GUA-46 Choice of the method of draining the urinary tract in residual stones after percutaneous nephrolithomy in children

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Background: To date, percutaneous nephrolithotomy (PCNLT) is the method of choice in patients with urolithiasis. This method has proven to be completely safe and effective in treating children with nephrolithiasis. However, in some cases, for various reasons, it is not possible using the endoscopic method to completely rid the patient of calculi located in the kidney cavities. The presence of residual stones does not allow removal of nephrostomy drainage, which is the cause of nosocomial infection. The aim of the study was to evaluate the treatment of children with residual stones in the pyelocaliceal system after PCNLT, depending on the method of decompression of the upper urinary tract.
Methods: The retrospectively evaluated results of treatment of 46 patients aged 4 to 16 years who underwent PCNLT for coral and multiple stones from 2012 to 2018. Stones of the pyelocaliceal system were revealed using multispiral computed tomography. The average stone size was 2.9 ± 0.3 cm.
Results: According to ultrasonography and survey urography, residual stones were detected in 12 (26%) children. Patients were divided into two groups: A- drainage of the kidney cavities was carried out using nephrostomy drainage established during PCNLT (n = 8); B- upper urinary tract decompression was performed using an internal ureteral stent (n = 4). The average size of the residual stones was 1.4 ± 0.2 cm, they were located in the calyces. All patients underwent extracorporeal shock wave lithotripsy. In group A, the stone fragments completely receded within 30.4 ± 6.7 days. During this period, three patients were forced to re-establish nephrostoma due to obstruction of the ureter with fragments of stones and exacerbation of pyelonephritis. Pyuria and bacteriuria persisted in all patients, which required the use of antibiotics for a long period of time. In group B, the state of stone free was detected at 15.8 ± 3.6 days after distance lithotripsy. In no case was an exacerbation of a urinary tract infection. Minor pyuria is easily eliminated by the use of uroseptics. Moreover, the child felt quite comfortable, easily walked and behaved actively.
Conclusions: In the presence of clinically significant residual stones after PCNLT, it is advisable to use the internal ureteral stent for decompression of the upper urinary tract, preventing them from moving to the supravesical section, which avoids various complications. Moreover, in order to rid the patient of residual fragments, extracorporeal shock wave lithotripsy can be used at any time after surgery.

GUA-47 Extracorporeal shock-wave lithotripsy for renal colic in children

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Background: As a rule, stones resided in ureter, are a cause of acute supravesical obstruction which leads to a renal colic and troubles children very much, demanding its urgent removal. At the same time various complications are developing, including depression of the renal function and exacerbation of urinary tract infection that may be a cause of sepsis. At present there is no generally accepted opinion in the respect of optimal method of treatment in acute ureteral obstruction in pediatric patients; moreover, we did not find literature with the results of extracorporeal shock wave lithotripsy (ESWL) use.
Materials and methods: From January 2015 to November 2018 ESWL was performed on an emergency basis to 124 children with renal colic which could not be treated with non-steroidal anti-inflammatory drugs or recurred repeatedly during 24 hours. Mean age was 9.5 ± 1.6, 83 were boys and 41 – girls. Intravenous urography was done only in the cases when there were doubts in stone size and level of its situation according to the plain urography. Before ESWL children's parents were informed about the method and its complications and possible manipulations in the urinary tract if necessary (ureteral stenting, endoscopic removal of stone fragments) or repeated lithotripsy.
Results: Ambulant help was rendered to 21 patients; 103 patients were hospitalized for 1 day. Stone size more than 10 mm (mean size 14.2 ± 0.8 mm) was revealed in 48 patients. In 76 cases maximum stone size was less than 10 mm (mean size 6.3 ± 0.6 mm). Stones were situated in the projection of pelvic, iliac and lumbar ureter in 81 (66%), 15 (12%) and 28 (23%), correspondingly. The better results were shown by patients with the stones resided in the pelvic (including intramural) ureter. In 87% of the cases a size of the stones was less than 10 mm. Stone fragments began to pass during the first two days after ESWL and 69 patients were stone free to the end of the second day. The remaining 12 patients became stone free during 4 days after lithotripsy. When stones were situated in the mid or upper part of the ureter, they passed completely only in 9 patients and to the end of the 5th day in 6 children. As a rule, those children had stones of the size more than 10 mm (n = 38). They became stone free completely to the end of the seventh day of follow-up. There were no any significant complications after ESWL.
Conclusion: Emergency ESWL is the most optimal method of treatment in urethral stones and allows to deliver a child from suffering in short terms. The advantages are available: there is no need in long-term treatment with anti-inflammatory drugs and protracted hospitalization. Choice of treatment should be co-ordinate with a patient's parents who must have at their disposal a complete and reliable information of advantages and shortcomings of any low-invasive method and its possible complications.

GUA-48 Infectious and inflammatory complications (IIC) in patients undergoing radical cystectomy with various urinary diversion options

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Background: About 300 cases of bladder cancer (BC) are reported annually with half of them being muscle invasive BC (MIBC). Radical cystectomy (RCE) with different methods of urinary diversion is the only radical treatment of MIBC. However, it is associated with high rate of perioperative infection complications (IC).
Materials and methods: Total of 221 (100%) RCE with different methods of urinary diversion were performed in the oncourology department in years 2008–2016. There were 209 men (94.6%) and 12 women (5.4%). Average age of patients was 61.2 years (35–79). 14 (6.4%) patients were in stage $pT_1N_0M_0$, 141 (64%) – $pT_2N_{0-3}M_{0-1}$, 39 (17.7%) and 27 (12.3%) in stages $pT_3N_{0-3}M_0$ and $pT_4N_{0-3}M_0$ respectively. Bricker's urinary diversion was performed in 54 patients (24.4%), modified Hautmann ileocystoplasty – in 107 (48.4%) and 60 (27.2%) patients underwent ureterocutaneostomy. Urine bacteriological analysis was performed preoperatively in all patients. No growth was detected in 164 (74%) patients; *E. coli* was isolated in 24 (11%) patients, *Klebsiella* spp. – in 8 (3.6%), *P. aeruginosa* – in 9 (4.2%) and *Candida* spp. – in 16 (7.2%) patients.
Charlson's comorbidity index (CCI) was estimated using a standard online calculator.165 (74.6%) patients had CCI scores of 3 to 6, and 56

(25.4%) – 7–10. Frequency and nature of postoperative complications were assessed by Clavien-Dindo classification, preoperative urinary tract infection (UTI), CCI score and method of urinary diversion.
Results: Patient distribution with IIC in accordance with the Clavien-Dindo classification is presented in Table 1.

Table 1

Complications	Grade I	Grade II	Grade				Grade V
			IIIa	IIIb	IVa	IVb	
Surgical site infection (SSI)	–	7(3.16%)	–	–	–	–	–
Abscess	–	–	2(0.9%)	–	–	–	–
UTI	–	23(10.4%)	–	–	2(0.9%)	1(0.45%)	–
Acute Coronary Insufficiency	–	–	–	–	–	–	2(0.9%)
Pulmonary Thromboembolism	–	–	–	–	–	–	6(2.71%)
Multiple Organ Failure (MOF)	–	–	–	–	–	–	8(3.62%)

Mortality rate in the early postoperative period (30 days) was 7.2% with IC being the main cause. SSI was observed in 7 cases. Two patients had abdominal and pelvic abscesses, which were drained using local anesthesia. UTI was diagnosed in 26 cases. In 3 cases the infection resulted in sepsis.
Analysis of IC ethiology in the early postoperative period revealed correlation between CCI score and the incidence of SSI and abdominal abscesses. The causal factors for the development and exacerbation of UTI in the early postoperative period included prior invasive urinary tract procedures and method of urinary diversion.
Conclusion: High CCI score (7–10) is one of the predictors of IC in the early postoperative period. Urinary diversion method also contributes to the UTI development. Intestinal reconstruction is acceptable in patients with low CCI score, because the incidence of IC is insignificant. Urine bacterial analysis in patients undergoing invasive procedures should be the integral part of preoperative period. The choice of antibacterial drug is carried out in accordance to microbiological results. This procedural complex reduces the incidence of UTI in the early postoperative period.

GUA-49 Holmium laser enucleation of the prostate: overview of our results after the first 14 months of acquisition

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Background: Benign prostatic hyperplasia (BPH) is one of the common diseases among older men, which in most cases causes infravesical obstruction and the development of lower urinary tract symptoms. According to the European Association of Urology, as well as the MEDLINE database, the prevalence of BPH is 60% among men aged 60 years and 80% among patients 80 years and older.
In the last decade, the treatment options for BPH patients have significantly expanded. Although, transurethral resection (TUR) of BPH is still considered the main standard of surgical intervention. As an alternative (TUR) of BPH have been introduced various methods, but laser technologies remain relevant especially for large volumes of BPH.
Methods and materials: Since July 2018, in our center, 93 patients have had surgery with using laser e.i., HOLEP with BPH. The volume was from 60 ml to 145 ml. Four patients interoperatively had only mucosal bladder damage without perforation of the wall itself. Postoperative complications such as hematuria were in 7 patients. For three of them required coagulation of the bleeding area of the BPH's capsule. In 2 patients was formed postoperative sclerosis of the bladder neck. The result of IPSS, QoL quality of life assessment and urodynamic data were compared before and after surgery.
Results: The international prostate symptom score (IPSS), residual urine volume and urination time (VT) decreased significantly, and the maximum urine flow rate (Qmax), average urine flow rate (Qave) and quality of life assessment (QoL) significantly increased in the postoperative period.
Thus, an analysis of the survey results based on the IPSS scale showed a significant decrease in the total score after surgery. Before surgery, the total score was from 9 to 33, and after surgery from 0 to 8 ($p < 0.0001$). The results of quality of life assessment associated with lower urinary tract symptoms before surgery ranged from 2 to 6 points, after surgery from 0 to 4, which indicates a significant increase in quality of life ($p < 0.0001$). The maximum urination rate before surgery was 7 ± 2 ml/sec, after the operation it significantly increased to 20 ± 7 ml/sec. There was also a significant increase in the average rate of urination, which was 4 ± 2 ml/sec before surgery and 12 ± 4 ml/sec after surgery.
As for the intra and postoperative complications and features during this period, the acquisition of experience to draw certain conclusions is considered premature. Nevertheless, our little experience shows that we fit into the data of international statistics.
Conclusions: Our results illustrate that HOLEP is an effective procedure of treatment for moderate to high volume BPH.

GUA-50 Our experience of treating intraurethral prostatic cysts by transurethral resection

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Background: Prostate cyst is a fairly rare disease and accounts for about 8–10% of cases. Detection of prostate cysts is mostly an accidental finding in urological practice. The reasons for the treatment of patients are symptoms such as: obstruction, dysuria, chronic pelvic pain, haemospermia, a feeling of incomplete bladder emptying, infertility, painful ejaculation, acute urinary retention and urinary tract infection.
Objective: The study of clinical diagnostic criteria and the finding of operational tactics in patients with prostate cysts.
Materials and methods: For the period from 2013 to 2018, in our clinic, prostatic cysts were diagnosed and subsequently underwent surgical treatment – 13 men aged 21 to 57 years who complained of difficulty in urinating (9 patients), feeling of incomplete bladder emptying (3 patients), chronic pelvic pain (1 patient). All patients underwent ultrasonography, transrectal ultrasonography TRUS, uroflowmetry, urethrocystoscopy and CT/MRI, according to which other urinary tract anomalies were not detected.
Results: Cysts were found from 2.0 to 4.7 cm in diameter, which were in the proximal prostatic urethra. Uroflowmetry data of patients showed obstruction with the following parameters: t – 53.1 ± 3.2 sec, Qmax – 9.1 ± 1.3 ml/s, Qmid – 6.2 ± 1.3 m/s, V – 224.4 ± 16.1 ml, R – 39.3 ml. The patient underwent transurethral electroresection of the cystic cavity with excision of the edges with taking tissue for a biopsy e.i. transurethral resection of the cyst with limited resection of the anterior prostatic tissue at the base of the cyst was performed. After resection the straw-colored liquid is exuded at opening the cavity of the cyst. A straw-colored liquid released after cyst resection at the opening of its cavity. Dynamic observations showed subjective improvement, disappearance of previous complaints. The data of urofloomery is significantly improved: t – 27.1 ± 3.2 sec, Qmax – 19.4 ± 1.3 ml/s, Qmid – 12.7 ± 1.3 ml/s, V – 231.3 ± 16, 2 ml, R – 12.4 ± 3.1 ml.