

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 urolithiasis 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