of the bladder, and to analyze clinicopathological features and survival outcomes according to receptor expression.

**Material & Methods:** We evaluated the clinical data and tumor specimens of 139 patients with bladder cancer (BC). In addition, 72 samples of normal urothelium were included. Immunohistochemistry was performed using streptavidin-biotin peroxidase method, a monoclonal androgen receptor (AR), and an estrogen receptor-beta (ERbeta) antibody on paraffin-embedded tissue sections. Expression levels of each receptor were assessed by evaluating 500 tumor cells for each case and the percentage of positively-stained nuclei was recorded.

**Results:** None of the 58 male control cases showed any AR and ERbeta expression. Five (35.71%) of the 14 female control cases expressed ERbeta. Of the 139 patients with UCs, 71 (51.07%) expressed AR (62 male vs. 9 female; P = 0.413) and 44 (31.65%) (39 male vs. 5 female; P = 0.402) showed ERbeta expression (P < 0.001).

No significant relationship was found between ERbeta expression levels and tumor grades, and stages (P = 0.441; P = 0.247). AR expression was significantly lower in T2-tumors (21%) than in Ta-tumors (60%) and T1-tumors (80%) (P < 0.001). It was significantly higher in high-grade papillary UCs (64%) compared with high-grade papillary UCs (44%) and infiltrative high-grade UCs (17%) (P = 0.036; P < 0.001).

Data of 79 patients with noninvasive BC were eligible to present, with a median 29 months follow-up. AR expression level did not influence recurrence-free survival (RFS) and progression-free survival (PFS) (P = 0.09; P = 0.110). No significant association was found between ERbeta expression level and RFS (P = 0.253). PFS in patients with lower ERbeta-expressing tumors was significantly better than that in patients with higher ERbeta-expressing tumors (P = 0.035). Multivariate analysis confirmed this significant influence on PFS (P = 0.025).

**Conclusions:** Although ERbeta expression had no impact on histopathological tumor characteristics, decrease in its expression may be associated with better PFS rates in patients with noninvasive BC. Conversely, loss of AR expression was associated with higher grade UCs and invasive UCs, but had no prognostic effect on survival. Finally, sex-specific hormone receptors alone cannot be responsible for gender differences in BC rates because they were expressed in similar rates in both sexes.

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**Poster Session 5**

**NEPHROLITHIASIS I**

**Friday, 1 October, 15.10-16.50, Poster Room 1**

**S81**

**THE RANDOMIZED COMPARISON OF TWO DIFFERENT ENDOSCOPIC TECHNIQUES IN THE MANAGEMENT OF LARGE BLADDER STONES: TRANŞURETHRAL USE OF NEPHROSCOPE OR CYSTOSCOPE?**

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**Introduction & Objectives:** Endoscopic treatment of large bladder stones via cystoscope is still bothersome, and open cystolithotomy is the preferred method in many centers. To gain more insight into the endoscopic bladder stone management, we aimed to compare the transurethral use of nephroscope and cystoscope randomly.

**Material & Methods:** Forty-three male patients with bladder stones were randomized into two groups, to perform nephroscopic (group 1, n = 22) and cystoscopic (group 2, n = 21) stone fragmentation procedures transurethrally. Combined pneumatic/ultrasonic lithotripsy device was used in both groups to fragment the bladder stones.

**Results:** The mean stone size in group 1 and group 2 was 3.6 ± 1.3 cm and 3.5 ± 1.6 cm, respectively (p > 0.05). Stone fragments were removed completely in all of the patients, and the mean operation time was calculated as 48.2 ± 13.2 minutes in group 1 and 68.1 ± 22.7 minutes in group 2, with no intraoperative complications (p < 0.001). None of the patients developed urethral stricture disease in the early (postoperative third month) follow-up. Three patients with previously known urethral stricture disease have shown to have the same disease in the late (postoperative 14.4 ± 5.1 months) follow-up.

**Conclusions:** Treatment of large bladder stones by transurethrally placed nephroscope is a safe and effective treatment modality compared to endoscopic treatment via cystoscope. Nephroscope allows for use of larger forceps and facilitates collection of large stone fragments through its 24F sheath. It also prevents the need for open surgical procedures. The Clinic of Endourology and SWL, Military Medical Academy, Bulgaria, was founded in the year 2000 and is specialized in minimally invasive treatment methods of ureteral stone disease. The objective of this retrospective study is to identify the change in the treatment approach for patients with urolithiasis during the past 10 years in our clinic, specialized in endourological treatment of stone disease.

**S82**

**CURRENT TRENDS IN THE TREATMENT OF UROLITHIASIS: OUR 10 YEARS EXPERIENCE WITH ENDOSCOPIC AND MINIMALLY INVASIVE TREATMENT MODALITIES**

**Saltirov I., Petkov T., Petkova K., Military Medical Academy, Dept. of Urology and Nephrology, Sofia, Bulgaria**

**Introduction & Objectives:** Urinary lithiasis is one of most common urologic diseases and its prevalence in Bulgaria has been estimated at 10% to 12%. The introduction of minimally invasive treatment methods such as percutaneous nephrolithostomy (PCNL), ureteroscopy (URS) and extracorporeal shockwave lithotripsy (SWL) in the beginning of 1980 revolutionized the therapeutic approach to renal and ureteral calculi and dramatically reduced the need for open surgical procedures. The Clinic of Endourology and SWL, Military Medical Academy, Bulgaria, was founded in the year 2000 and is specialized in minimally invasive treatment methods of urinary stone disease. The objective of this retrospective study is to identify the change in the treatment approach for patients with urolithiasis during the past 10 years in our clinic, specialized in endourological treatment of stone disease.

**Material & Methods:** For a 10 year period (between January 2000 and December 2009), 6261 patients with urinary stone disease were treated in our department. 2296 patients had renal calculus and were treated with ESWL (1386 (60.4%) patients), PCNL (823 (35.8%) patients) and classic open pyelolithotomy (67 (3.8%) patients). Of all 3965 patients with ureteral calculus, 1961 (50%) were treated with SWL, 2344 (59.1%) – with ureteroscopy, 55 (1.38%) – with open ureterolithotomy and 5 (0.13%) – with laparoscopic ureterolithotomy. The mean age of patients with kidney and ureteral lithiasis was 47.5±12.2 years and 46.8±14.6 years, respectively. The mean stone size of renal calculus was 38.2±12.7 mm and of ureteral calculus – 8.9±4.7 mm.

**Results:** The overall success rate of the treatment of renal calculus with PCNL was 86.1%, with ESWL – 77.9% and with open surgery – 98.8%. The overall success rate of treatment of ureteral calculus with ESWL, URS and open and laparoscopic surgery was 76.7%, 87.8% and 100%, respectively. The overall complications rate for the treatment methods of renal calculus was 17.0% with the most common complications being severe haemorrhage (1.1%), postoperative fever (6.4%), severe renal colic (4.6%) and steinstrasse (4.8%). The overall complications rate in the treatment of ureteral calculus was 17.9% with macroscopic haematuria (5.9%), postoperative fever (3.4%) and severe renal colic (5.6%) being the most common one.

**Conclusions:** With the refinement in endoscopic instruments and techniques of intracorporeal lithotripsy during the last years, the number of endoscopic procedures is constantly increasing. Our priority during the last 10 years in the management of stone disease are endourologic and minimally invasive methods or combination of methods, which offer highly effective treatment, with low complications rates, minimal postoperative hospital stay and reduced cost.

**S83**

**URINE CYTOLGY TO EVALUATE URINARY UROTHELIAL DAMAGE OF SHOCK-WAVE LITHOTRIPSY**

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**Introduction & Objectives:** Prospective trial where urine cytology was used to detect the acute urothelial mucosal damage in patients who undergo extracorporeal shock-waves lithotripsy (SWL).

**Material & Methods:** The study included 48 consecutive patients (28 male,20 female) with mean age of 49.02 years (range:18-66) who were treated with SWL due renal stones(30 patients) or upper ureter stones (18 patients). The mean calculus diameter was 12.44 mm(range:5-20). Data on patients are shown in table 1. Urinary cytologic examinations were done for all patients immediately before and after SWL therapy and 10 days latter. The average numbers of transitional cells, red blood cells and mucocytes were counted under 40 magnification. Table 1: Demographic characteristics of patients with renal pelvis or ureter stones
Results: In overall patients the average numbers of transitional cells at the cytologic examinations done immediately before and after SWL therapy were 1.6 and 7.53 cell/field respectively (p=0.001). The increment in transitional cells at cytologic examination after SWL was significantly influenced only by number of shock waves applied (p=0.003). No muscle cell was detected in all cytologic examinations. The cytologic examinations which were done after 10 days of SWL therapy showed recovery of all cytologic abnormalities.

Conclusions: The acute increment in transitional cells after SWL is not clinically important and it is a temporary change. Urothelial lesion is limited to mucosal layer and there is no evidence of damage to basal membrane or deeper muscle layer. SWL safety on urothelial and muscular layer was demonstrated. However evaluation of larger series with use of other lithotriptors is necessary before reaching any definitive conclusions.

**S84 STONE DIRECTED ANTERGRADE PYELOGRAPHY USING BULL’S EYE METHOD IN PERCUTANEOUS NEPHROLITHOTOMY ACCESS**

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**Introduction & Objectives:** Whereas conventional percutaneous nephrolithotomy (PCNL) access using retrograde pyelography is effective, it is time consuming and needs lithotomy position and ureteral catheter insertion and some time the catheter dose not pass to the ureter due to ureteral angulations or obstruction and also ureteral catheterization may cause postoperative discomfort for the patient. Use of antegrade pyelography case the time and cost of procedure and patient discomfort and is applicable in the case of ureteral obstruction. Herein we present our experience in stone directed antegrade pyelography using bull’s eye method in PCNL access step by step.

**Material & Methods:** This technique was used for percutaneous retrieval of ureteral calculi in 37 patients. While patient in prone position bull’s eye method with fluoroscopic control in 30 and 90 degree plane was used to guide needle tip directly to stone. While the needle tip reached the target stone, injection of contrast material or air was done to visualized pelvicocalyceal system then the needle was reinserted in appropriate calyx for guide wire insertion and tract dilatation. In some calyceal or calyceal diverticular stones there was no need for reinsertion of needle and the primary stone directed needle puncture was also concise for definite access.

**Results:** In 150 patients PCNL was done using this access method in last two years. Try to achieve antegrade pyelogram was successful in all the cases, the primary needle puncture was in appropriate calyx for ultimate access in 64% of calyceal or calyceal diverticular stones (93 out of 110) and reinsertion of needle after antegrade pyelogram was necessary in 90% of renal pelvis stones (36 out of 40). Procedure was ended totally tubeless in 22% of patients (33 out of 150). Average radiation exposure time was 70 second., average operating time was 35 minutes. Overall stone free rate was 90%. Stone particle migration to ureter necessitating early post operative ureteral stent insertion was seen in 2% of patients (6 out of 150). Hemorrhages requiring a blood transfusion occurred in 4%. Prerenal fluid collection was detected in 6% in early post operative sonography but no febrile pyelonephritis was observed.

**Conclusions:** Use of stone directed antegrade pyelography using bull’s eye method in PCNL access is concise, effective and safe and decreases the time and cost of procedure and patient discomfort.

**S85 THE COMPARISON OF STONE RETRIEVAL DEVICES USED DURING URETEROSCOPIC MANAGEMENT OF URERET CALCULI IN TERMS OF EFFICIENCY, SAFETY, AND COST AFFECTIVITY**

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**Introduction & Objectives:** With the advances in endourology, ureterorenoscopy (URS) has been commonly performed treatment option for the management of ureter calculus in secondary and tertiary health centers. As well as the other endoscopic procedures, URS requires many surgical instruments in different steps of the procedure. Stone extraction represents the most decisive step in ureteroscopic procedures, URS requires many surgical instruments in different steps of the procedure. Stone extraction represents the most decisive step in ureteroscopic procedures, URS requires many surgical instruments in different steps of the procedure. Stone extraction represents the most decisive step in ureteroscopic procedures, URS requires many surgical instruments in different steps of the procedure.

**Material & Methods:** Between 2008 and 2010, 126 patients with ureter calculus were treated with URS by the same surgeon (AT). Basket catheter was used for stone retrieval in 48 patients (Group-1) in a tertiary teaching and research hospital. The other patients (n: 78, Group-2) were treated in a state hospital and a two-prong re-usable grasper was used for stone retrieval. For stone fragmentation, Ho-YAG laser was used for Group-1 and pneumatic lithotripter was used for Group-2. Operative and postoperative findings as well as operation time, complication rate, stone size and location, and cost affectivity of the stone retrieval were retrospectively compared.

**Results:** The stone sizes in both groups were similar (1.4±0.4, 1.3±0.4, respectively (p=0.05). In Group-1 mean operation time was shorter than the time in Group-2 (p<0.05). Mean stone extraction time was 23.4±10.7, 39±10.2, respectively (p<0.05). No major complication was observed perioperatively. Entrapped basket was observed in Group-1 and managed with Ho-YAG laser successfully. Stone up migration to kidney was only noted in Group-2. And it was effectively managed with ESWL afterwards. The URS procedure was significantly cost effective in Group-2. While the cost of stone extraction per a case was 1035 in Group-1, it was 538 in Group-2 (p<0.0001). During a 6 moths follow-up no major or minor complication was observed.

**Conclusions:** The choice of stone extraction devices can greatly influence the efficacy, safety, length, and also cost effectiveness of the procedure. In the era of minimal invasive surgery, urologists should be informed about the functions, features and also the cost of the instruments.

**S86 ANTIBIOTIC PROPHYLAXIS DURING PNL FOR STAGHORN STONES: COMPARISON OF ONE-WEEK PREOPERATIVE TO ONE-SHOT INTRAOPERATIVE ANTIBIOTIC USE**

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**Introduction & Objectives:** To evaluate the effectiveness and safety of one-week oral use of antibiotics prior to Percutaneous Nephrolithotomy (PNL) for large stones when compared to one-shot intraoperative antibiotic coverage.

**Material & Methods:** Between November 2007 and October 2009 the medical records of patients that underwent PNL for partial of complete staghorn calculi were retrospectively reviewed. We have focused on the antibiotic prophylaxis these patients have received and the infectious complications they have suffered. More specifically we collected data on patients who received oral antibiotic prophylaxis for one week prior to PNL and compared them with data on patients who received antibiotics intraoperatively. We have recorded and compared high-grade fever development due to urinary tract infection and the incidence of urosepsis between the two groups. All patients had a negative urine culture prior to surgery while patients on both groups received antibiotics intravenously for 2 days postoperatively, except in cases requiring additional antibiotic coverage due to infection.

**Results:** During the study period, 112 patients fulfilled the criteria of our study. Thirty patients were identified to receive 500mg of ciprofloxacin per os twice a day for one week prior to PNL. These patients were compared with 82 patients who received a single dose of antibiotic (fluoroquinolones or aminopenicillin/BLI or 2nd generation cephalosporin) during induction to anesthesia. There was a tendency to more events in the group of patients who have received a short-term prophylaxis. Twenty patients (24.4%) developed fever >38°C and one suffered urosepsis. Of the patients who received one-week antibiotic coverage, 3 (10%) developed high-grade fever and none urosepsis. However this difference did not meet statistical significance (p=0.117).

**Conclusions:** In our study the administration of oral ciprofloxacin one week prior to PNL reduces the risk of UTI and urosepsis, although not statistically significantly. A randomized controlled trial enrolling adequate number of patients may enlighten the appropriate duration of antibiotic coverage.

**S87 PNL COMPLICATIONS CLASSIFIED ACCORDING TO THE MODIFIED CLAVIEN GRADING SYSTEM: AN ACADEMIC CENTER EXPERIENCE**

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**Introduction & Objectives:** The modified Clavien grading system has been widely used to classify perioperative complications. We used this system to grade the complications of Percutaneous Nephrolithotomy (PNL).

**Material & Methods:** For a period of 12 months (January 2009 - December 2009) our center has participated in a global database for the Clinical Research Office of the Endourological Society (CROES) enrolling patients that underwent PNL. In total, 114 patients were included, prospectively. PNL complications were classified into 5 grades, according to the modified Clavien system. Grade 1 defined all events that, if left untreated, would have a spontaneous resolution or needed a simple bedside intervention. Grade 2 complications required specific treatment, including antibiotics and blood transfusion. Grade 3 complications necessitated surgical, endoscopic, or radiologic intervention (3a without general anesthesia, 3b under general anesthesia). Neighboring organs injury and organ failures were classified as grade 4, and death was considered grade 5.

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