

residual calculi after percutaneous nephrolithotomy (PCNL). In 40 cases the ureteral access sheath (UAS) was used. All patients were given stent after the procedure.

Results: Success was defined as complete stone clearance or good fragmentation to 4 mm or less with plain film of kidneys used in follow-up. Operative time was 17–121 min with median of 58 min. The patients were divided in 3 groups by stone size (<10 mm, 11–20 mm and >21 mm). After one procedure of flexible URS 33 of 46 patients (71.7%) were stone-free (82.6%, 80%, 25% respectively in each group), after second procedure the stone-free rate rose to 84.8% (87%, 93.3% and 62.5% respectively). Operative time differs in groups with the median of 50, 66 and 97 min in each group. The surgeries had none to mild complications, including stent displacement in one patient and febrile reaction lasting for maximum 2 days in 4 patients (8.7%). There were no major complications.

Conclusions: Flexible URS is a safe procedure with high success rate in treatment of small to mid-size kidney stones of all locations and can be regarded as an alternative to ESWL, which has lower morbidity but lower success rate, and to PCNL, which morbidity and complication rate is higher, but is more successful especially in the treatment of larger stones.

C75

PNL in the treatment of staghorn calculi – a 15 years experience

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Introduction and Objectives: Although in the last 20 years the incidence of staghorn lithiasis in Romania decreased, especially because of a higher addressability of the patients, which allowed their cure in early stages, its treatment still represents a provocation for urologists. PNL, as unique method or in association with ESWL represents the most efficient treatment for the staghorn calculi.

Material and Methods: Between January 1994 – December 2008, 673 patients (411 men and 262 women), diagnosed with staghorn lithiasis were treated using PNL (in total 1055 procedures). The mean age was 43.4 (age between 24–67 years). 107 of the patients had bilateral staghorn lithiasis. In all the cases, the puncture was made under X-ray control. For dilatation we used Alken dilators and the Amplatz sheath was used in most of the cases (95%). For fragmentation we used ballistic and ultrasonic lithotripsy.

Results: The total success rate was 93.46%. In 391 cases the stone free status was achieved after a single procedure, 203 after 2 procedures, 58 after 3 procedures and 21 respectively 4 procedures. The complications rate was 11.58%. The most frequent were the infectious complications, followed by hemorrhagic complications (in 26 cases surgical treatment having been needed – 18 nephrectomies and 8 selective angiography with embolization). The urinary fistulae were present in 24 cases, being solved by JJ catheterization. The death rate was 1.04%. The death causes were: 3 – coronarian ischemia, 2 – stroke, 2 – sepsis.

Conclusions: We consider that PNL is the gold standard treatment method for staghorn lithiasis, by achieving the stone free status very quickly. Even if the complications rate is higher, their correct management assures the complete recovery of the patients.

C76

Forgotten double j catheters – a rare but challenging-to-treat pathology

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Introduction and Objectives: We want to report our experience in that domain, as a retrospective study of the last 15 years.

Material and Methods: After reviewing our surgical records for the above mentioned period, we have recorded 14 cases of forgotten catheters. Unintentionally indwelling period >12 month, that have induced the catheter retention. The section criteria were the retained stent a term that defines the catheters that are impossible to be removed using the usual cystoscopic method. The catheter incrustation was the responsible phenomena of the whole induced pathology: obstruction, infection and finally urosepsis. The main goal of the treatment was to achieve the stent and stone free status. From the cases mentioned above a number of 2 was represented by solitary kidney – the most challenging to treat cases.

Results: All the patients have been treated exclusively using endourological procedures and for some cases, ESWL was used in addition. From all the stents that we have to remove, 9 have been initially inserted in our department, the rest of 5 cases represent patients that have been admitted for the first time in our department with that particular pathology. For the inferior loop incrustation we have used the Punch lithotripsy, for the superior curl – PNL/ESWL and for the ureteral stoner rigid ureteroscopy with pneumatic-ballistic lithotripsy/ESWL.

Conclusions: Despite the well known major advantages of the autostatic stents, the ease of use and the increasing number of endourological procedures, there is a specific pathology that is developed due to that potentially situation. Patients have various levels of comprehension and education, but the ultimate responsibility lies on the urologist in charge. The most challenging cases to treat are represented by the patients with advanced renal failure with / without sepsis due a stent impaction on a single functional kidney. Those cases are the most challenging to treat and require a multidisciplinary approach: nephrologist, intensive care, radiologist and urologist.

C77

Percutaneous nephrolithotomy (PNL) in the treatment of lithiasis developed on congenital renoureteral abnormalities – The 12 year experience of the Clinic of Urology, “Prof. Dr. Th. Burghel” Clinical Hospital, Bucharest, Romania

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Introduction and Objectives: The lithiasis developed on congenital malformed kidney represents a special pathology because of the increased difficulty of the treatment and the postoperative evolution. The percutaneous nephrolithotomy represents the most efficient treatment method of this disease, having also the best report costs-benefits. The paper is based on a large data base covering 12 years.

Material and Methods: We included 97 patients in our study (43 women and 54 men) (mean age of 46.8 years) with urolithiasis on kidney with congenital abnormalities, which we treated using percutaneous nephrolithotomy between January 1997–December 2008. The evaluation of the method was performed by taking into account the following facts: the congenital malformation of the kidney (pyelocaliceal duplicity 35, malrotated kidney 21, horseshoe kidney 23, primary ureteropelvic junction obstruction 18) the type of stone (single 61, multiple lithiasis 22, staghorn 14) and the effects of

the lithiasis on the pyelocaliceal structure (no dilatation 25, hydronephrosis 50, hydrocalicosis 22).

Results: The rate of success of the method was 76.28%. Intraoperative complications (23 – 23.72%) consisted in: failure of puncture – 9 cases; important bleeding – 7 cases; remaining stone fragments – 7 cases. Postoperative complications (19 – 19.58%) were represented by: lumbar haematoma – 4, lumbar urinary fistula – 6 and acute pyelonephritis – 9.

Conclusions: Percutaneous nephrolithotomy represents an important treatment method for urolithiasis on congenital malformed kidney, effective with a correct preoperative evaluation and when is performed by an experienced surgeon.

C78

PNL on solitary kidney – a 10 years experience

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Introduction and Objectives: The treatment of the lithiasis developed on solitary kidney (congenital, surgical or functional) can be difficult, especially by the important postoperative complications (hemorrhage or infections), which can put in danger the patients' life. For the stones >15 mm in diameter, the PNL represent the main treatment method.

Material and Methods: Between January 1999 and June 2008, 143 patients with urolithiasys developed on unique kidney were treated using PNL. The stones dimensions were between 15 and 70 mm. At all the patients the puncture was fluoroscopic and the fragmentation was ballistic and using ultrasound (sonotrod).

Results: The general stone-free rate was 90.2%; 91 patients needed one PNL session. At 20 patients (all with stones >30 mm), 2 or more PNL sessions were necessary. At 28 patients, the treatment was completed using ESWL. The complications rate was 9.8 %, the 2 most important were bleeding and infections. No patient needed surgical treatment for hemorrhage. All the patients were checked at every 6 months (ultrasound examination and blood and urine samples). 24 patients developed new calculi, these being solved by PNL 10 and ESWL (with JJ stent) 14.

Conclusions: PNL represents, according to our experience the most efficient treatment method for calculi >15 mm. The lithiasis developed on unique kidney needs supplementary peri- and postoperative precautions and the postoperative evaluations must be very rigorous in order to prevent recidives.

C79

ESWL for treatment of lower pole caliceal stone

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Introduction and Objectives: Dornier Compact Delta is electromagnetic lithotripter designed with modules. ESWL makes it possible to treat most patients suffering from this disease, minimizing complications and side effects of treatment. The localisation of calculus is done with ultrasound and XR imaging. The goal of stone treatment is to use a less morbid, minimally invasive and effective modality.

Optimal treatment of lower pole caliceal stone still controversial. The aim of our study was to determine the efficacy and safe of ESWL in patients with lower pole caliceal stone.

Material and Methods: We retrospectively analysed the charts and radiology films of patients who had ESWL for lower pole caliceal stone. For ESWL we use Dornier Compact Delta Lithotripter D. After the lithotripsy we followed patients at one and at three month and thereafter according to stone receding to stone residu. To the patients was given diclofenac supp. 20 min priory to treatment, for pain control during shock wave lithotripsy was given sedo-analgesia. The procedure was done

with ultrasound, the patient in the supine position and no more than 3000 shock wave were delivered, 60 shots per minute were applied using the maximal level of energy. Two hours after the procedure, the patients were released home. After ESWL combined with oral hydratation plus 12 degree inversion.

Results: Between April 2004 and June 2009, 267 patients (128 males and 139 females) were treated with ESWL because of lower caliceal stone large 6–25 mm. The mean age male of patients was 38.74 (from 8 to 64) females 40.27 (from 16 to 73) patients had stones in the lower caliceal stone. The average stone-free after single treatments 124, after second 34 after third 14, after fourth 4. The time between two season one month. In 9 patients ESWL failed. Complications haemathoma occur in one cases, clinical uroinfect occurred in 3 patients.

Conclusions: ESWL appears to be an effective first-line treatment for lower pole caliceal stone. Our results showing good results in fragmentation and clearance of the stones in lower caliceal stone low adverse effects. Patients with SWPL greater than 100 mm are more likely to fail treatment.

C80

Results of ESWL treatment for residual stones after primary PNL approach in struvite staghorn lithiasis

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Introduction and Objectives: Multiple renal access tracts may increase the morbidity of PNL treatment in staghorn lithiasis. For this reason, PNL followed by ESWL, for residual stones is a recommended treatment method in staghorn lithiasis. The aim of our study was to determine if ESWL treatment for residual struvite stones, after primary PNL approach is associated with significant stone free rate, justifying this combined therapy.

Material and Methods: Over a period of six years, a number of 157 struvite staghorn calculi were treated in our hospital. The stones were either complete or had only one empty caliceal group (type A and type B in Moores-O'Boyle classification). First line treatment was PNL. For residual stones, defined as fragments larger than 5 mm, ESWL was used as combined approach. Failure of ESWL was followed by second PNL, the so-called sandwich therapy. The stone free rates associated with combined approach (PNL+ESWL) and those associated with sandwich therapy (PNL+ESWL+PNL) were determined. Complication rates associated with the first and second PNL were registered separately.

Results: 26 patients were stone free after a single PNL tract access. Single session multi-tract PNL was used in 82 patients to obtain the stone free status. Single session PNL was associated with a stone free rate of 69% (108 patients). In the remaining 49 cases, the nephrostomy tube was left in place and ESWL was used for residual stones treatment. At least two ESWL treatment sessions were performed. The size of residual stones vary between 0.9 cm and 1.8 cm. 29 stones were placed in the upper pole and the rest in the middle calyx. In 6 cases the stone free status was achieved following ESWL, meaning a stone free rate of this combined approach (PNL+ESWL) of 72.5%. ESWL increased the overall stone free rate with 3.5%. A second session PNL was performed for the remaining 43 patients, the method being successful in 21 patients. The second PNL increased the overall stone free rate with 13% up to 82%. The overall stone free rate of the sandwich therapy was 86%. Complication rates associated with the second PNL were insignificant.

Conclusions: Results of ESWL treatment for residual stones after primary PNL approach in struvite staghorn lithiasis are disappointing. When compared with second PNL treatment approach, ESWL treatment for residual struvite stones, after