant differences exist only for symptoms.

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C185: Determination of vaporisation-related prostate adenoma weight reduction during TURP

Wiatr T.W.¹, Golabek T.G.¹, Szopiński T.S.¹, Dudek P.D.¹, Przydacz M.P.¹, Chłosta P.L.¹, Borówka A.B.²

¹Medical College Jagiellonian University, Dept. of Urology, Kraków, Poland, ²The 1st Department of Urology of The Postgraduate Medical Education Centre, European Health Centre, Otwock, Poland

INTRODUCTION & OBJECTIVES: Transurethral resection of the prostate (TURP) has been the gold-standard therapy for lower urinary tract symptoms (LUTS) caused by benign prostatic enlargement (BPE) and benign prostatic obstruction. The completeness and efficacy of TURP can be assessed indirectly by estimation of the weight of glandular tissue removed. Several authors have observed significant discrepancies between the amount of resected and expected tissue during the seemingly complete TURP. This divergence could likely be attributed to the process of tissue vaporisation which occurs during TURP. To quantitatively evaluate tissue vaporisation occurring in the course of transurethral resection of the prostate and electrovaporisation of the prostate (EVAP) performed under experimental conditions.

MATERIAL & METHODS: The study was performed on 26 prostate glands removed during open retropubic prostatectomy (Millin method). Immediately following surgery all adenomas were halved and TURP or EVAP were carried out on both halves of each gland for period of 5 minutes. The amount of the vaporized prostate tissue during EVAP and TURP was calculated.

RESULTS: The mean initial weight of adenoma lobes in TURP and EVAP groups was 40.61 g and 39.01 g, respectively. The mean weight of the adenoma lost due to resection and vaporisation in the TURP group was 10.00g and 4.26g, respectively. The mean prostate weight lost in the course of EVAP was 5.03 g.

CONCLUSIONS: The vaporisation significantly contributes to the prostate tissue loss occurring during transurethral resection of the prostate.

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C186: Analysis of influence of overactive bladder symptoms on quality of life of patients

Peteja M., Mincik I., Viľcha I.

Faculty Hospital, Dept. of Urology, Prešov, Slovakia

**INTRODUCTION & OBJECTIVES:** Analysis of influence of overactive bladder symptoms on quality of life of patients.

**MATERIAL & METHODS:** This multicenter retrospective study in patients with overactive bladder was conducted from August 2011 until March 2012 in urology and gynecology outpatients clinics in Slovakia. Patient information was recorded in a standardised questionnaire. Demographic characteristics of patients and characteristics of OAB and its treatment and influence on everyday’s life of a patient, together with concerns connected to symptoms were evaluated.

**RESULTS:** A total of 2024 patients in 78 centers were included, 1310 (64.5%) female and 721 (35.5%) male. Mean age of study population was 58.39 ± 12.75 years (range 16-92 years). Mean duration of OAB symptoms was 19.24 ± 18.27 months (range 1-240 months). Urgency was the most common most bothering symptom (23.6% of patients). 41.6% of patients indicated the influence of a season on the severity of symptoms. 82.2% of patients get the information about the disease from their physician. 47.7% of patients have the knowledge about an effective treatment for the symptoms. Most common behavioral technique to minimise the symptoms is the limitation of fluid intake (55.8%). 81% of employed patients feel, that OAB symptoms limit their work performance. 53.8% of patients are afraid not to get to toilet on time and 52.9% of patients report worsening of quality of life.

**CONCLUSIONS:** This survey confirmed important influence of OAB on everyday life of a patient, work performance and overall quality of life. Besides the medicamentous treatment patients use also behavioral techniques. The source of information on the disease remains still on the physician.

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C189: Predicting of kidney malfunction development during transurethral resection of the prostate

Zaitsev V.1, Kokalko M.2, Alkud Kasem B.2

1Bucovinian State Medical University, Dept. of Urology, Chernivtsi, Ukraine, 2Bucovinian State Medical University, Dept. of Anestesiology, Chernivtsi, Ukraine

INTRODUCTION & OBJECTIVES: The most common method of treatment of benign prostatic hyperplasia is still transurethral resection of the prostate (TURP). One of the most severe intraoperative complications of the method is transurethral resection syndrome (TUR-syndrome), the frequency of which ranges between 1 to 7%. The main cause of TUR syndrome is a disorder of fluid and electrolyte metabolism (hypotonic hyperhydration), which is associated with the migration of irrigation fluid into vascular system. The purpose of the study is to define a group of patients with latent renal dysfunction that have increased risk of TUR-syndrome development.

MATERIAL & METHODS: 60 patients with BPH aged between 61 and 73 years with planned TURP took part in the study. The preoperative diagnosis of hidden renal dysfunction was performed with “volume load” method: 30 minutes infusion of isotonic sodium chloride solution (10 ml / kg) was performed followed with subsequent calculation of its clearance.

RESULTS: Most patients (I group - 54 persons) excreted 75% or more sodium, for 3 patients (II group) the figure was within 51-74% and 3 other patients had it below 50%. Therefore, the dynamics of response to “volume load” was different among the patients. Compared to sodium excretion, calculation of sodium clearance can better objectivize volume generating renal function and it showed that the I group have taken out more than 2,6 ml/min of extracellular fluid volume, II group between 0,96 – 2,6 ml/min, while III group only less than 0,96 ml/min. Subsequent observations indicated that 1 patient of I group, 2 patients of II group and all the patients of III group developed light TUR syndrome. Among the third group 2 patients developed mild to moderate degree of TUR syndrome, while 1 patient suffered severe TUR syndrome.

CONCLUSIONS: Generally excepted indicators of renal functions (urine output, level of creatinine and urea in plasma etc.) make it impossible to identify “at risk” group of TUR syndrome in the preoperative period. Instead “volume load” with isotonic sodium chloride with subsequent determination of patients with low sodium clearance can be used as the criterion for prediction of TUR syndrome development prior to surgery.

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C190: Does the intensity of chronic prostate inflammation determine the clinical course of benign prostate hyperplasia?

Poletajew S.¹, Fus Ł.², Powała A.², Zajączkowska J.¹, Radziszewski P.¹, Górnicka B.²

¹Medical University of Warsaw, Dept. of Urology, Warsaw, Poland, ²Medical University of Warsaw, Dept. of Pathology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: The chronic inflammation of the prostate (CI) plays a key role in the pathogenesis of benign prostate hyperplasia (BPH). To date it is not known whether the intensity of CI can determine clinical course of BPH.

MATERIAL & METHODS: 71 consecutive men who underwent transurethral resection of the prostate due to BPH were enrolled into the study. Microscopic intensity of CI was confronted with clinical data (IPSS score, preoperative complete urinary retention, maximal urinary flow rate, serum PSA concentration, prostate volume, PSA density, volume of post void residual urine, serum creatinine concentration, urine culture and body mass index). Dedicated histopathological classifications were adopted for the assessment of the intensity of CI: the CPCRN-IPCN classification, Irani grading system, Sciarra grading system, as well as the presence of corpora amylacea.

RESULTS: CI was diagnosed in 95.8% of cases. For CPCRN-IPCN classification, diffuse extent of CI was associated with higher rate of preoperative complete urinary retention (33.3% vs. 10.6%, p<0.05) and higher prostate volume (80.3ml vs. 53.9ml, p<0.05), severe grade of CI was associated with higher IPSS score (29.5 vs. 16.3, p<0.05), stromal location of CI was associated with higher volume of post void residual urine (386.7ml vs. 186.5ml, p<0.05). For Irani classification, grade 1 CI was associated with lower IPSS score (16.3 vs. 29.5, p<0.05). For Sciarra classification, grade 0 CI was associated with lower body mass index (20.1kg/m² vs. 25.7kg/m², p<0.05) and higher creatinine concentration (1.27mg/dl vs. 1.02mg/dl, p<0.05). The presence of corpora amylacea was associated with higher IPSS score (28.0 vs. 13.3, p<0.05). No statistically significant impact of the intensity of CI on PSA serum concentration, PSA density, maximal urinary flow rate and urine culture was noticed.

CONCLUSIONS: While the intensity of CI may determine the clinical course of BPH, it can be routinely reported in pathological reports after prostate biopsy as a potential predictor of treatment outcome.

For final conclusions, pathological classifications of CI urgently need validation.

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C191: Results of application of biofeedback in children with functional bladder outlet obstruction

Romikh V., Borisenko L.

Russian Urological Society, Dept. of Urodynamics And Pelvic Floor Disorders, Moscow, Russia

INTRODUCTION & OBJECTIVES: Pelvic floor dysfunction in children as incoordination (functional obstruction) are one of the main causes of "obstructive" symptoms: intermittent urination, difficulty and incomplete emptying. Some of the children are due to such violations neuropathies. Objective: To evaluate the clinical efficacy of biofeedback (BFB) in children with pelvic floor muscles discoordination (PFMD) of various origins.

MATERIAL & METHODS: 38 patients aged 6 to 11 years with PFMD (not severe), confirmed urodynamically were divided into 2 groups: I - 20 children with neurogenic PFMD, II - 18 children without neuropathy, where dysfunction was associated with behavioral reactions. Biofeedback treatment offered in the form of computer games in conjunction with electrical stimulation of the pelvic floor for the "recognition" of the required training for muscle groups. Program of treatment was 10 weeks (10 sessions of 20 minutes + "homework").

RESULTS: Objectively, after treatment in group I observed: $Q_{\text{max}}$ increase $8.3 \pm 3.5$ to $14.8 \pm 2.9$ (78%), reduced the post voiding residual (PVR) - from $72.6 \pm 1.2$ to $45.7 \pm 2.4$ ml (37%). In group II: $Q_{\text{max}}$ increase with $9.4 \pm 2.7$ to $21.0 \pm 2.5$ (123%), PVR reduced - from $65.2 \pm 1.1$ to $12.7 \pm 0.9$ (80%). The average efficiency of the muscles in group I was 82% in group II - 48%.

CONCLUSIONS: BFB method showed good performance in children with PFMD in the absence of neuropathy. Patients with neuropathic PFMD biofeedback method also has some, but lower effect (49%), due to which should be applied in a limited cohort depending on the degree of dysfunction.

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C193: Primary inoperable pelvic embryonal rhabdomyosarcoma became operable and curable due to complex therapy

Vecsei A.¹, Engert Z.¹, Bárdi E.²

¹Markusovszky Egyetemi Oktatókórház, Dept. of Urology, Szombathely, Hungary, ²Markusovszky Egyetemi Oktatókórház, Dept. of Pediatrics, Szombathely, Hungary

INTRODUCTION & OBJECTIVES: The present study describes the case of a huge pelvic tumor in order to share the results and observations of the authors. This kind of tumor is very rare in urological practice. The histopathological diagnosis was embryonal rhabdomyosarcoma. The major challenge in this case is to select the most radical surgical treatment with a high survival rate and little late effects. Rhabdomyosarcoma is the most common soft tissue tumor in children. The incidence is 0.5/100 000. About one third of the rhabdomyosarcoma affects the genitourinary tract, it most commonly arises from the bladder or the prostate.

MATERIAL & METHODS: Case report: The 18-year-old male patient was presented in our hospital after three weeks with fever, hypogastric and flank pain. A 13x9x7.5-cm tumor was identified in the left part of the pelvis, which dislocated the rectum and the bladder, and also multiple pulmonary metastases were found. During the staging no other metastases were recognized. There was no possibility to remove the whole locally advanced tumor during the first operation at our department of urology, and at the same time biopsy was taken. The histopathological result showed embryonal rhabdomyosarcoma. The patient received chemotherapy in seven blocks (vincristine, actinomycin, carboplatin, etoposide, epirubicin) based on metastatic (stage IV) line of the CWS 2009 protocol of soft tissue sarcomas. Imaging studies (such as abdominal ultrasound, pelvic MR, chest x-ray/CT) showed a regression in the size of the primary tumor and the pulmonary metastases. 5 months after the first operation the smaller residual tumor (which was the size like a walnut) could be managed by complete surgical resection (with negative margins). Later the patient will undergo high-dose chemotherapy and autologous stem cell transplantation.

RESULTS:

CONCLUSIONS: A multimodal approach with optimal timing and intensity involving surgery, chemotherapy or sometimes radiotherapy is recommended for the treatment of rhabdomyosarcoma in order to achieve the best survival. Both the young age of the patient and the radicality of surgical intervention, which is crucial for patient’s survival, should be considered for the same time to avoid late side effects.

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C195: Urachal cyst - a rare cause of fever and abdominal pain

Horáková J.1, Starczewski J.1, Fiala M.1, Smrčka V.2, Kubále J.3, Petřík A.1

1České Budějovice Hospital, Dept. of Urology, České Budějovice, Czech Republic, 2České Budějovice Hospital, Dept. of Paediatrics, České Budějovice, Czech Republic, 3České Budějovice Hospital, Dept. of Radiology, České Budějovice, Czech Republic

INTRODUCTION & OBJECTIVES: The diagnosis and treatment of infected urachal cyst is reported.

MATERIAL & METHODS: Case history of 13-month-old girl with a 5-day history of fever up to 39.5°C, weakness and elevation of CRP 195mg/L based on suspicion of urosepsis is reported.

RESULTS: At the time of admission the local finding of the patient was: the abdomen objectively at niveau, a peritoneal, with no palpable resistance and free peristalsis. The laboratory findings were: urinary sediment - 13 erythrocytes per high-power field, 37 leukocytes per high-power field; urine cultivation negative, CRP 167 mg/L, leukocytosis 47.9 x10^9/L in blood count. Ultrasound examination revealed no abnormalities of abdominal parenchymal organs; a spherical structure of non-homogeneous content of diameter 35 mm without evidence of direct connection with the urinary bladder above the urinary bladder was found. Additionally performed magnetic resonance demonstrated an irregular bordered collection of fluid under the anterior abdominal wall going from the ventro-cranial edge of the urinary bladder to the navel - very likely an urachal abscess. The initial therapy with broad-spectrum antibiotics had been started, a rapid adjustment of state came. According to the literature, the conservative treatment is considered as a primary treatment, drainage is indicated only in case of deterioration of local status, recurrence of fever and CRP elevation. Surgical removal of the urachal cyst was performed electively of the 8th day of therapy. Histological finding reveals parts of fatty and fibrous tissue with mixed inflammatory infiltration, abundant presence of neutrophils and formation of small abscesses. The patient was discharged the 7th postoperative day, healed completely.

CONCLUSIONS: The urachal anomalies are generally rare. The incidence of urachal cysts is 1:5000 in children’s age. Another study of hospitalized adults indicates the incidence of urachal cyst less than 2:100000. Infected urachal cyst is a rare cause of fever in case of children and adults as well. Its uniqueness may be a reason for difficulties in diagnostic. The best method of treatment of infected urachal cyst remains a matter of debate. Considering the high risk of re-infection and the risk of cancer, the surgical removal of cyst in the second stage is an effective treatment option by our point of view.

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C196: Posterior urethral valves: long-term outcomes in patients with postnatal renal insufficiency

Holý P., Langer J., Zachoval R., Kočvara R.

1Thomayer Hospital, Dept. of Urology, Prague, Czech Republic, 2General Teaching Hospital and 1st Medical Faculty Charles University, Dept. of Pediatrics and Adolescent Medicine, Prague, Czech Republic, 3General Teaching Hospital and 1st Medical Faculty Charles University, Dept. of Urology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: Posterior urethral valves (PUV) are the commonest congenital obstruction of the lower urinary tract, comprising 10% of antenatally diagnosed uropathies with an incidence of up to 1 in 4000. It has a capacity to affect the anatomy and function of the whole urinary tract. Associated renal insufficiency (RI) may result from either primary renal dysplasia or progressive renal deterioration due to bladder dysfunction and polyuria. The aim of this work is to evaluate long-term outcome of renal function in boys with postnatal RI and to compare function of lower urinary tract with a group of valve patients without renal impairment.

MATERIAL & METHODS: A retrospective analysis includes 20 boys with PUV and RI having surgery during the period 1986-2011 and followed at least three years. We evaluated serum creatinine and glomerular filtration rate (GFR) postnatally, after urine drainage and at 1, 3 and >10 years of age. We also analysed a presence of upper urinary tract dilation and vesicoureteric reflux (VUR). In 15 boys older then five years we compared function of lower urinary tract with a group of 12 valve patients without RI with similar age range, who were treated in the same time period.

RESULTS: Bilateral hydronephrosis was detected in 95% (19/20 boys) at time of diagnosis. VUR was present in 60% (12/20) and megaureter (MU) in 80% (16/20) of boys. Median serum creatinine postnatally and at the end of a mean 10-year follow-up (3-20) was 117 (43-228) and 61 (28-231) umol/L, respectively; GFR according to Schwartz formula was 21 a 105 ml/min/1.73m2, respectively. The mean bladder capacity in a group of 15 boys (mean age 11 years) was 304 (60-420) ml. Six patients have urgency, three of them have night and day incontinence. One boy has bladder evacuation disorder. Eight boys are without any voiding symptoms. In the comparison group of 12 boys with PUV without RI (mean age of 9 years), VUR was detected in 33% (4/12) and MU in 66% (8/12). No patient has progressed to renal insufficiency by the end 9-year follow-up. The mean bladder capacity was 280 (120-350) ml. All the boys are continent without any voiding difficulties.

CONCLUSIONS: Our data suggest that PUV patients with postnatally diagnosed RI frequently present with serious anatomical changes of upper urinary tract - in terms of dilation and reflux. These boys also manifest with significant lower urinary tract dysfunction that may further deteriorate renal functions if left untreated. Therefore the diagnosis of posterior urethral valves implies a commitment to long-term follow-up, with early identification and treatment of bladder dysfunction in particular.

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C198: Effect of support uretero/vesicostomy and consecutive reconstructive surgery to renal function and upper urinary tract dilatation in patients with megaureters

Tomasek J., Novak I., Kuliacek P., Brodak M.

Fakultní Nemocnice Hradec Králové, Dept. of Urology, Hradec Králové, Czech Republic

INTRODUCTION & OBJECTIVES: Aim: The evaluation of dilatation and renal function in children who underwent surgery for obstructive/reflux megaureter with transitional support ureterostomy or vesicostomy before reconstructive surgery.

MATERIAL & METHODS: We evaluated cohort of children who underwent surgery in years 2004-2013. We compared ureter dilatation and renal function before and after support uretero/vesicostomy and after reconstructive surgery. There were 19 patients underwent surgery, totally 29 megaureters (13 reflux, 12 obstructive and 4 reflux-obstructive). There were 12 cases of primary megaureters and 7 cases of secondary. We evaluated all of 19 patients. Reconstruction surgery in vesicostomy were simply occlusion in 3 cases, occlusion with ureterocystoneoanastomosis in 4 cases and occlusion with ureterocystoneoanastomosis with modulation in 2 cases. Reconstructive surgery in ureterostomy occlusion with ureterocystoneoanastomosis in 8 cases and occlusion with ureterocystoneoanastomosis with modulation in 1 case. There was a lesion of renal function in 5 patient according to DMSA scintigraphy (21...12...24...24...15%). Two patient had renal insufficiency (S-creatinin 300 – 120 umol/l). Dilatation of ureters was 7-28mm (ø 18,6 mm) according to sonography.

RESULTS: After derivation was renal function stabilized in 21 from 29 kidneys, 4 kidneys had worst function (7-15%) and 4 kidneys had better function (9-18%). Dialysis was not needed. Ureter dilatation decrease in all patient (0-19 mm, ø3,8mm). After reconstructive surgery was renal function stable and no renal insufficiency. Ureter dilatation was stable in 11 cases, in 5 cases were more regression and in 4 cases were progression.

CONCLUSIONS: In serious megaureter with renal function lesion can support derivation long-term stabilize renal function. Small group of patient with support derivation inclinat to small progressive renal function leasion.

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C199: Urological patients on hemodialysis - a multidisciplinary approach

Rudziński M.R.¹, Antoniewicz A.A.¹, Zapała Ł.¹, Dylewski K.², Małecki R.²

¹Interdisciplinary Hospital Miedzylesie, The Uronephrology Center, Dept. of Urology, Warsaw, Poland, ²Interdisciplinary Hospital Miedzylesie, The Uronephrology Center, Dept. of Nephrology, Warsaw, Poland

INTRODUCTION & OBJECTIVES: Departments of urology, nephrology, dialysis and renal transplantation units are integrated in multidisciplinary centers. Close cooperation allows urologists to perform successfully and safely high risk procedures in complex/comorbid urological patients. On the other hand nephrological patients on dialysis can also be treated urologically on demand. Our goal was to review hemodialysis patients treated urologically, recognize the profile of the patients, most frequent urological problems and procedures. The second objective was to measure surgical results and outcomes in this specific group of patients.

MATERIAL & METHODS: Retrospective analysis of 57 hospitalizations in The Department of Urology of 36 dialysis patients, between June 2013 and July 2014 was conducted.

RESULTS: Overall, 36 patients (24 male and 12 female) underwent 159 hemodialyses. 103 as part of a routine hemodialysis programme and 56 as urgency. The average age was 65. In this period 20 patients (56%) underwent 27 (41%) elective operations: radical prostatectomy - 1, radical cystectomy - 1, bilateral nephrectomy - 2, unilateral nephrectomy - 4, partial nephrectomy (4 tumours in a solitary kidney) - 1, radiofrequency ablation of a solitary kidney tumour - 1, bilateral orchidectomy - 1, optical urethrotomy - 1, urethrocystoscopy - 11, double J stent replacement - 2. Additionally 7 patients were qualified for renal transplantation. Another 16 (44%) and 4 (11%) after elective surgery with minor complications, undertook 39 (59%) urgent procedures: nephrectomy -1, ureterolithotomy and orthotopic bladder reconstruction - 1, bilateral internal iliac arteries embolization - 1, drainage of a complicated pararenal hematoma/abscess - 3, drainage of a prostatic abscess - 1, transurethral resection of bladder tumour - 5, urethrocystoscopy and bladder tumour fulguration - 3, bilateral nephrectomy - 7, unilateral nephrectomy - 10, double J stent insertion - 7. All urological procedures went uneventfully and were uncomplicated. Mean time of hospital stay was 8.5 day, which was twice as much, as for others. There was only one death in bladder cancer patient treated palliatively.

CONCLUSIONS: The continuous ability of dialysis on demand makes the range of urologic treatment much wider. It ensures safety of the patient and gives comfort to the surgeon. In our material more than a half of dialysis patients underwent elective operations and on the other hand dialyses were made two times more likely as a scheduled procedure than an urgent one. Treatment of dialysis patients carries increased risk of adverse events and is usuallay longer.

Eur Urol Suppl 2014; 13(6) e1369
INTRODUCTION & OBJECTIVES: Topical administration of drugs has many advantages against oral or parenteral routes. In case of topical application ingredients avoid the liver metabolic effect and better bioavailability becomes possible. There is no plasma peak concentration as in case of oral administration, so the rate of side effects may reduced. In addition, topical application enables continuous drug delivery, the duration of action is sustainable and predictable. With appropriate preparation of the drug the patient compliance can also be improved. The papaverine hydrochloride is useful in erectile dysfunction, but can only be injected. Our work is aimed to develop dermal preparation which eliminates the undesirable side effects of injection and provide appropriate effect.

MATERIAL & METHODS: In vitro membrane diffusion studies: drug diffusion test from dermal preparations through synthetic membrane. Ex vivo skin penetration studies: The penetration of active ingredients through the penile skin. The outer layer of the skin is stratum corneum which provide the barrier function. During the tests removed prepuce skin was used from circumcisions. The epidermis was removed from the dermis with heat separated technique and the drug penetration was examined through this layer. Method of analysis: Vertical Franz diffusion cell (Hanson Micro Instead TM Topical & Transdermal Diffusion Cell System Hanson Research Corporation, USA) The acceptor phase was thermostated 37 °C saline solution. Testing time was 6 and 24 hours. Ingredient defined by spectrophotometry at λ = 250 nm.

RESULTS: Poor water solubility for many drugs and drug candidates remains a major obstacle to their development and clinical application. With dry grinding technology two products was prepared. We succeeded to reduce the particle size to nano-size range, which was proved by electron microscopy. The papaverine hydrochloride maximum of 2.5% w/w aqueous solution can be made. As a result of nanonization increased solubility of the active substance (4% w/w) was obtained. The dermal hydrogel preparations were formulated with reference 2% w/w papaverine hydrochloride and with nanonized product. We examined in vitro drug release through synthetic membrane and ex vivo penetration through prepared penile skin. The membrane diffusion studies concluded that the drug release was twice higher from formulation containing nanonized products. Better results were obtained with nانونization during penetration studies of active agents through the penile skin.

CONCLUSIONS: Transdermal delivery of the active ingredients may be an alternative treatment of erectile dysfunction. During developing of dermal formulations it is essential to investigate drug diffusion through synthetic membrane and drug penetration through prepared skin. Based on this study, the dermal papaverine hydrochloride applicable for transdermal route. Further investigations needed to increase penetration and in vivo studies are required.

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C202: A rare case of squamous cell carcinoma in urinary bladder diverticulum successfully treated by bladder - sparing surgery

Knezevic M.1, Grubisic I.2, Soipi S.2, Tomas D.3, Kruslin B.3, Stimac G.2

1General Hospital “dr. Josip Bencevic”, Dept. of Urology, Slavonski Brod, Croatia, 2“Sestre Milosrdnice” University Hospital Center, Dept. of Urology, Zagreb, Croatia, 3“Sestre Milosrdnice” University Hospital Center, Dept. of Pathology, Zagreb, Croatia

INTRODUCTION & OBJECTIVES: Tumors arising within urinary bladder diverticula are rare. Pathophysiological explanation of carcinogenic transformation is based on urinary stasis within poorly contractile diverticula and chronic inflammation. Additionally, bladder diverticula neoplasms have a poorer prognosis than tumors arising within the urinary bladder lumen. Early transmural infiltration through a thinned diverticular wall is considered as a main causal factor. Most of the intradiverticular neoplasms are urothelial, with rare incidence of adenocarcinomas, squamous cell carcinomas and sarcomas. A carcinoma within a urinary bladder diverticulum represent a therapeutic challenge regarding poor prognosis and lack of clear and sufficiently supported therapeutic guidelines. This paper presents recent and concise literature overview on treatment options, and illustrates the rare case of a successfully treated patient with primary intradiverticular squamous cell carcinoma despite the non-radical treatment.

MATERIAL & METHODS:

RESULTS: Clinical Presentation and Intervention: A 56-year-old man presented with intermittent hematuria. Ultrasound examination indicated primary carcinoma in the urinary bladder diverticulum. Diagnosis was confirmed with cystoscopy and computer tomography. Transvesical diverticulectomy with regional lymphadenectomy was undertaken. Histopathology verified squamous cell carcinoma of the bladder diverticulum with extradiverticular penetration but clear margins. Two years after initial treatment patient is well without evidence of tumor relapse.

CONCLUSIONS: This report presented the case of a patient with rare squamous cell diverticular carcinoma who underwent bladder-sparing surgical treatment based on diagnostic evaluation. Histopathology revealed extradiverticular spread of the tumor with clear surgical margins. Despite the non-radical approach, the patient was successfully treated and remained free of recurrence two years after initial treatment. This report implicates that although aggressive surgical approach is recommended in the majority of bladder diverticulum tumors, simple diverticulectomy may be indicated in selected, confined cases.

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C204: Oncologic prognosis of patients with TaG1 bladder cancer

Pešl M.¹, Soukup V.¹, Čapoun O.¹, Valová Z.¹, Dundr P.², Bauerová L.², Hanuš T.¹

¹Charles University, Dept. of Urology, Prague 2, Czech Republic, ²Charles University, Dept. of Pathology, Prague 2, Czech Republic

INTRODUCTION & OBJECTIVES: The aim of our study was to assess oncologic prognosis of patients with TaG1 bladder tumours.

MATERIAL & METHODS: A total of 126 consecutive subjects with primarily diagnosed TaG1 bladder cancer were enrolled in the prospective study. The mean age of the patient population was 67 years, the mean follow-up was 44 months. Selected tumour risk factors (multiplicity, age, sex and new histopathologic classification WHO 2004) were evaluated. The tissue samples were taken by means of transurethral resection (TUR-BT), all the tumours were histologically verified. The disease free survival functions were compared by the means of Log-Rank test and Wilcoxon generalised test. The Kaplan-Meier method of the survival function estimation was used. Statistical analysis was performed using the SPSS 13.0 software. The level of significance was set at p=0.05.

RESULTS: The recurrence was found in 34 (27 %) patients, one patient progressed to invasive carcinoma. The risk of recurrence was 16 % during the first y., 13 % during the second y. and 3 % during the 5th y. No recurrences were found after 5 y. of follow-up. Age (cut-off 68 y.) and sex were significant risk factors of RFS. The new histopathologic classification (WHO 2004) did not add significant prognostic value (PUNLMP vs. LG carcinoma, p=0.084). Multiplicity was the only prognostic factor of RFS in our cohort of patients (p=0.037).

CONCLUSIONS: Our results correlate with literature. The new histopathologic classification (WHO 2004) does not add prognostic information in patients with TaG1 bladder carcinoma. The risk of recurrence in patients with TaG1 is minimal. We plan to enlarge the group of patients and the follow-up to bring more valuable data.

The study was supported by grant from PRVOUK P27/LF1/1.

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C205: Raised neutrophil-to-lymphocyte ratio is associated with muscle invasive bladder cancer

Lee S., Russell A., Hellawell G.

Northwick Park Hospital, Dept. of Urology, London, United Kingdom

INTRODUCTION & OBJECTIVES: Pre-treatment neutrophil-to-lymphocyte ratio (NLR) is a marker of systemic inflammation and is inversely associated with oncologic outcomes in a number of diverse malignancies, including renal, breast and colon. As cancer causes both local and systemic inflammatory response, we aimed to determine the predictive value of pre-treatment NLR in differentiating non-muscle invasive (NMIBC) and muscle invasive (MIBC) bladder cancer.

MATERIAL & METHODS: Transurethral resection of bladder tumour (TURBT) cases from January 2011 to December 2013 were analysed retrospectively. Patient demographics, tumour characteristics and preoperative haematology results were analysed. Groups were compared using chi-squared and Mann-Whitney U tests and independent predictive factors identified using logistic regression analysis. Receiver operating characteristics (ROC) curves were used to evaluate significant continuous variables.

RESULTS: A total of 227 patients were included, 176 and 51 in the NMIBC (stages Ta and T1) and MIBC (stage T2+) groups, respectively. Tests revealed a statistically significant difference (p<0.05) between the two groups with regards to patient age, tumour grade, tumour size, NLR, white cell count, neutrophil count and lymphocyte count. Mean NLR was 2.9 ± 1.7 in the NMIBC group and 5.4 ± 4.7 in the MIBC group. Multivariate logistic regression analysis identified tumour grade (OR 24.51, 95% CI 6.13-98.02) and NLR (OR 1.36, 95% CI 1.06-1.75) as independent predictors of invasive bladder cancer. At a threshold NLR value of 3.42, the area under the ROC curve was 0.709 (Sensitivity 58.8%, Specificity 77.3%).

CONCLUSIONS: The findings suggest that serum NLR may provide a simple, easily-measured and cost-effective marker for MIBC that can be performed at time of flexible cystoscopy and aid planning of further treatment.

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C206: Alterations in FGF and FGFR gene expression in different grades and stages of bladder cancer

Madej A.¹, Szymczyk A.², Forma E.², Szymczak W.³, Różański W.⁴, Lipiński P.⁴, Lipiński M.⁴

¹Medical University of Lodz, Dept. of Urology, Lodz, Poland, ²University of Lodz, Dept. of
cytobiochemistry, Lodz, Poland, ³University of Lodz, Dept. of Psychology, Lodz, Poland, ⁴2nd Clinic of Urology, Medical University of Lodz, Lodz, Poland

INTRODUCTION & OBJECTIVES: Genetic tests could be additional tools in diagnosis and treatment of cancers. Dysregulation of FGF/FGFR signaling pathway induces growth of cancer cells and suppresses apoptosis. Changes in mRNA expression of FGF/FGFR genes can indicate progression and recurrence rate of bladder cancer. Estimation of mRNA expression in different grades and stages of bladder cancer can improve diagnostics and follow-up of patients with bladder cancer.

The aim of this study was to estimate the correlation a quest for relationships between the grade and the stage of bladder cancer and FGFR1, FGFR 2, FGFR3, FGF1, FGF3, FGF4 mRNA level expression.

MATERIAL & METHODS: The samples of tumor tissues for genetic investigation were collected from 72 patients treated in Clinic of Urology since April 2012 to July 2013 during the TURBT procedure. Total RNA was extracted. First-strand cDNAs were obtained by reverse transcription. Real-time amplification of the cDNA was performed using TaqMan® Gene Expression Assay (Applied Biosystems). Abundance of FGFR1, FGFR 2, FGFR3, FGF1, FGF3, FGF4 mRNA in samples was quantified by the ΔCt method.

RESULTS:

<table>
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<tr>
<th>Gene</th>
<th>FGFR1</th>
<th>FGFR2</th>
<th>FGFR3</th>
<th>FGF1</th>
<th>FGF3</th>
<th>FGF4</th>
</tr>
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<tr>
<td></td>
<td>%¹</td>
<td>value²</td>
<td>%¹</td>
<td>value²</td>
<td>%¹</td>
<td>value²</td>
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<td>57.1</td>
<td>45.4</td>
<td>0</td>
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<td>G1</td>
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<td>140.1</td>
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<td>75.0</td>
<td>55.7</td>
<td>10.7</td>
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<tr>
<td>G2</td>
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<td>225.7</td>
<td>6.3</td>
<td>45.7</td>
<td>93.8</td>
<td>102</td>
</tr>
<tr>
<td>G3</td>
<td>100</td>
<td>473.1</td>
<td>26.3</td>
<td>65.8</td>
<td>89.5</td>
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<td>p</td>
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<td>0.047</td>
</tr>
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<td>Ta</td>
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<td>69.6</td>
<td>6.3</td>
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<tr>
<td>T1</td>
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<td>20.0</td>
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<td>95.0</td>
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<tr>
<td>T2</td>
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<td>0.027</td>
<td>0.056</td>
<td>0.129</td>
<td>0.706</td>
</tr>
</tbody>
</table>

¹expression in % of cases; ²average value

There are statistically significant differences in:
level of FGFR1 gene expression between all groups in grading and between Ta and higher stages.
level of FGFR3 gene expression between PUNLMP/G1 and G2/G3 groups in grading.
level of FGF3 gene expression between Ta and higher stages. Presence of FGFR2 and FGF4 between PUNLMP/G1 and G2/G3 groups in grading and between Ta and T1/T2 groups in staging. FGF1 gene expression seems not to be a proper genetic marker for evaluation of bladder cancer.
CONCLUSIONS: Alterations in FGF and FGFR gene expression are correlated with grade and stage of bladder cancer and its’ estimation in addition to pathological diagnosis can be helpful in making clinical decisions.

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C207: Detection of bladder cancer in urine by a methylation panel of selected tumour suppressor genes

Pietrusiński M.1, Borkowska E.1, Kępczyński Ł.1, Traczyk M.1, Jędrzejczyk A.2, Marks P.2, Jabłonowski Z.3, Sosnowski M.3, Kałużewski B.1, Borowiec M.1

1Medical University Of Łódź, Dept. of Clinical Genetics, Łódź, Poland, 2John Paul II Hospital, Dept. of Urology, Bełchatów, Poland, 3Medical University Of Łódź, Dept. of Urology, Łódź, Poland

INTRODUCTION & OBJECTIVES: Detection of promoter hypermethylation can be a useful biomarker for early detection and prognosis of bladder cancer, monitoring response to treatment and complement classical diagnostic procedures. We aimed to investigate the methylation profile in bladder cancer patients at various clinico-pathological stages of the disease and assess the diagnostic potential of such epigenetic changes in urine samples.

MATERIAL & METHODS: The methylation status of 5 genes (p14ARF, p16INK4A, RASSF1a, DAPK1, APC) in 113 tumor samples (62 pTa, 28 pT1, 23 ≥pT2) paired with voided urine specimens was analyzed by Methylation Specific PCR. Control DNA was from 25 cancer-free cases. 44 patients were low grade (LG), 52 high grade (HG), and 17 PUNLMP.

RESULTS: Promoter hypermethylation of at least one of five suppressor genes was found in all 113 tumour DNA samples (100% diagnostic coverage). We detected corresponding gene hypermethylation in the matched urine DNA samples from 103 patients (91% sensitivity). We observed aberrant promoter methylation in tumour/urine DNA in p14ARF 38/32%, p16INK4a 17/12%, RASSF1a 55/46%, DAPK1 24/17% and APC 54/46% cases respectively. The methylation profile in tumour/urine DNA was significantly correlated (p≤0.05) with tumour grade in p14ARF, RASSF1a, APC / p14ARF genes, respectively and with stage in p14ARF, RASSF1a / p14ARF genes, respectively. An unmethylated gene in the tumour DNA sample was always found to be unmethylated in corresponding DNA from urine sample.

CONCLUSIONS: Promoter hypermethylation of tumour suppressor genes is a frequent mechanism in bladder cancer. We found promoter hypermethylation in all grades and stages of cases examined. Our studies demonstrated that the methylation profile of selected suppressor genes may be a potential useful biomarker and enhance early detection of bladder cancer using a noninvasive urine test.

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Mesonephroid adenocarcinoma of the urinary bladder - rarity in urology

Bannowsky A.1, Osmonov D.2, Ückert S.3, Van Ahlen H.1

1Klinikum Osnabrück, Dept. of Urology, Osnabrück, Germany, 2University Hospital Schleswig-Holstein, Campus Kiel, Dept. of Urology, Kiel, Germany, 3Hannover Medical School, Dept. of Urology, Hannover, Germany

INTRODUCTION & OBJECTIVES: Mesonephroid adenocarcinoma of the urinary bladder presents an extreme rarity in urology with only 10 reported cases. They can probably be considered as the malignant counterpart of nephrogenic adenoma. Mesonephroid adenocarcinoma of the ovary are quite common and are also known to occur in congenital urethral diverticuli in females.

MATERIAL & METHODS: We report another case of a mesonephroid carcinoma in a 67 year-old male patient, which was treated by radical cystectomy, including a sigma resection due to an intraoperatively established infiltration of the tumor into the sigmoid colon. Histologically we discovered an extensive and invasive, moderately differentiated adenocarcinoma, which histomorphologically and immunohistochemically corresponded to a mesonephroid carcinoma (tumorstage pT4 pN0 M0 G2).

RESULTS: Apart from the regular urothelium there are significant focal irregularities in the lamination with polymorphous and dyschromatic, highly enlarged karyons in all epithelial layers. The urinary bladder is infiltrated by a glandular, tubular and papillary tumor consisting of cells with clear cytoplasm and dyschromatic, polymorphous karyons with prominent nucleoli. Numerous atypical mitosis figures and hyperchromatic giant nuclei as well as occasional multinucleated tumor cells infiltrate down into the perivesical tissue without any urothelial differentiation. In the immunohistochemical evaluation the tumor cells consistently show a strong expression of cytokeratin 7 and cytokeratin 19, a clear reactivity with the antibodies Cam5.2 and 34BetaE12 as well as a focal expression of cytokeratin 20.

CONCLUSIONS: Mesonephroid adenocarcinoma can show an invasive and extremely aggressive growth, leading to the indication for radical surgery at an early stage. Superficial tumors can be controlled by means of complete transurethral resection. In one case, a mesonephroid adenocarcinoma was successfully treated by means of adjuvant polychemotherapy. However, there is no sufficient evidence of the long-term success. The radiosensitivity remains unknown to date. Due to the organ-transgressing growth of the tumor in our patient, we perform systemic, adjuvant chemotherapy and periodical follow-ups to treat any progression at an early stage by renewed surgical intervention.

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C209: The significance of Ala179Thr polymorphism in WWOX gene in the bladder cancer development

Traczyk - Borszyńska M.¹, Borkowska E.¹, Pietrusiński M.¹, Jędrzejczyk A.², Konecki T.³, Marks P.², Jabłonowski Z.², Sosnowski M.³, Kałużewski B.¹, Borowiec M.¹

¹Medical University of Łódź, Dept. of Clinical Genetics, Łódź, Poland, ²John Paul II Memorial Regional Hospital in Belchatow, Dept. of Urology, Belchatow, Poland, ³Medical University of Łódź, Dept. of Urology, Łódź, Poland

INTRODUCTION & OBJECTIVES: The WW domain-containing oxidoreductase (WWOX) gene is a tumour suppressor. It spans a common chromosomal fragile site FRA16D (16q23.3-24.1). Somatic mutations in this gene are very rare. In human tumours WWOX is inactivated by LOH, homozygous deletions and epigenetic methylation. Little is known about this alterations in bladder cancer, but they may possibly lead to loss of WWOX expression in higher stage and grade tumours. The A660G polymorphism of WWOX gene is a non-synonymous coding SNP but impair wwox protein structure (Ala179Thr).

In this study, we attempted to assess the prevalence and clinical significance A660G polymorphism of WWOX gene in patients with diagnosed bladder cancer in Polish population.

MATERIAL & METHODS: Fifty-six patients with diagnosed urinary bladder cancer were included in to our study. The experimental material for study group was DNA isolated from tumor tissue and peripheral blood lymphocytes. As the control for our investigation we used DNA samples obtained from blood of 72 healthy volunteers. A660G polymorphism of WWOX gene was detected using MSSCP method confirmed by DNA sequencing.

RESULTS: In the examined DNA samples, we have found frequent polymorphic variation in codon 179 (exon 6, position 660) of WWOX gene. To assess the clinical relevance of this polymorphism, the results were compared with those for the control group. Frequencies of AA, AG and GG genotypes among cases were 57.1%, 26.8% and 16.1%. In controls genotype frequencies were 27.8%, 56.9% and 15.3% respectively. The A risk allele occurred more frequently in the study group of patients (70.5%) then in healthy individuals (56.3%) - OR=1.86; 95% CI: 1.10-3.14; p=0.0198. AA homozygous variant occurred more frequently in HG tumors (65.2% vs. 51.5%). There were no relationships between the environmental exposure, tumor stage, grade and the occurrence of polymorphic variants.

CONCLUSIONS: Our observations have demonstrated that carriers of the A allele are almost twice at risk of bladder cancer development. We conclude that the A660G polymorphism, localized in coding region of the WWOX gene seems to be associated with bladder cancer development in Polish population.

Eur Urol Suppl 2014; 13(6) e1377
INTRODUCTION & OBJECTIVES: The surgical treatment of muscle invasive bladder cancer (MIBC) in selected patients consists of radical cystectomy (RC) accompanied by bilateral pelvic lymph node dissection (LND). However, the extent of this procedure is still controversial. To assess the extent of lymph node dissection during radical cystectomy in selected centers in Poland.

MATERIAL & METHODS: A thematic survey was conducted simultaneously in 8 Polish cities. Data of all patients, subjected to RC in 2013 were analyzed. In 17% of cases we did not receive complete data concerning the extent of LND.

RESULTS: During this period, 113 patients underwent RC. Among them RC was accompanied by bilateral LND in 102 (90%) cases. The mean number of removed lymph nodes was 11 (1-31), median 8.5. Obturator, common, external and internal iliac as well as presacral lymph nodes were removed in 69 (61%), 26 (23%), 59 (52%), 33 (29%) and 13 (11%) patients, respectively. Lymph node involvement were found in 28 (25%) patients, mainly in the external iliac nodes.

CONCLUSIONS: Major radical cystectomies are accompanied by bilateral lymph node dissection in Polish centers. However, the mean number of removed lymph nodes is small. This number does not fulfill the recommendation of European Association of Urology.

Eur Urol Suppl 2014; 13(6) e1378
INTRODUCTION & OBJECTIVES: There are many concepts on factors influencing the survival after radical treatment for high-risk upper urinary tract urothelial carcinoma (UUTUC). Simultaneously, to date the data on survival of Polish patients is very limited. The aim of this study was to present survival and its clinical predictors in patients undergoing radical treatment in Polish high volume urooncological center.

MATERIAL & METHODS: 62 consecutive patients after radical treatment of high-risk UUTUC were retrospectively enrolled into the study. Median age of the cohort was 76 years, male to female ratio was 1.4. Mean follow-up was 701 days (range 65-1770). Overall (OM) and cancer specific mortality (CSM), as well as recurrence free survival (RFS) were calculated. Finally, dozens of clinical and pathological factors were tested in univariate analysis as potential predictors of survival.

RESULTS: Full data on survival was available in 49 cases. Table illustrates survival of patients.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>1-year</th>
<th>2-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM</td>
<td>30.6%</td>
<td>23.7%</td>
<td>29.2%</td>
</tr>
<tr>
<td>CSM</td>
<td>18.4%</td>
<td>15.8%</td>
<td>20.8%</td>
</tr>
<tr>
<td>RFS</td>
<td>61.9%</td>
<td>67.9%</td>
<td>70.6%</td>
</tr>
</tbody>
</table>

Significantly higher postoperative serum creatinine concentration (2.2mg/dl vs. 1.2mg/dl, p<0.05) and higher body mass index (32.2kg/m2 vs. 24.4kg/m2, p<0.05) were associated with CSM, while higher tumor diameter (40mm vs. 25mm, p<0.05) was associated with OM. The overall risk of death from cancer was associated with the history of stroke (RR 6.0, p<0.05), bladder recurrence during follow-up (35.7% vs. 0%, p<0.05) and any site recurrence within one year after surgery (RR 6.6, p<0.05). The overall risk of all cause death was associated with the event of Clavien-Dindo grade ≥2 postoperative complication (RR 2.53, p<0.05), the tumor diameter of ≥40mm (RR 4.2, p<0.05) and surprisingly the negative history of cigarette smoking (RR 2.9, p<0.05).

CONCLUSIONS: Number of clinical factors were found to influence the short-term oncological outcomes after radical treatment of high-risk UUTUC. For final conclusions longer follow-up is required.

Eur Urol Suppl 2014; 13(6) e1379
INTRODUCTION & OBJECTIVES: The medical data of Polish patients with primary bladder tumors are both insufficient and extremely relevant to epidemiology. The aim of this study was to analyse the profile of bladder cancer patients and the urological practice in Poland.

MATERIAL & METHODS: The pathological and clinical data of 1168 consecutive patients with newly diagnosed urothelial bladder cancer in 11 Polish uro-oncological centers in the years 2012-2013 were retrospectively analysed.

RESULTS: The median age of the cohort was 69.8 years, the male to female ratio was 3.1, the mean body mass index (BMI) was 26.7 kg/m². 51.8% of patients declared to be smokers. Haematuria was observed in 76.6% of patients, mean time from first symptom to TUR was 107.5 days. The pathological data are presented in the table. Non muscle-invasive (NMIBC) and muscle-invasive bladder cancer (MIBC) was diagnosed in 879 patients (77.7%) and 252 patients (22.3%), respectively. Pathological staging was not possible in 37 patients. WHO and ISUP classifications of cancer grading were adopted in 84.6% cases and 58.9% cases, respectively. No muscle layer in the TUR specimen was noticed in 28.7% of cases, in 4.0% of cases information about the presence of muscle layer was lacking.

Table 1. Staging and grading of cancer within the study group. LMP – papillary urothelial neoplasm of low malignant potential, LG – low grade, HG – high grade.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>LMP</th>
<th>LG</th>
<th>HG</th>
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</thead>
<tbody>
<tr>
<td>Ta</td>
<td>206</td>
<td>163</td>
<td>6</td>
<td>37</td>
<td>207</td>
<td>12</td>
</tr>
<tr>
<td>T1</td>
<td>88</td>
<td>211</td>
<td>60</td>
<td>12</td>
<td>164</td>
<td>95</td>
</tr>
<tr>
<td>≥T2</td>
<td>63</td>
<td>152</td>
<td>0</td>
<td>14</td>
<td>126</td>
<td></td>
</tr>
</tbody>
</table>

In comparison to patients with NMIBC, among patients with MIBC higher age (72.3 vs. 69.0 years), lower BMI (25.6 vs. 27.0 kg/m²), higher rate of smokers (57.8% vs. 49.5%) and higher rate of history of haematuria (87.9% vs. 73.0%) were observed (p<0.05). Restaging TUR was performed in 34.3% of cases, including 45.1% of patients with T1 tumors, 36.7% with G3 tumors and 47.0% in whom muscle was not present in the specimen (TaG1 tumors not included). Single intravesical installation of
chemotherapeutic immediately after TUR was performed in 8.1% of cases, maintenance therapy was reported in 1.9% cases. BCG therapy was implemented in 9.1% of patients, including 2.8% of patients with G3 tumors, 16.4% with T1 tumors and 41.7% with Cis. 15.8% of patients were qualified for cystectomy, including 4.6% with NMIBC and 56% with MIBC. In the group of patients with MIBC, positive qualification to radical surgery was surprisingly associated with nicotine use (RR 2.21, p<0.05), history of haematuria (RR 3.52, p<0.05) and longer time from first symptom to diagnosis (141.1 vs. 98.7 days, p<0.05).

CONCLUSIONS: The first national study on the clinical data of bladder cancer patients was performed. While the general profile of patients is similar to the European population, urological practice is not fully consistent with recommendations. This can be a potential trigger to unsatisfactory survival of Polish patients.

Eur Urol Suppl 2014; 13(6) e1380
C215: Clinical features, management and outcome of urinary bladder tumors in young patients bellow 30 years

Hiroš M.\textsuperscript{1}, Spahović H.\textsuperscript{2}, Selimović M.\textsuperscript{1}, Sadović S.\textsuperscript{1}, Hasanbegović M.\textsuperscript{1}

\textsuperscript{1}University Clinical Centre Sarajevo, Dept. of Urology, Sarajevo, Bosnia and Herzegovina, \textsuperscript{2}General Hospital Sarajevo, Dept. of Urology, Sarajevo, Bosnia and Herzegovina

INTRODUCTION & OBJECTIVES: Bladder tumors are typically disease of older patients and it is very rare below the age of 30y. The aim of this study was to evaluate the clinical characteristics, treatment, tumor recurrence and prognosis of the bladder tumors in patients younger than 30y.

MATERIAL & METHODS: We retrospectively reviewed the medical history of all nine patients with bladder tumors, younger than 30y, who had been treated in the Clinical Centre Sarajevo, Urological department, in the period 1998 - 2013. All data were analyzed by the Kaplan – Meier method and Chi-square test.

RESULTS: Patients were divided, depending on age, in three groups: I - less than 18y. (3 male pts), II – 18-25y (1 male pts), III – 25-30y (2 female and 3 male pts). The mean age at the time of diagnosis was 23.8y. (range 15-30). Gross hematuria, as initial presenting symptom was the most frequent, but the low abdominal pain and irritative voiding symptoms also. All the patients were treated by TURBT, except one who was treated by partial cystectomy. Three pts were presented with stage Ta, G1, five as T1,G1, and one as Leiomyosarcoma GIII (who was treated by partial cystectomy). Comparing the clinical and pathological characteristics, tumor size, multiplicity, T category and tumor grade – no significant difference did not reported among pts with TCC of the bladder. Follow-up in the period 1998-2013 reported no mortality and no tumor recurrence.

CONCLUSIONS: Bladder tumor in pts younger than 30y is usually low grade and low stage in the time of diagnosis and as very rare condition in young pts is characterized by relatively good prognosis.

Eur Urol Suppl 2014; 13(6) e1381
INTRODUCTION & OBJECTIVES: Introduction: It has been proved that one of the risk factors of bladder cancer is tobacco smoke. A lot of research on assessment of clinical bladder cancer evaluation in smokers based on smoking history questionnaires for tobacco. Objectives: The assessment of reliability questionnaires on tobacco smoking history in patients with bladder cancer.

MATERIAL & METHODS: Assessments of hospitalized patients were treated in the Urology Clinic in the period from June 2009 to December 2012 who have a confirmed primary or recurrent bladder cancer. Each patient completed a questionnaire on smoking history and exposure to tobacco smoke exposure. It asked whether the patient smokes, if so, how many pieces a day and how many years. Non-smokers were asked when they stopped smoking and how many cigarettes they have smoked per day and for how long. At each patient the urine cotinine level was measured immediately after admission to the clinic to decrease the number of false-negative results arising from the interruption of smoking during hospitalization. The Cotinine is an objective indicator of tobacco smoke exposure and found it in the urine, even after several hours after smoking.

RESULTS: Marked levels of cotinine in urine in 148 patients. In 55 patients (37%) obtained results indicating that active smoking (cotinine levels in the urine of> 200 ng / ml) in 15 patients (10%) had cotinine levels correspond to passive smoking (a level between 0-200 ng / ml) in the remaining 78 patients (53%) had no cotinine in urine. We analyzed the questionnaire filled out by patients and compared with cotinine levels. Among the 148 patients, 27 admitted to smoking, at about 18%, the remaining 121 patients said they did not smoke or to quit. In fact, in 55 patients, confirmed by cotinine levels active smoking and in 15 patients tobacco smoke exposures has found. In a separate group of 55 smokers, 28 not admitted to smoking (> 50%), with the result that the reliability of questionnaires on smoking history is of limited value.

CONCLUSIONS: 1. The low reliability of questionnaires on smoking was confirmed. 2. The cotinine level allows the assessment of the credibility of questionnaires on smoking. 3. The evaluation of clinical course of bladder cancer based only on a questionnaire on smoking is not credible.

The research funded by The National Research Committee (N N403 601138)

Eur Urol Suppl 2014; 13(6) e1382
C217: Studies on new diagnostic and prognostic factors resulting from the identification of correlation between EMT markers and mechanical properties of tissue and cells

Lekka M.1, Dulinska-Litewka J.2, Okon K.3, Golabek T.4, Gostek J.5, Gil D.2, Chlosta P.4, Laidler P.2

1Institute of Nuclear Physics PAN, Dept. of Experimental Physics of Complex Systems, Krakow, Poland, 2Medical College, Jagiellonian University, Dept. of Medical Biochemistry, Krakow, Poland, 3Medical College, Jagiellonian University, Dept. of Pathomorphology, Krakow, Poland, 4Medical College, Jagiellonian University, Dept. of Urology, Krakow, Poland, 5The Henryk Niewodniczański Institute of Nuclear Physics, Polish Academy of Sciences, Dept. of Experimental Physics of Complex Systems, Krakow, Poland

INTRODUCTION & OBJECTIVES: Bladder and prostate cancers are the most frequently diagnosed cancers and they are one of a leading cause of cancer-related death worldwide. The diagnosis based on a histological examination of tissues is usually straightforward, however, the histological distinction of cancer regions is not always easy, especially at an early stage of the invasion. The accurate histology is of paramount importance in the classification of cancers and it effect the choice of treatment. The classification systems developed for prostate and bladder cancers, do not consider the molecular and mechanical alterations in cancers, as well as, their relevance in the diagnosis and their prognostic potential. The research hypothesis assumes that molecules involved in the EMT directly or indirectly influence bladder cancer progression, which subsequently manifests as altered elastic tissue properties.

MATERIAL & METHODS: Studies were carried out on both cell lines (bladder cancer - the non-malignant HCV29 and cancerous HTB-9, HT1376 and T24; prostate cancer - normal PZ-HPV, and cancerous Du2154, LNCaP, PC-3) and cancer tissues slices. Tissue samples, after histological examinations, were likewise to cultured cells divided into two parts in aim to determine in parallel the Epithelial-Mesenchymal Transition (EMT) markers and elastic properties (EP) using atomic force microscopy (AFM). Both fresh and frozen tissue samples were used.

RESULTS: The AFM elasticity measurements showed larger deformability of single cancer cells when compared with reference ones independently of cancer type. For tissue section either the deformability increase (bladder cancer) or decrease (prostate cancer) was observed. In both cases, a clear differentiations between cells localized at the margin and within cancer itself was noticed. The results of study on expression of EMT markers carried out at the protein level on cultured cells and histologically selected fragments of tissue samples showed that the expression of E- and N-cadherin, ILK, Twist, Zeb and vimentin was dependent both on cancer and cell type as well as the localization in the tissue sample allowing to identify the following three variants:

(i) group I (normal tissue) - E-cadherin - present; N-cadherin, vimentin, and Zeb - absent
(ii) group II (cancer) - E-cadherin - low; N-cadherin - low; vimentin - diverse (present or absent)
(iii) group III (EMT) - E-cadherin - low; N-cadherin, vimentin and Zeb - high expression

CONCLUSIONS: The presented research shows a preliminary results of describing bladder and prostate cancer tissues based on biochemical and biophysical properties, altered as a result of cancer progression. The initial findings indicated larger deformability of single cells independently of the cancer type. In addition we were able to observe the distinct expression of EMT markers which may help in identification of invasive cells at the margin based on both biochemical (EMT) markers and elastic properties (EP).

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C220: Evaluation of side effects of electromotive drug administration (EMDA) of Mitomycin-C for non-muscle invasive bladder cancer patients – own experience

Pokrywka L.B.¹, Siekiera J.¹, Żurawski B.², Misterek B.¹, Kamecki K.¹, Kraśnicki K.¹, Mikołajczak W.¹, Petrus A.¹, Wronczewski A.¹, Jasiński M.¹, Małkowski B.¹

¹The Franciszek Lukaszczyk Oncology Centre, Dept. of Oncological Urology, Bydgoszcz, Poland, ²The Franciszek Lukaszczyk Oncology Centre, Dept. of Chemotherapy, Bydgoszcz, Poland

INTRODUCTION & OBJECTIVES: Bladder cancer is the 4th most common cancer in men and 8th common cancer in women in Poland. Approximately 75% of patients with bladder cancer present with a disease that is confined to the mucosa (stageTa, CIS) or submucosa (stage T1). In patients with intermediate-risk Ta T1 tumours, one immediate instillation of chemotherapy after TUR-BT should be followed by further instillation of chemotherapy for a maximum of 1 year or by 1 year full-dose BCG treatment.

In November 2012 Clinical Ward of Oncological Urology in cooperation with Dispensary of Chemotherapy of The Franciszek Lukaszczyk Oncology Centre in Bydgoszcz introduced for the first time in Poland a new method of intravesical chemotherapy supported by electromotive drug administration (EMDA) device. The aim of this study was evaluation of side effects of this method in own material.

MATERIAL & METHODS: Since November 2012 78 intravesical instillation of Mitomycin C supported by EMDA device were done.

RESULTS: In 21 cases (26.9%) after installations symptoms of bladder irritation manifested by frequency and urgency which resolved within 24 hours. In 2 cases (2.5%) urinary tract infection was confirmed. Haematuria was in 1 case (1.25%) after installation. In 1 case (1.25%) skin rash appeared which resolved within 24 hours. After all installations there was the redness of the skin where the passive electrodes were placed. The redness resolved within 12 hours. In 5 cases (6.4%) there were small superficial skin burns where the passive electrodes were placed.

CONCLUSIONS: Electromotive drug administration (EMDA) of Mitomycin-C for non-muscle invasive bladder cancer patients is safe, side effects are rare and are not bothersome for patients and do not result in discontinuation of treatment.

Eur Urol Suppl 2014; 13(6) e1384
The differences in expression of microRNA in urine of bladder cancer patients and healthy controls

Brisuda A.1, Pospíšilová Š.2, Soukup V.3, Hrbáček J.1, Čapoun O.3, Mareš J.4, Pazourková E.2, Korabečná M.2, Hořínek A.2, Hanuš T.3, Babjuk M.1

1Teaching Hospital In Motol, Dept. of Urology, Prague, Czech Republic, 2General Teaching Hospital, Dept. of Molecular Biology and Genetics, Prague, Czech Republic, 3General Teaching Hospital, Dept. of Urology, Prague, Czech Republic, 4Teaching Hospital In Motol, Dept. of Molecular Biology and Genetics, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: The aim of the study was to identify microRNAs (miRNAs) which are detectable in urine and which could be used for diagnosis of bladder cancer or prediction of its stage and grade. MiRNAs are short non-coding RNA molecules that influence expression of genes and thus participate in many physiological and pathological processes. Some miRNAs are related to tumour responses to chemotherapy or can serve as a pointer of survival. One miRNA can affect expression of many genes and one gene can be affected by more miRNAs. MiRNAs are synthetized in the cells and then released through exosomes into the body fluids.

MATERIALS & METHODS: In total, 381 miRNAs were analysed in the urine collected by a standardized way. The miRNAs were quantified by real-time PCR using TaqMan MicroRNA Array. Forty seven samples were available for the study: seven from healthy controls and 40 from patients with different stages of bladder cancer (pTa-pT4). Samples with positive culture were not included. Five miRNAs (miR-106a, miR-191, miR-200c, miR-28-3p and miR-200b) were used for the normalisation of the expression rate, chosen by the geNorm analysis within the qBase+© programme. Man-Whitney’s U test with Benjamini-Hochberg correction was used for statistical analysis of the data.

RESULTS: We identified 25 miRNAs whose expression was significantly different (p<0.05) between controls and patients. The highest differences were found in 14 of them. Thirteen miRNAs (miR-99a, let-7c, miR-100, miR-125b, miR-323-3p, miR-30b, miR-532-3p, miR-215, miR-192, miR-30c, miR-127-3p, miR-23b, miR-204) were 8-29 times more expressed in controls than in patients. In contrast, miR-16 was 11 times more expressed in patients.

Tab. 1: Differences in expressions of urine miRNAs

<table>
<thead>
<tr>
<th>MicroRNA</th>
<th>p-value</th>
<th>Ratio of expression Controls/Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>miR-16</td>
<td>0.001</td>
<td>0.1</td>
</tr>
<tr>
<td>miR-99a</td>
<td>0.001</td>
<td>22.8</td>
</tr>
<tr>
<td>let-7c</td>
<td>0.001</td>
<td>8.7</td>
</tr>
<tr>
<td>miR-100</td>
<td>0.002</td>
<td>14.6</td>
</tr>
<tr>
<td>miR-125b</td>
<td>0.003</td>
<td>17.8</td>
</tr>
<tr>
<td>miR-323-3p</td>
<td>0.004</td>
<td>28.7</td>
</tr>
<tr>
<td>miR-30b</td>
<td>0.005</td>
<td>8.4</td>
</tr>
<tr>
<td>miR-532-3p</td>
<td>0.005</td>
<td>8.8</td>
</tr>
<tr>
<td>miR-215</td>
<td>0.005</td>
<td>13.4</td>
</tr>
<tr>
<td>miR-192</td>
<td>0.005</td>
<td>11.0</td>
</tr>
<tr>
<td>miR-30c</td>
<td>0.006</td>
<td>9.6</td>
</tr>
</tbody>
</table>
CONCLUSIONS: We found 14 miRNAs with significant differences in expressions between controls and patients (Tab. 1). These miRNAs will be used in subsequent validation study.

Acknowledgements: Supported by the Internal Grant Agency of the Ministry of Health of the Czech Republic No. NT12417.

Eur Urol Suppl 2014; 13(6) e1385
C222: The detection of specific microRNAs in urine as potential biomarker of bladder cancer

Brisuda A., Pazourková E., Soukup V., Hrbáček J., Čapoun O., Mareš J., Korabčná M., Hořínek A., Hanuš T., Babjuk M.

1Teaching Hospital in Motol, Dept. of Urology, Prague, Czech Republic, 2General Teaching Hospital, Dept. of Molecular Biology and Genetics, Prague, Czech Republic, 3General Teaching Hospital, Dept. of Urology, Prague, Czech Republic, 4Teaching Hospital In Motol, Dept. of Molecular Biology and Genetics, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: MicroRNAs (miRNAs) are short non-coding RNA molecules playing important role in the regulation of gene expression. The aim of the study was to detect candidate miRNAs whose expression could reflect the onset and progression of bladder cancer and that may be used as potential diagnostic marker for early noninvasive diagnostics.

MATERIALS & METHODS: In this pilot study, second morning urine samples were collected in the period 10/2013 – 4/2014 from 48 subjects (6 healthy volunteers, 5 patients with various urological disorders other than bladder cancer and 37 bladder cancer patients – 9x stage pTa, 10x pT1, 7x pT2, 5x pT3, 6x pT4, both LG and HG). Isolated miRNAs were transcribed and applied on TaqMan Human MicroRNA Array to analyze the expression of 381 miRNAs. Relative quantification and statistical analyses were performed by Expression Suite v 1.0.3 and qBase+ v 2.4. Relative quantification was calculated using 5 reference genes (miR-106a, miR-191, miR-200c, miR-28-3p, miR-200b) selected by geNorm software. Expressions of miRNAs were compared between patients and controls using Mann-Whitney test.

RESULTS: In total, 75 miRNAs were detectable only in cancer patients and were not expressed in healthy controls at all. One miRNA - miR-301a (with the most statistically significant p value 0.00001) was detected in 36 out of 37 patient samples and in no control samples. We also identified 5 other miRNAs (miR-372, miR-519a, miR-548c-5p, miR-548d-5p, miR-629) with statistically significant results (p value < 0.01) that were expressed predominantly in patients with higher cancer stages or grades. They should be tested in subsequent validation part of the study with enlarged group of individuals.

CONCLUSIONS: It has been demonstrated that the expression of six candidate miRNAs could be promising diagnostic and prognostic marker for non-invasive diagnostics of bladder cancer.

Acknowledgements: Supported by the Internal Grant Agency of the Ministry of Health of the Czech Republic No. NT12417.

Eur Urol Suppl 2014; 13(6) e1386
INTRODUCTION & OBJECTIVES: Nephron Sparing Surgery (NSS) is associated with a possibility of some complications, where the most frequent are bleeding, urinary fistula, positive surgical margin, kidney failure and a need for haemodialysis and surgical intervention. The aim of the study was to assess the complications after NSS of the T1 kidney tumors and a correlation between clinical, demographic and morphological risk factors and evaluation on a Clavien-Dindo scale.

MATERIAL & METHODS: A retrospective study was conducted on a group of 178 patients (88 men and 90 women) suspicious for renal cell carcinoma (RCC) and normal contralateral kidney who underwent open NSS in the period 2000-2008 in the Dept. of Urology. 124 patients (69.7%) with T1a tumor and 54 patients (28.2%) with T1b tumor underwent open NSS. Complications as urinary fistula, bleeding and renal failure were defined and predisposing factors included clinical factors (time of surgery, warm ischemia time, blood loss, comorbidities), morphological factors (tumor size, grading, staging, histopathology score), demographic factors (gender and age) were statistically rated.

RESULTS: 34 complications in 25 (13.5%) patients were reported. Clavien 1 (6 patients), Clavien 2 (9 patients), Clavien 3a (12 patients), Clavien 3b (5 patients), Clavien 4a (2 patients). Clavien 4b and 5 were not recorded. The surgery time T1a tumors was 80.6 minutes vs. 90.6 minutes in T1b (p=0.005). In only 9 patients (5.1%) out of 51 (51/178) blood transfusion was required due to significant bleeding. RCC correlated with a higher incidence of bleeding but had no effect on the volume of extravasated blood. 19 patients (10.6%) developed urinary fistula but only 12 need surgical intervention (nephrostomy tube – 2, ureteral stenting – 10). Statistically significant correlation was observed of the present of urinary fistula with longer duration of surgery (101 vs. 81min., p<0.001), longer warm ischemia time (11.2 vs. 8.1min., p<0.001), the patients age (64 vs. 57 yrs, p=0.033), recorded hypertension (p=0.045) and compensated pelvicoureteral obstruction (p<0.001). 17 (9.5%) patients required surgical intervention (Clavien 3a, 3b) and 7 (3.9%) patients experienced more than one complication. Patients with Clavien 3a and 3b were hospitalized longer than other (22.8 vs. 7.1 days, p<0.001).

CONCLUSIONS: Clavien-Dindo system objectifies and evaluates postoperative complications in the context of their severity and necessity of surgical reintervention and the Clavien-Dindo scale score remains in connection with the duration of hospital stay. The tumor location did not affect the quantity and quality of complications. The most common reported complications after NSS procedure were bleeding and urinary fistula, however surgical intervention is not necessary in all cases. The operative course of NSS significantly correlates with urinary fistula occurrence. Tumorectomy is also related to other rare complications such as a respiratory, renal and heart failure.

Eur Urol Suppl 2014; 13(6) e1387
C225: Analysis of experience with Endo Gia stapler during laparoscopic nephrectomy

Vilcha I.¹, Minčík I.², Michalides V.², Ľuník R.²

¹Faculty Hospital, Dept. of Urology, Prešov, Slovakia, ²Faculty Hospital, Dept. of Urology, Presov, Slovakia

INTRODUCTION & OBJECTIVES: Analysis of data and experience using Endo Gia stapler after application in 100 patients treated with laparoscopic nephrectomy.

MATERIAL & METHODS: Since year 2009 we have done 197 laparoscopic nephrectomies at our department. 145 nephrectomies were performed because of malignancy, 40 nephrectomies for non-neoplastic diseases and 12 nephroureterectomies have been done because of urothelial tumours. We have used Endo Gia stapler in 100 cases (50.79%).

RESULTS: We have analyzed the indications, benefits, safety of use and complications of this method. When using a stapler, we have dissected hilar vessels en bloc in 95 cases (95%) and in only 5 cases we dissected separately renal vein, while the arteries were treated with hem-o-lok clips. We have used endoG stapler lengths 45 and 60 mm, with the size of clips 2,5 and 3,5 mm. Complications associated with the use of stapler occurred only in 4 cases (4 %). We have have not observed any creation of AV fistula in the postoperative period in our patients.

CONCLUSIONS: Dissection of hilar vessels with Endo Gia stapler during laparoscopic nephrectomy is a suitable method for surgical treatment incorporating security, minimum complications and shorter operating time.

Eur Urol Suppl 2014; 13(6) e1388
C226: Our experience with open and laparoscopic partial nephrectomies in renal carcinoma from 2007 to 2013

Rebek M.K., Šainovič P., Bauman P., Bele U., Hlebič G.

University Clinical Center Maribor, Dept. of Urology, Maribor, Slovenia

INTRODUCTION & OBJECTIVES: The aim of our study was to review the data on patients with diagnosed renal tumours in our institution from 2007-2013 where the indication for partial nephrectomy (either open or laparoscopic) was given. We gave special emphasis on indication, size of the tumour, time of warm ischemia, use of intraoperative ultrasound and frozen section, histology of specimen, surgical outcome and possible complications during and after procedure.

MATERIAL & METHODS: Retrospective cohort study on 97 patients that were treated with partial nephrectomy in our institution from 2007-2013.

RESULTS: In 64 patients open partial nephrectomy (OPN) was performed (median age 58), 33 patients were treated with laparoscopic partial nephrectomy (LPN) with median age of 55, started in April 2010. Patients were diagnosed mostly incidentally, nevertheless 8 had macrohaematuria. CT clinical staging was performed; median tumour size in OPN was 3,25cm (1,5-6,6), in LPN 2,92cm (1,0-4,5). In LPN group the tumours were solitary, in OPN 8 patients had bilateral tumour that were treated with consecutive partial nephrectomies (2 cases) or with radical nephrectomy first and OPN on the other kidney (6 cases). In OPN clamping was performed in majority but not all cases (36 out of 64) with median warm ischemia time of 9,4min (2-19). In LPN clamping was used always with median warm ischemia time of 16,1min (7-25). Most common histological diagnosis were clear cell RCC (78 cases), oncocytoma (7 cases), angiomyolipoma (6 cases), papillary RCC (3 cases) and other less common. In OPN positive surgical margin was described in 4 cases, in LPN in 1 case (oncocytoma).

Complication after OPN included: sepsis, pooperative haematoma, pneumothorax, pleural effusion (1 case each). Complications after LPN: pooperative haematoma (1 case). Preoperative levels of creatinin - in OPN 90mcM (44-265), in LPN 82mcM (51-155). Pooperative levels of creatinin - in OPN 124mcM (59-414), in LPN 96mcM (60-113). Till present time there was no local relapse of the disease in LPN group. In OPN group we noticed 2 local relapses, 2 metastatic progressions. Both local relapses were treated with radical nephrectomy.

CONCLUSIONS: Although we do not have a large group of patients, our time of warm ischemia, positive surgical margin rate, rate of local relapse is comparable to data found in the literature and is according to general recommendations.
C227: FUT11 as a potential biomarker of clear cell renal cell carcinoma progression based on meta-analysis of gene expression data

Zodro E.1, Jaroszewski M.2, Ida A.3, Wrzesiński T.1, Kwias Z.3, Bluyssen H.2, Wesoly J.1

1Institute of Biotechnology and Molecular Biology Adam Mickiewicz University, Laboratory of High Throughput Technologies, Poznań, Poland, 2Institute of Biotechnology and Molecular Biology Adam Mickiewicz University, Dept. of Human Molecular Genetics, Poznań, Poland, 3Poznan University of Medical Sciences, Dept. of Urology, Poznań, Poland

INTRODUCTION & OBJECTIVES: Renal cell carcinoma (RCC) is the most common type of kidney cancer that accounts for 2% of the world total of all adult malignancies. Its most frequent histological subtype—clear cell renal cell carcinoma (ccRCC)—constitutes 75% of all kidney tumors with 209,000 new cases per year worldwide. We provide a comprehensive summary of available ccRCC microarray data in the form of meta-analysis of genes differentially regulated in tumors as compared to healthy tissue, using effect size to measure the strength of a relationship between the disease and gene expression.

MATERIAL & METHODS: Twelve Affymetrix microarray studies of biopsy confirmed, primary ccRCC samples with TNM (tumor, nodes, metastases) staging, Fuhrman grade, or WHO (World Health Organization) classification were included. The data, in the FLEO (Feature-Level Extraction Output) format, were obtained from ArrayExpress (http://www.ebi.ac.uk/arrayexpress/) and Gene Expression Omnibus (http://www.ncbi.nlm.nih.gov/geo/). Arrays were normalized using the RMA (Robust Multichip Average) method. Eight studies fulfilled inclusion criteria and 222 tumor and 85 control samples were subjected to the analysis. For each array type, the probes were mapped to version 14 Unigene gene identifiers. In addition tumors were collected from patients from Western Poland who were diagnosed with kidney tumor. The tissues were histopathologically verified as ccRCC and screened for VHL (von Hippel-Lindau tumor suppressor, E3 ubiquitin protein ligase) mutations, promoter methylation, expression of VHL, HIF1A (hypoxia inducible factor 1, alpha subunit) and EPAS1 (endothelial PAS domain protein 1), and LOH (loss of heterozygosity).

RESULTS: We identified 725 differentially regulated genes, with a number of interesting targets, such as TMEM213 (transmembrane protein 213), SMIM5 (small integral membrane protein 5), or ATPases: ATP6V0A4 (ATPase, H+ transporting, lysosomal V0 subunit a4) and ATP6V1G3 (ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G3), of which limited or no information is available in terms of their function in ccRCC pathology. Downregulated genes tended to represent pathways related to tissue remodeling, blood clotting, vasodilatation, and energy metabolism, while upregulated genes were classified into pathways generally deregulated in cancers: immune system response, inflammatory response, angiogenesis, and apoptosis. 115 deregulated genes were included in network analysis, with EGLN3 (egl-9 family hypoxia-inducible factor 3), AP-2 (transcription factor AP-2 alpha), NR3C1 (nuclear receptor subfamily 3, group C, member 1), HIF1A, and EPAS1 (gene encoding HIF2-α protein) as points of functional convergence, but, interestingly, 610 genes fail previously identified molecular networks. Furthermore, we validated the expression of 14 top deregulated genes in independent sample set of 32 ccRCC tumors by qPCR (quantitative polymerase chain reaction) and tested if it could serve as a marker of disease progression. We found a correlation of high fucosyltransferase 11 (FUT11) expression with non-symptomatic course of the disease.

CONCLUSIONS: FUT11’s expression might be potentially used as a biomarker of disease progression.

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C228: The influence of histopathological factors in postoperative material on response to treatment with TKI and mTOR inhibitors in mRCC patients

Huszno J., Nowara E.

Maria Skłodowska-curie Memorial Cancer Centre And Institute Of Oncology, Gliwice Branch, Dept. of Clinical and Experimental Oncology, Gliwice, Poland

INTRODUCTION & OBJECTIVES: Renal cell carcinoma (RCC) represents 2-3% of all cancer. Factors influencing prognosis can be classified into: anatomical, histological and clinical. Anatomical factors include tumor size, venous invasion, renal capsule invasion, adrenal involvement, and lymph node and distant metastasis. Histological factors include Fuhrman grade, RCC subtype, sarcomatoid features, microvascular invasion, tumor necrosis, and invasion of the collecting system. Clinical factors include patient performance status, general symptoms, cachexia, anaemia, and blood count. The aim of this study was to evaluate the influence of clinicohistopathological factors on treatment response (complete response + partial response + stable disease) for metastatic renal cell carcinoma (mRCC) patient treated with interferon, TKI and mTOR inhibitors.

MATERIAL & METHODS: This study was conducted on medical records of mRCC patients who received first line treatment with interferon (40 cases) or sunitinib (42 cases) and second line therapy with everolimus (13 cases). The tumor response was evaluated due to RECIST 1.0. scale. Anatomical, histological characteristics and clinical data were gathered from hospital records and pathology reports

RESULTS: In group treated with interferon therapy response was observed more often in patients with fever as the first symptom (80% vs. 32%) p=0.06. Other clinical factors did not influence treatment efficacy. Adrenal involvement (50% vs. 36%) p=0.413, tumor necrosis (57 % vs. 34%), lymph node metastasis (60% s. 35%) and higher grade (50% vs. 35%) were insignificantly associated with better response. Other histopathological factors did not influenced therapy response. In sunitinib group response was observed more frequently in patients with lower grade tumors (G<2) then in tumors with higher grade (G>2) (68% s. 33%), p=0.127. Similarly, response was detected in tumors with necrosis (86% vs. 66%), p=0.208, adrenal involvement (100% vs. 71%), p=0.117, without adiposae tissue infiltration (82% vs. 58%), p=0.261 and without lymph nodes metastases (78% vs. 50%), p=0.186. In contrary, in group who received everolimus better response was detected in patients with higher tumor size (50% vs. 22%), p=0.353 and with lymph nodes metastases (67% vs. 40%), p=0.06.

CONCLUSIONS: Sunitinib seems to be more effective in group with locally advanced and lower grade tumors. In contrary, everolimus group tend to had better response in more advanced stage at the baseline. Symptoms before therapy influenced treatment response only in interferon group. This results require confirmation in a larger group of patients.

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C229: Treatment of renal cell carcinoma with tumor thrombus in vena cava inferior-own experiences

Różański W.¹, Markowski M.¹, Wrona M.¹, Lipiński P.¹, Lipiński M.¹, Stelągowski M.²

¹Medical University Of Lodz, Dept. of Urology, Lodz, Poland, ²Copernicus Memorial Hospital In Lodz, Dept. of General and Vascular Surgery, Lodz, Poland

INTRODUCTION & OBJECTIVES: Renal cell carcinoma (RCC) with tumor thrombus in vena cava inferior (IVC) is a serious therapeutical problem. The decision about the operation is very often difficult to make, because operating procedure is complicated. The aim of this study is to present experiences in treatment of RCC with tumor thrombus.

MATERIAL & METHODS: Between February 2014 and May 2014 in II Clinic of Urology, Medical University of Lodz, Poland have been operated 3 patients with RCC with tumor thrombus in vena cava inferior. First patient, 71 years old man with RCC 7 cm in diameter and 5 cm tumor thrombus in IVC. Second patient, 77 years old man with enormous RCC in standard CT there was no possibility to precisely described the length of tumor thrombus in IVC. Third patient, 65 old man, with RCC 7 cm in diameter with 7 cm in length tumor thrombus in IVC. All patients before admission to the hospital had CT scan and chest X-ray there were no signs of distant metastases. To every operation were prepared 10 unit of blood concentrate and 10 units of fresh frozen plasma. All patients were operated by transperitoneal approach. After resection of kidney with RCC the next step of the operation was the clear IVS from tumor thrombus. In one case there was only incision of IVC with removing of tumor thrombus and in 2 vases there were need to insert vascular prosthesis. During the operation and postoperation period there was necessity of blood and plasma transfusion – in average it were 3 blood units and 2 plasma units. There were not postoperative complications. All patients were discharged from hospital in good general condition. Medium stay in hospital was 13 days (the ranged was from 12 to 14 days).

RESULTS: All patients up to present day are under control in outpatients clinic. In one patient there are symptoms of distant metastases in lung. In other two cases there is no evidence of progression of neoplasmatic progress.

CONCLUSIONS: Operation procedure in case of renal cell carcinoma with tumor thrombus in vena cava inferior is still not everyday operation. The result of CT scan very often can be discouraging for a surgeon. Operation is very demandable of skills and technique. Also it is an operation with high risk of complication for the patients. But as our experiences show it can the lifesaving procedure and is patients last hope.

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C230: Prognostic factors of overall survival in renal cancer patients – single oncological center study

Drewniak T.¹, Sandheim M.², Jakubowski J.¹, Juszczak K.Z.³, Stelmach A.W.⁴, Maciukiewicz P.¹

¹Memorial Rydygier Hospital, Dept. of Urology, Cracow, Poland, ²Narutowicz Memorial Municipal Hospital, Dept. of Urology, Cracow, Poland, ³Memorial Rydygier Hospital / Jagiellonian University Medical College, Dept. of Urology / Dept. of Pathophysiology, Cracow, Poland, ⁴Institute of Oncology, Maria Sklodowska-Curie Memorial Cancer Centre, Dept. of Oncological Urology, Cracow, Poland

INTRODUCTION & OBJECTIVES: The clinical course of renal cancer remains difficult to predict. Attempts of appointing new Independent Prognostic Factors (IPFs) and comparisons of already identified ones among populations are inevitable to develop more effective prognostic instruments. The aim of the study was to evaluate IPFs of overall survival in given population of patients with renal cancer.

MATERIAL & METHODS: Retrospective analysis of 148 patients with renal cancer treated at the Oncological Institute in Cracow in years 2000 – 2007 was performed. Mean follow-up was 51 months. Using the log-rang test a group of clinicopathological and biochemical features was analyzed in respect to their influence on overall survival. Results were presented as Kaplan-Meier curves. Final identification of IPFs was made by multivariate Cox’ regression analysis.

RESULTS: Overall survival rate at 1-, 2- and 5 years of follow-up was 58.8%, 38.2% and 21.4%, respectively. The set of identified IPFs consisted of performance status, smoking history, hemoglobin concentration, anatomical staging, tumor grade and the presence of microvascular invasion. It was confirmed that only nephrectomy increases significantly overall survival.

CONCLUSIONS: Apart from smoking history, the role of all other IPFs identified in our study is well documented in the literature. Smoking history seems to be new IPF with strong negative impact on survival in patients with RCC.

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**C231: Transperitoneal laparoscopic radical nephrectomy for renal cell carcinoma during pregnancy**

Lisowska J., Gronostaj K., Golabek T., Czech A.K., Gawlas W., Dybala M., Wiatr T., Hessel T., Przydacz M., Prof. Chlosta P.

Collegium Medicum of the Jagiellonian University, Dept. of Urology, Cracow, Poland

**INTRODUCTION & OBJECTIVES:** Renal cancer accounts for nearly 3% of all malignancies among adults. Its diagnosis in pregnancy, however, remains extremely unusual and rare. The classical and laparoscopic surgical treatments carry high risk of complications for both mother and foetus. Aim: To assess outcomes of laparoscopic radical nephrectomy for treatment of renal cancer during the second trimester of pregnancy.

**MATERIAL & METHODS:** A 38-year old pregnant woman at 16 weeks’ gestation following IVF, was admitted to urology ward with right kidney tumour found on ultrasound during the first trimester. Subsequent MRI confirmed solid-cystic mass (113x80x90mm). No associated lymphadenopathy or renal vein tumour thrombus were detected. Laparoscopic transperitoneal nephrectomy, under the general anaesthesia and in left lateral decubitus position, was performed. Uncomplicated access route was secured via minilaparotomy. Intra-abdominal CO$_2$ pressure was maintained at 12mmHg. Specimen was extirpated from body cavity through extended camera port using endobag. Enlarged uterus was visualized but did not impede the procedure.

**RESULTS:** Operative time was 90 minutes and associated blood loss was minimal (50mls). Patient required 10-day hospital stay. Catheterisation time was 3 days. Histology revealed features consistent with Fuhrman grade 4 clear cell carcinoma at pT3a tumour stage. Further postoperative course of pregnancy remained uneventful until 33 weeks’ gestation when, due to mother’s bradycardia, emergency Caesarean section was required. Healthy baby (Apgar score 10), was successfully delivered.

**CONCLUSIONS:** This case illustrates that laparoscopic radical nephrectomy, can be safe and effective treatment of renal cancer during pregnancy. The multidisciplinary team approach, requiring inputs from urologists, obstetricians, anaesthesiologists and radiologists, is necessary.

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C232: Prediction of complications after radiofrequency ablation of small renal carcinomas

Lesniak O., Dobrovolskiy V., Grytsyna Y., Stroy A., Banyra O.

1Clinical Municipal Communal Emergency Hospital, Dept. of Urology, Lviv, Ukraine, 2Khmelnitsky Central Regional Hospital, Dept. of Urology, Khmelnytsky, Ukraine, 3Lviv Railway Clinical Hospital, Dept. of Endourology, Lviv, Ukraine, 4Danylo Halytsky Lviv National Medical University, Dept. of Urology, Lviv, Ukraine, 52nd Municipal Polyclinic, St. Paraskeva Medical Centre, Dept. of Surgery, Lviv, Ukraine

INTRODUCTION & OBJECTIVES: Whenever possible, partial nephrectomy is a main treatment of small renal carcinomas. However in unfit patients radiofrequency ablation (RFA) can be used to destroy the tumour by high-energy radiowaves. Traditionally tumours located at the hilum renalis or central collecting system are not recommended for RFA as well as cases with irreversible coagulopathies. Damage of collecting system followed by urine leakage is a serious complication that often required changing of treatment strategy. Patients should be carefully selected to exclude cases with high probability of adverse events.

MATERIAL & METHODS: We analyzed complications of RFA in 34 patients (pts) with mean age 66.6 ± 5.2 years old. Tumour size ranged from 1.8 to 4.0 cm. By computerized tomography preoperatively we measured distance between tumour edge and collecting system that ranged 2-17 mm. Before procedures biopsies were made. RFA was performed by open access under ultrasound guidance.

RESULTS: During RFA performing in 2 (5.9%) pts the kidney collecting system was damaged with urine leakage as a consequence. Complications were managed by intraureteral stenting and patient’s own fat placing into tumour bed. The distance between tumour edge and collecting system in that cases was 2 mm and 4 mm. Anyone RFA case with distance from tumour to collecting system ≥ 5 mm was complicated. 3-year cancer-specific survival was 97.1%, 3-year overall survival – 73.5%.

CONCLUSIONS: In selected patients RFA is effective and safe option for small renal carcinomas treatment that achieves high cancer-specific survival rate. Probably the high efficacy let recommend RFA not only in unfit patients but in patients without serious comorbid conditions and/or advanced age too. The distance from tumour edge to collecting system < 5 mm may be considered as risk factor of RFA complications development.

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C233: Value of dynamic contrast-enhanced MRI in differentiation renal tumors

Havlová K.¹, Chocholatý M.¹, Lisý J.², Schmidt M.¹

¹Charles University, 2nd Faculty of Medicine and Motol University Hospital, Dept. of Urology, Prague, Czech Republic, ²Charles University, 2nd Faculty of Medicine and Motol University Hospital, Dept. of Radiology, Prague, Czech Republic

INTRODUCTION & OBJECTIVES: To assess whether evaluation of kidney tumors using Dynamic contrast-enhanced MRI (DCE-MRI) can predict the exact histological type of renal cell carcinoma.

MATERIAL & METHODS: From April 2010 to May 2014, we performed DCE-MRI in 110 patients with tumors of the kidney. All patients underwent radical nephrectomy or partial nephrectomy in the Department of Urology, 2nd Faculty of Medicine and University Hospital Motol. All examinations were performed on 1.5 T MRI Siemens. All patients were administered gadolinium contrast agent intravenously. Images were dynamic in T1/VIBE sequence (volumetric interpolated breath hold examination) and images were taken in the native, arterial, portal-venous and excretory phase. Signal intensity was measured in the region of the tumor in all phases. The results were compared with histological findings.

RESULTS: We found in 86 patients clear cell carcinoma, papillary carcinoma in 12, chromophobe in 2, oncocytoma in 6 and urothelial carcinoma in 4. In the native phase, we found a significant difference (p<0.05) in signal intensity between papillary (189.6±75.0), clear cell (136.8±26.8) and urothelial carcinoma (125±13.8). In the arterial phase, we found a significant difference (p<0.05) between oncocytoma (365.3±134.5) and other tumors (clear cell 269.2±89.4, papillary 229.3±87.3, urothelial 193.3±80.2), except chromophobe tumor (283.5±12). In venous and excretory phases, significant differences between tumors were not observed. In clear cell carcinoma, we found a significant difference between grade 4 vs. lower grades (p=0.044).

CONCLUSIONS: The results suggest that DCE MRI is able to differentiate oncocytoma from other histological variants of renal cell carcinoma in the arterial phase of DCE-MRI. More research is needed on more oncocytoma patients in particular.

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INTRODUCTION & OBJECTIVES: Recent decades radically changed treatment strategy for patients with renal tumors. Today, radical nephrectomy is widely replaced by organ-sparing surgery, which doesn’t differ in efficiency. Development, implementation and results of resection primarily depend on kidney function, so the objective of our study was to evaluate renal function, taking to account tumor size.

MATERIAL & METHODS: A retrospective analyses of 284 patients data aged 50 - 70 years (58 ± 5,1) with unilateral renal tumors. Patients with diabetes, hypertension and other diseases that may impact kidney function were excluded from the study. Serum creatinine levels were normal for the study group. Tumor size ranged from 10 to 214 mm (61,1 ± 36,5). GFR was determined by dynamic reno-scintigraphy and the amount of remaining functional parenchyma volume in affected kidney was calculated by the formula: 

\[ \text{RFPV} = \frac{1 - \left[ R_4 \times R_5 \times R_6 / 0,96 \times R_1 \times R_2 \times R_3 \right]}{0,96 \times R_1 \times R_2 \times R_3} \times 100\% \]

where \( R_1, R_2, R_3 \) – kidney width, length and thickness radius; \( R_4, R_5, R_6 \) – radius of tumor sizes located within the kidney. In order to assess the effect of the tumor on kidney function, patients were divided into four groups according to the stage of the disease: first group (T1a stage) included 86 (30,3%) patients, second (T1b) - 97 (34,1%), third (T2a) - 58 (20,4%), fourth (T2b) - 43 (15,1%) patients.

RESULTS: Statistically significant difference by age and gender in the groups of comparison was not found (\( p > 0.2 \)), but we established an inverse correlation between kidney function and the size of the tumor: larger the size – the function was lower. Index of GFR on the affected side in the first group was 45,6 ± 10,0 ml/min., second group - 41,9 ± 11,3 ml/min., third group - 38,0 ± 14,9 ml/minandfourthgroup - 27,7 ± 14,5 ml/min. Similarly, reduced the volume of functional renal parenchyma on the affected side: 91,5 ± 9,3%, 76,7 ± 11,4%, 50,2 ± 18,9% and 35,3 ± 24,1% respectively (\( p < 0.01 \)). Results indicating that T1 stage tumors don’t impact kidney functional status. However, the increase of tumor size higher than 7 cm, sharply reduced the rate of kidney function and the amount of remain functioning parenchyma volume, showing controversial thoughts on resection in those patients.

CONCLUSIONS: The analysis showed inverse correlation between tumor size and kidney function and with the amount of remain functioning parenchyma volume. T1 stage tumors don’t impact kidney function significantly, which is associated with compensatory hypertrophy mechanisms in unaffected parenchyma, but the subsequent increase of tumor size leads to substantial filtration rate and remain functioning parenchyma volume reduction <55%.
C235: High prevalence of malignant Bosniak III category cysts causing differential diagnostic problems

Kubik A.S.¹, Bata P.², Tarnoki A.D.², Tarnoki D.L.², Szendroi A.¹, Szasz M.², Poloskei G.², Fejer B.², Gyebnar J.², Kekesi D.², Berczi V.², Nyirady P.¹, Karlinger K.²

¹Semmelweis University, Dept. of Urology, Budapest, Hungary, ²Semmelweis University, Dept. of Radiology and Oncotherapy, Budapest, Hungary

INTRODUCTION & OBJECTIVES: Complex indeterminate Bosniak category III renal cystic masses are traditionally considered to be malignant in 50%. Our aim was to retrospectively evaluate its attenuation characteristics in multiphase CT and to determinate the incidence of malignancy based on hystological findings.

MATERIAL & METHODS: Quadriphasic multidetector computed tomography (CT) images of fourteen patients (mean age 46.6±22.5 years) with a radiologically detected Bosniak III category lesions were reviewed retrospectively and identified for analysis. All the lesions were surgically removed, and the incidence of malignancy, based on pathological results was determined, in addition, CT and histological findings were compared.

RESULTS: 57% of lesions were right-sided. Calcification was present in three lesions (21%). The mean largest diameter was 42.9±16.2 mm. All lesions were multilobulated and septated. Of the 14 removed lesions, 11 (79%) were malignant, and 3 (21%) were benign (one inflammated cyst including a nephrolith, one cystic nephroma and one atypical angiomyolipoma without fat content).

CONCLUSIONS: Our study demonstrated much higher prevalence of malignancy (79%) in radiologically detected Bosniak III category cysts, than it has been described before. Based on our results we could suggest to remove all the renal tumours considered to be Bosniak III cysts, because of the high risk for malignancy. Our results suggest that certain atypical benign lesions may mimic Bosniak category III cystic tumors yielding to a differential diagnostic dilemma.

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INTRODUCTION & OBJECTIVES: The Hippo (Salvador/Warts/Hippo) signaling pathway is an important growth control and tumor suppressor pathway that regulates stem cell functions and cell proliferation. The Hippo core is formed by a RASSFF1-activated MST2-LATS1 kinase cascade followed by inhibition of YAP1 transcription factor due to phosphorylation by active LATS1. Deregulation of Hippo pathway is associated with progression of various malignancies, however it has not been studied in clear-cell renal cell carcinoma (ccRCC) yet.

The aim of our study was to check the expression and cellular localization of Hippo core and effector proteins in clinical samples of ccRCC.

MATERIAL & METHODS: Tumor and surgical margin samples were collected from 63 ccRCC patients. Quantification of RASSF1A, MST2, LATS1 and YAP1 genes was checked by qPCR in all samples, immunohistochemical (IHC) localization and Western-blot semi-quantification of proteins were carried in samples of 12 patients. Molecular results were compared with patients' clinical data.

RESULTS: Increase expression of RASSF1A at mRNA and protein levels was observed in tumor samples (P < 0.05) in comparison to surgical margin biopsies. Significant decrease of LATS1 and MST2 levels in tumor samples was noted, with the noticed absence of selected proteins in poorly-developed specimens (Furmans’ III-IV). Increased mRNA and protein levels of YAP1 were observed in Furmans’ III-IV samples, however, IHC revealed no nuclear presence of YAP1 protein in any poorly-developed tumor cell.

CONCLUSIONS: We suggest the suppressor role of MST2 and LATS1 genes as well as oncogenic function of RASSF1A and YAP1 in ccRCC. Due to inactivation of Hippo core elements, the mysterious absence of YAP1 protein in tumor cells’ nuclei requires further analyzes.

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C237: Assessment of distal oncological and functional outcomes of nephron-sparing surgeries for solitary kidney tumours

Bogacki R., Życzkowski M., Marcinek M., Muskała B., Nowakowski K., Bryniarski P., Kaletka Z., Paradysz A.

Silesian Medical Academy, Dept. of Urology, Zabrze, Poland

INTRODUCTION & OBJECTIVES: Nephron sparing surgery is the approved therapeutic option for neoplastic kidney tumors. In case of a solitary kidney, it is obligatory. Aim of the study. The aim of the study was to assess oncological and functional outcomes of nephron-sparing surgery conducted for solitary kidney tumours.

MATERIAL & METHODS: NSS with no ischemia was performed in a group of 36 patients at the age of 38 to 83 years (average: 64) with a neoplastic tumor in a solitary kidney, operated between the years 1994-2014 in our center. Enucleation/excavation was done in 53% and resection of the renal parenchyma in 47%. The period of retrospective observation took between 12 and 240 months average 72 months. Overall and specific to RCC survival rates were measured. The influence of a preoperative GFR on the overall survival of patients was analysed as well as the influence of grading, age at the moment of the operation, sex and the size of the tumor on survival specific to RCC. Pre- and postoperative kidneys functions were measured, as well the influence of tumor size anf operative technic on the postoperative kidney function. The calculations were made by the programme STATISTICA10.

RESULTS: There was histopatological recognition of: carcinoma clarocellulare 89%, carcinoma papillare 8% and carcinoma chromophobicum 3%. Histological grading on the Fuhrman scale turned out as: G1- 16%, G2- 68%, G3-16%. The average tumor size was 3,9 cm(SD +/-2.37). 5 and 10 year survival specific to RCC turned out to be 85% and 40%, overall survival was found to be 81% and 35%. Postoperative GFR was <60 ml/min in 18 cases. We have allegeded a significant statistical difference between the GFR preoperative and postoperative (p<0.01). Two patients required dialysis after surgery. The difference in postoperative lost of GFR was relevantly higher p<0.001 in cases of resection of the renal parenchyma compared to enucleation.

CONCLUSIONS: Nephron-sparing surgery is an effective and safe therapeutic option in treating tumorous lesions of the solitary kidney. The significant decrease of eGFR values observed postoperatively did not influence the number of patients that required chronic dialysis. The type of NSS, and not the size of the tumour, is the prognostic factor of postoperative renal failure. In the case of solitary kidney tumours, tumour enucleation and avoiding resection of the renal parenchyma is preferred.

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The search for new prognostic factors for patients with ccRCC - new markers found

Klaczyk J.¹, Wierzbicki P.², Rybarczyk A.², Stanislawowski M.², Kowalczyk A.³, Kmiec Z.², Matuszewski M.¹

¹Medical University of Gdansk, Dept. of Urology, Gdansk, Poland, ²Medical University of Gdansk, Dept. of Histology, Gdansk, Poland, ³University of Varmia and Masuria, Dept. of Human Histology and Embryology, Olsztyn, Poland

INTRODUCTION & OBJECTIVES: Exploration of an apoptosis in cancer is one of the most important goals in medicine and science. One of the crucial issues is to clarify how the programmed cell death is omitted by cancer cells. Some studies suggest that FASL apoptotic signal may be transduced via FASR-RAF1-RASSF1A-MST2-LATS-YAP1-p73-PUMA to BAX protein in human cancer cell lines. Renal cell cancer (RCC) states for 3% of all neoplasmatic tumors in humans. Many (30%) of patients at the moment of diagnosis already have metastases in distant organs which makes prognosis very poor - the 5-year survival rate does not exceed 13%. That is why it is important to investigate possible mechanisms of development of metastases. During the study we have investigated expression of the mentioned group of genes as well as location of their proteins in RCC cells. The aim was to find the correlation between their activity and clinico-pathological data of the patients.

MATERIAL & METHODS: Paired tumor and macroscopically unchanged kidney fragments of 59 RCC patients were obtained during radical nephrectomy. Patients data: M/F=30/29, age: 64.2 ±11.4 (range 33-83), clear cell RCC, (ccRCC, n=39), oncocytoma (n=3), papillary RCC (n=11), metastasis from urothelial cancer (n=2), other (n=4). mRNA after isolation was reversibly transcripted and expression levels were measured using QPCR technique. Immunohistochemical (IHC) location of proteins was conducted using formalin-fixed, paraffin-embedded tissue fragments and the visualization was performed using DAB substrat. During the 24 months of the study the follow-up data was collected for 48 patients every 3 months they included ultrasound and CT. The medium follow up time was 12 months (range 4-24).

RESULTS: The metastasis was found in 8 of 32 ccRCC patients. We found increased expression of RASSF1A and PUMA genes in ccRCC tumor tissues in comparison to paired unchanged tissue (P <0.05). The follow-up data showed a strong connection between metastasis occurrence and Fuhrman scale ≥3 with the higher expression of RASSF1A, YAP1 and p73 (P <0.05). IHC results showed the higher occurrence of RASSF1A protein in cytoplasm of the metatstatic than in non-metastatic cells in ccRCC tumor specimens. We found no changes in genes expression levels in other than clear cell types of renal neoplasms.

CONCLUSIONS: We have found for the first time that RASSF1A, YAP1 and p73 may have some oncogenic role in the ccRCC, especially in patients with metastatic disease or having pathologic features of Fuhrman scale ≥3. Based on results we conclude that the further research and observations of this aspect is very promising.

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INTRODUCTION & OBJECTIVES: Epidemiological data has indicated the increase in detection of kidney tumors in recent years. It is probably bound to a better availability of imaging techniques. Despite this, some of the detected tumors are larger than 14 cm in diameter. Surprisingly palpable abdominal mass is not an alarming symptom for some patients and does not force them to seek medical help. Other symptoms of classic Virchow triad like flank pain, and gross haematuria are rare not always present. Paraneoplastic syndromes i.e. weight loss, hypertension, pyrexia or anaemia are often linked with other conditions. Discovering the large kidney tumor creates considerable challenge to the urologist. The infiltration of adjacent organs, presence of neoplasmatic thrombus in vena cava, or distant metastases might be found. All of these increase the perioperative risk. On the other hand, only surgical treatment gives the patient chance for cure.

The aim of this study is to analyze the result of surgical treatment in patients with very large (≥14 cm) kidney tumor and the as well as perioperative complications on the basis of own experience.

MATERIAL & METHODS: Between 2009 and 2013, 16 patients with kidney tumor ≥14 cm were operated in our department. The group consisted of 8 men and 8 women, aged 42-80. BMI was 20-38. On presentation 8/16 patients suffered from haematuria, weight loss and malaise. The remaining ones were asymptomatic. Lab tests did not revealed abnormal kidney parameters as well as low hemoglobin concentration. When done precisely, palpation revealed abdominal mass in all of the patients. Kidney tumors were diagnosed by ultrasound and confirmed by CT or MR imaging. In 50% of patients kidney mass extended into renal vein, while in 3 patients kidney cancer thrombus grossly extended into vena cava inferior below the diaphragm. Imaging modalities (CT /MR) indicted periortic lymph nodes suspicious for metastases in 8 patients. In 4 patients kidney tumor was the only finding. Radical nephrectomy including lymphadenectomy and adenalectomy was performed in all patients due to good performance status facilitating planning of the additional systemic therapy. Splenectomy was necessary in 5 cases.

RESULTS: Mean operation time was 2h 35’ (2h 15’-4 h), mean blood loss 900 ml (300-1800 ml). Blood transfusions were necessary in 7 patients because of hemoglobin level <8 g/dl. Mean hospital stay was 6 days (5-8). RCC pT2-pT3 was confirmed in 12 cases. T2 oncocytoma was diagnosed in 4 patients. Clinical and pathological T staging was completely concordant in all 16 cases. Lymph node metastases as well as tumor thrombus size were correctly assessed by imaging studies also in all cases. Urological and oncological care in all patients treated is continued in outpatient setting. During 6 months after nephrectomy 8 patients previously diagnosed with lymph node involvement required systemic therapy because of probable non radical lymphadenectomy. No additional treatment was needed in remaining patients.

CONCLUSIONS: In our opinion radical nephrectomy is the method of choice in the treatment of large renal tumors. Tumor size alone should not affect the qualification of the patient for surgery. Patients with large renal tumors should be treated in highly specialized centers. The removal of the tumor in disseminated disease is only justified in patients with condition suitable for targeted adjuvant treatment.

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C240: Laparoscopic partial nephrectomy: Perioperative results and analysis of complications

Schmidt M., Chocholatý M., Jarolím L., Veselý S., Havlová K., Babjuk M.
Charles University in Prague, 2nd Medical Faculty and Motol University Hospital, Dept. of Urology, Prague 5, Czech Republic

INTRODUCTION & OBJECTIVES: Evaluation of 7 years of experience with laparoscopic nephron-sparing surgery.

MATERIAL & METHODS: In period 4/2007 – 6/2014 laparoscopic partial nephrectomies for renal tumor T1-T2 has been performed in 135 patients. Initially small, extrarenal and easy accessible tumors were indicated for this procedure. Large, hilar and more complex tumors were treated with laparoscopy in last year. Even some details of surgical technique has been changed during this period, cold resection with scissors, without thermic instruments, with bipolar coagulation of margins and suture of parenchymal defect was used in all patients. Partial nephrectomy with ischemia was performed in 89 patients, selective clamping in 18 patients. Resection without ischemia was performed in 46 patients. Surgery for tumor of solitary kidney was performed in 8 patients, for bilateral tumor in 7 cases and for multifocal tumor in 3 patients. All patients were conventionally followed including regular postoperative CT scan or NMR. Perioperative complications, renal functions and oncological outcomes were collected and analyzed.

RESULTS: Average patient age was 60.6 years (24 – 88). Average tumor size was 28.5 mm (5 – 120). Calyceal system has been opened during resection in 8 patients. In 4 cases of them, pig tail catheter was inserted immediately. Average ischemia time was 17.0 min. (7 - 25) for complete ischemia group and 16.4 min. (7 - 26) for segmental ischemia group. On histopathology, clear cell carcinoma was confirmed in 88 patients (65%), papillary in 15 (11%), chromophobe in 3 (2%). In 29 patients benign tumor has been detected. Pathological stage was pT1a in 111 patients (82%), pT1b in 23 patients (17%) and pT2b in 1 patient. Final surgical margin was positive or unsure for cancer in 3 patients (2%). Local recurrence was observed in 3 patients (1 with positive margin). Open resection for treatment of recurrence was used in 2 of them, laparoscopic radical nephrectomy in 1 case. Distant metastases were detected in 1 patient 7 months after surgery. Overall complication rate (Clavien - Dindo III - V) was 6% (8 patients). Urinary secretion was present in 4 patients, ureteral stricture in 1 patient, thrombosis of renal artery in 1 patient, renal abscess in 1 patient and ischemic, non-functional kidney in 1 patient. Urinary fistula was treated with drainage and pig tail catheter insertion. Thrombosis of renal artery was successfully treated with catheterization and vascular metallic stent into renal artery branch. Nephrectomy for complications was inevitable in 3 patients. Median serum creatinine preoperatively and 3 months postoperatively were 0.96 and 0.85 mg/dl, respectively. Median glomerular filtration rate (MDRD) preoperatively and 3 months postoperatively was identical 1.14 ml/s. No patient with normal baseline serum creatinine undergoing elective laparoscopic partial nephrectomy had postoperative chronic renal insufficiency (serum creatinine more than 2 mg/dl). Overall and cancer specific survival was 100% at 5 years follow up (21 patients).

CONCLUSIONS: Laparoscopic partial nephrectomy is a safe and feasible surgical option in management of T1 renal masses with comparable oncological function outcomes compared to conventional open surgery. Minimally invasive techniques play an expanding role with improvement of postoperative course and cosmetic results. Complication rate is acceptable and it is decreasing with surgical experience.

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C241: MRNA expression of metalloproteinases (MMP-2, MMP-7 and MMP-9) and collagen type IV in renal clear cell carcinoma (RCC) - molecular markers of the neoplastic process

Smolenski W.1, Gozdzialska A.2, Jaskiewicz J.2, Drewniak T.1, Juszczak K.Z.3, Maciukiewicz P.1

1Memorial Rydygier Hospital, Dept. of Urology, Cracow, Poland, 2Andrzej Frycz Modrzewski Krakow University, Dept. of Biostructure and Physiopathology, Cracow, Poland, 3Memorial Rydygier Hospital / Jagiellonian University Medical College, Dept. of Urology / Dept. of Pathophysiology, Cracow, Poland

INTRODUCTION & OBJECTIVES: Renal clear cell carcinoma (RCC) is the most common malignant tumor of the kidney. A long, asymptomatic causes cancer is often detected at a very advanced clinical stages, which reduces the ability to cure the patient. The only effective treatment of RCC is the surgery. The decision to choose the type of surgery depends on the size, location of the tumor and the patient’s clinical condition. New prognostic factors are being searched. The factors that can help determine the quality to distinguish tumor tissue from normal tissue. Such factors may be metalloproteinases (MMPs). MMPs which are involved in angiogenesis and tumorigenesis, mainly are: MMP-2, MMP-3, MMP-7, MMP-9 and they catalyze the proteolysis of collagen type IV. This process is necessary for the film to break the continuity of the blood vessels, allowing the migration of vascular endothelial cells to the extracellular matrix. Aim of the study was to determine the expression of mRNA for collagen IV and mRNA expression for MMP-2, MMP-7 and MMP-9 as markers of tumor progression in RCC.

MATERIAL & METHODS: The study involved 49 patients whose histopathological examination confirmed the presence of RCC. The study was designed to evaluate the mRNA expression of MMP-2, MMP-7, MMP-9 and mRNA for collagen type IV in both the tumor renal cell of carcinoma tissue, and healthy kidneys derived from the same patient, using RT PCR.

RESULTS: Results showed a higher mRNA expression for MMP-2, MMP-7 and MMP-9 in the material derived from RCC tumor material in comparison to normal tissue derived from kidney taken from the same patient. These results may indicate the participation of MMP-2, MMP-7 and MMP-9 in the tumor growth. At the same time had significantly lower level of expression of mRNA for collagen type IV in RCC tumor tissue.

CONCLUSIONS: Increased expression of MMPs may be considered a new important prognostic factor, which significantly improves the quality of distinguishing tumor tissue from normal tissue, which will reduce the number of recurrences of cancer. MMPs may be considered as markers for distinguishing cancerous tissue from healthy. Histopathological diagnosis, supplemented by analysis of molecular diagnostics will enhance the RCC with the studies comparing the mRNA expression of MMPs in tumor changed in relation to healthy kidneys, which greatly increase the effectiveness of the assessment of margin changes.

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C242: Laparoscopic partial nephrectomy of multiple renal lesions

Macek P., Pesl M., Novak K., Hanus T.

General University Hospital and 1st Faculty of Medicine of Charles University, Dept. of Urology, Prague 2, Czech Republic

INTRODUCTION & OBJECTIVES: Laparoscopic partial nephrectomy (LPN) is one of the methods for treatment of renal lesions. Typically one lesion/tumor is present, however multiple lesions can be present and it may pose a dilemma if this can be managed by laparoscopic approach. We present short series of patients with multiple renal lesions treated by LPN.

MATERIAL & METHODS: Prospective data collection since 1/2013. All LPN are performed transperitoneally. Combination of no ischemia with short main or segmental artery clamping, cold scissors excision and V-loc renorrhaphy. The order of tumor resection is on surgeon’s discretion. CKD-EPI equation was used for glomerular filtration rate (GFR) assessment.

RESULTS: During the selected period, partial nephrectomy for solid renal lesions was performed in 73 patients, out of which 44 laparoscopically – of which 1 one-stage bilateral and 4 multiple unilateral. Multiple LPN consisted of 3 patients with 2 lesions (1x solitary kidney) and 1 patient with 5 lesions of one kidney. Medians for variables were: RENAL score was 5, PADUA score 7, C-index 4.2, size 23mm (range 13-30). According to preop GFR - 3 patients had chronic kidney disease (CKD) stage and 1x stage 3. Charleson comorbidity index (tumor not included) was 1x 2 and 3x 0. Two patients with double lesions had 1 lesion removed without and 1 with warm ischemia (WIT), 1 patient with solitary kidney had both lesions resected with no WIT. Patient with 5 lesions had 2 resected without WIT and remaining 3 lesions were removed during periods of WIT (8 and 10 mins). Medians were for WIT of all patients/tumors was 10 mins (range 8-14), for blood loss 325mls (range 100-400), OR time 180 mins (150-180). Postop complications according to Calvien-Dindo were grade 1 in two patients, median hospital stay was 7.5 days. Histology was – 5x renal carcinoma (R0), 1 complex benign cyst, and 5x oncocytoma (R0, 1 patient). Three months from surgery 3 patients had no change in CKD grade, 1 had one-grade (2→3) deterioration.

CONCLUSIONS: LPN for multiple renal lesions is feasible. It depends on lesion size and location. In order to minimize WIT it is advisable to combine no ischemia and WIT for individual tumors. Perioperative morbidity is similar to usual LPN and renal function change depends mostly on preoperative condition and comorbidities.

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C244: Nephron-sparing surgery in our current clinical setting: From guideline recommendation to practice

Nechifor-Boila I.A.¹, Borda A.², Loghin A.³, Gliga-Baubec E.³, Dorobat C.³, Martha O.¹, Malau O.⁴, Chiujudea A.⁴, Porav-Hodade D.¹, Catarig C.⁴, Golea O.⁴, Nedelcu S.⁴, Schwartz L.⁴, Boja R.⁴, Muntoi D.⁴, Uzun B.⁴, Golovei C.⁵, Maier A.⁴, Vida O.⁴, Chibelean C.¹

¹Targu-Mures University of Medicine and Pharmacy, Dept. of Urology, Targu-Mures, Romania, ²Targu-Mures University of Medicine and Pharmacy, Dept. of Histology, Targu-Mures, Romania, ³Targu-Mures County Hospital, Dept. of Radiology and Medical Imaging, Targu-Mures, Romania, ⁴Targu-Mures County Hospital, Dept. of Urology, Targu-Mures, Romania, ⁵Targu-Mures County Hospital, Dept. of Anesthesiology - Intensive Care, Targu-Mures, Romania

INTRODUCTION & OBJECTIVES: Nephron-sparing surgery (NSS) is the actual gold standard for treating renal clear cell carcinomas smaller than 7 cm (pT1), as long as the technique is clinically feasible. For tumors larger than 7 cm, NSS can also be an option as long as a clear resection is possible. However, in our actual clinical settings, several issues can limit patient addressability to this technique. We aim to present our experience with NSS, including the "drop-out" cases (potential NSS patients that failed to benefit from this technique).

MATERIAL & METHODS: We performed a retrospective registry-based study concerning all renal tumor patients operated at our department between 07.2011-06.2014. Using the clinical records, the clinical TNM staging and surgical indication were assessed (including CT scans for renal vessel anatomy, tumor topography and resectability). From the surgical records, the type of operation performed for each patient was noted. Using both clinical and consultation registries, we selected the patients that were both diagnosed and operated in our department in order to assess its addressability.

RESULTS: A total of 224 patients were diagnosed with renal tumors at our facility. Surgical treatment was applied to 194 renal tumor patients. Radical nephrectomy was the most common intervention (166 cases, 85.5%), followed by palliative nephrectomy in 16 cases (8.2%) and NSS in 12 cases (6.2%). For the radical nephrectomy patients, most were classified as T2 (n=90, 54.2%), 22 were T3 (13.2%), while 54 cases (32.5%) were T1. After analysis of the T1 drop-out causes, we found that NSS was not applied because of unfavourable tumor location (15 cases), abnormal and/or unfavorable vessels on CT (10 cases), insufficient experience with the technique and lack of materials (29 cases). After having analyzed the T2 cases, we concluded that 12 would also have been eligible for NSS but this was not performed mainly because of large collateral vessels (5 cases), insufficient experience (4 cases) and miscellaneous causes (3 cases).

CONCLUSIONS: NSS is an efficient technique with long-term results similar to those of radical nephrectomy as long as it is correctly applied. However, other secondary factors like the surgical experience of the surgical team and availability of certain materials can lead to more than necessary nephrectomies, with greater impact on the patient’s health.

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