

**Conclusions:** Prostatic cysts are a rare disease that can cause obstruction of the lower urinary tract. In this regard, when identifying large-sized prostate cysts with obstructive symptoms, the optimal treatment method is transurethral resection, i.e., deroofting.

**GUA-51** Overview of our results about treatment of a complicated urinary tract infection as a calcified biofilms on the surface of bladder mucous

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**Background:** Urinary tract infection (UTI) is one of the most common diseases in urological practice. In the USA, UTI is the reason for admission to the hospital of more than 7 million patients yearly; in many cases, the most common reasons for hospitalizations is ineffective outpatient treatment of a large group of patients. A special category of UTI is complicated infections.

The cause of UTI complications often, besides foreign body, stones and abnormalities of the urinary tract is also catheters. Treatment of complicated UTI is sometimes long and ineffective.

Our experience shows that similarly to catheter-associated infections, often infected calcified biofilms are formed on the surface of bladder mucosa, which eventually becomes intimately knitted to the sub-mucosa, and sometimes to muscle wall of the bladder. In the history, as a rule, such patients had a prolonged catheterization of the bladder.

**Materials and methods:** Since 2010 to 2018, 32 patients with calcified biofilms on the surface of bladder mucosa were diagnosed in our clinic. Patients complained of dysuria, pain in the urogenital area, hematuria, and the ineffectiveness of antibiotic therapy. According to bacteriological urine culture, *E. Coli*, *Klebsiella* spp., *Pseudomonas* spp., *Proteus* spp., as well as mixed flora were identified as the most common disease-producing factors.

Diagnosis of infected calcified biofilms on the surface of bladder mucosa was based on anamnesis, urinalysis, urinary tract ultrasound, CT, and urethrocytostomy. The age of patients was 42–73 years. The area of the infected calcified biofilms on bladder mucosa ranged from 1.0–5.2 cm, visually resembling an infected soft calculus of light yellow color, which was intimately knitted to the submucous layer of the urinary bladder.

**Results:** All these patients underwent transurethral electroresection of the infected calcified biofilms on the surface of the bladder mucosa with a biopsy. 12 patients have recurrence of this disease repeatedly, for 8 of them was decided to divert urine by insertion of suprapubic cystostomy. After transurethral electroresection of the infected calcified biofilms on the surface of bladder mucosa, this group of patients for a long time underwent installation with antiseptic solution “Cyteal,” synthomycin emulsion and sea buckthorn oil through the cystostomy tube.

Further, we did not noticed recurrence in this group of patients. However, 3 patients, even after suprapubic cystostomy and conservative therapy had recurrence of the disease. These patients underwent percutaneous nephrostomy and subsequently transurethral electroresection and long-term conservative therapy (installation with antiseptic solution into the bladder). Only after these measures the recurrence of the disease did not occur. Drainage removal was performed on average 35 days after surgery. Biopsy results of all 32 patients showed the presence of an inflammatory-infiltrative and scar-sclerotic process.

**Conclusions:** The obtained data indicated that this is a rather complex category of patients requiring transurethral resection of the infected calcified biofilms from the bladder mucosa, often repeatedly, in some cases with urine diversion. After the surgery procedure in the

dynamics of the disease with antibacterial and anti-inflammatory therapy, all patients subjectively noted improvement and objective data improved according to urinalysis, ultrasound, urethrocytostomy and CT.

**GUA-52** Results of application of radio-frequency ablation in treatment of malignant and beneficial new formations of parichimatous organs and bones

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**Background:** Radio-frequency ablation (RFA) can be performed by open access, with video laparoscopy, or transdermal under the supervision of ultrasound or computed tomography. RFA – an effective method that has improved the results of loco regional treatment of patients with tumors of parenchymal organs, has now taken a leading place among surgical treatment methods in oncology and hepatology.

**Objective:** To show the possibilities and experience of using minimally invasive intervention – radio frequency ablation in the treatment of malignant neoplasms of the liver, kidneys, bones and lungs.

**Materials and methods:** From November 2015 to October 2016 “National Research Oncology Center” underwent treatment using RFA for 15 patients. Using computer navigation for focal changes in the lungs and bones, 3 (20%) cases were performed, as well as with ultrasonic navigation, in 12 (80%) patients, of which 2 (16%) cases were RFA of liver metastases, 2 (16%) patients – with kidney tumors, one patient underwent RFA of intraparenchymal liver metastasis from laparotomy access during radical surgery for kidney cancer. The average age of the patients was  $58 \pm 7.3$  years for the RF of the liver and  $17 \pm 6.0$  for the RF of the lungs, bones and kidneys. The diameter of the neoplasms varied from 2.0 to 5.7 cm, the number of tumor nodes did not exceed 3. All neoplasms were verified after a puncture biopsy with ultrasound navigation. In some cases, a biopsy was performed in one session of analgesia, along with RFA. All influences were performed in the operating room, two patients underwent local anesthesia, and the rest received intravenous anesthesia. For RFA, the technique was used with a single or cluster needle tip “Cool-Tip” 15–25 cm long with a working part of 1.0–3.0 cm or a combination of several electrodes (up to three) in the presence of several neoplasms in one parenchymal organ. The duration of the procedure was determined individually. The criterion for completing the procedure was the formation of a hyperechoic zone of induced changes comparable with the size of the tumor according to intraoperative ultrasound. When the tumor size exceeds the length of the working part of the electrode, a sequential effect was made from several points using the technique of “overlapping spheres.” The duration of the RFA procedure was from 10 to 30 minutes ( $15 \pm 2.2$  minutes). Percutaneous access under the control of ultrasound is used in most patients. RFA of intraparenchymal metastasis of the liver was performed once from laparotomy access during radical surgery for kidney cancer. The electrode was carried out, avoiding the coincidence of the injection path with large intrahepatic vascular structures. For tumor sizes greater than 30 mm, RFA was performed from several points of exposure, with the most distant pole of formation being punctured initially, followed by extraction of the electrode into the surface of the tumor. The operation was completed by coagulation of the puncture channel in order to prevent implantation metastasis and achieve hemostasis. To avoid the risk of damage to neighboring organs, in 2 cases, before the RFA of the liver, a liquid layer (“airbag”) was created in the contact zone by puncture injection of a solution of 0.5% glucose under ultrasound control. The local effect was evaluated using various monitoring techniques:

ultrasound, spiral computed tomography with intravenous contrast (CT), MRI, puncture biopsy of the tumor under the control of ultrasound.

**Results:** In the early stages after the operation, standard side effects associated with access were observed: pain at the site of the puncture or surgical wound, subfebrile condition. With the destruction of liver tumors with a diameter of more than 3 cm, a transient increase in transaminases and bilirubin, alkaline phosphatase was observed. Postoperative mortality was not observed. Ultrasound in the early stages after the operation determined the formation of different echogenicity of a slightly larger diameter than the primary focus, which corresponded to the size of the destruction zone. Subsequently, these formations decreased slightly. In some cases, small tumors subjected to RFA were not visualized by repeated ultrasound. CT revealed homogeneous formations in the area of tumor destruction that did not accumulate a contrast agent in renal tumors. The presence of contrast perfusion after RFA of parenchymal organs made it possible to suspect incomplete tumor destruction.

#### GUA-53 The role of minimally invasive treatment methods in patients with neoplasms of the bladder with macrohematuria

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**Background:** With prolonged and severe hematuria from the lower urinary tract, urological surgeons have to ligate the internal iliac arteries by the open method, under general anesthesia, while a number of patients have somatic diseases, weakened and a high operational risk. Minimally invasive surgery – chemoembolization for bladder cancer can be an alternative to the complex treatment of this formidable disease.

**Material and methods:** In the “National Research Oncology Center” from 2016 to November 2018, 12 patients with bladder cancer underwent “Chemoembolization of the Lower Cystic Arteries” The chemotherapy drug for this procedure was adriamycin in a dosage of 50 mg or cisplatin 50 mg. Hemosphaerae loaded microspheres 300–500 µm in size from Biosphere Medical (France) were used as a source of transportation of the chemotherapy drug. Seven out of 12 patients had stage T2N0M0 RMP, two stage T3NxM0 and 4 patients T1N0M0, all of them histologically verified transitional cell carcinoma G2-3.3 of them had an expansion of the upper urinary tract on one side and 1 on both sides. Ten patients reported episodic bleeding in the form of blood clots in the urine, while two had total magrohaturia. Embolization of the cystic arteries was performed under local anesthesia by transfemoral access according to Seldinger under radiological control. Patients were discharged on the third day after surgery. All 12 bladder cancer patients underwent two «Chemoembolization of the Lower Cystic Arteries» courses with an interval of one month.

**Results:** The treatment results were evaluated according to the general condition of the patients, complaints, lack of hematuria, a decrease in the size of the tumor, and positive dynamics of the blood test parameters. In the first 2 days, 3 patients had a pain syndrome that passed after the use of non-narcotic analgesics. Hyperthermia, local pathological changes in the area of the introduction of a vascular catheter into the femoral artery were not observed. After two months during the follow-up examination, the patients did not have episodes of macrohematuria, blood tests improved. According to CT, ultrasound, cystoscopy, tumor sizes decreased on average by more than 25% after 2 Chemoembolization of the Lower Cystic Arteries. Six patients three months after the first Chemoembolization of the Lower Cystic Arteries underwent surgical interventions in the amount of transurethral resection – 4, open resection – 1, cystectomy – 1. The histology of the

removed tumor confirmed the therapeutic necrosis of the tumor tissue. Three patients with a common disease were referred for further chemoradiotherapy and three with an initial stage of the process continue to be followed up with the recommendation of local chemotherapy.

**Conclusion:** Thus, Chemoembolization of the Lower Cystic Arteries is a minimally invasive but effective method of exposure to bleeding from the bladder. It needs widespread use among patients when concomitant diseases do not allow the implementation of volumetric routine treatment methods. The small number of patients and the short follow-up period do not give grounds for final conclusions on the duration of treatment and the number of Chemoembolization of the Lower Cystic Arteries sessions in patients with bladder cancer.

#### GUA-54 X-ray vascular treatment of prostate cancer

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**Background:** Prostate cancer is the leading disease worldwide. In the treatment of this disease, there are many moments when the use of routine treatments is not possible due to a number of objective reasons, such as age and other concomitant diseases, often make it impossible to carry out surgical methods. Especially in hormone-refractory form of prostate cancer, when cancer cells are insensitive to antiandrogenicity.

Minimally invasive surgery – chemoembolization in prostate cancer can improve the results of treatment in combination with conventional methods of treatment.

Prostatic artery embolization was first applied F. Carnevale, São Paulo, Brazil, (2009).

**Materials and methods:** In 2016, in a National Research Oncology Center, four patients with prostate cancer underwent “Super-selective chemoembolization of the prostatic arteries”. The chemotherapy drug for this procedure was adriamycin in a dosage of 50 mg. Hepasphere microspheres 300–500 microns in size from Biosphere Medical (France) were used as a source of transportation of the chemotherapy drug. Two out of four patients with prostate cancer had a hormone-resistant form. Three patients had stage T3bN0M0 prostate cancer, one stage T2bN0M0, histologically verified, Gleason number 7, 7, 8, 9. All patients had difficulty urinating, the amount of residual urine was from 54 to 98 ml. One of them, according to ultrasound sonography, had a pronounced expansion of the upper urinary tract. According to TRUS, the average volume of the prostate gland was 63 mm<sup>3</sup>. The average PSA level was 17 ng/ml. Super-selective chemoembolization of the prostatic arteries was performed under local anesthesia by transfemoral access according to Seldinger under radiological control. Patients were discharged on the third day after surgery. All were examined one month after Super-selective chemoembolization of the prostatic arteries. The treatment results were evaluated by their general condition, complaints, assessment of lower urinary tract symptoms according to the IPSS scale, reduction of prostate volume and a decrease in the amount of residual urine, and PSA level in dynamics. In the first 7 days, 3 patients had a pain syndrome that passed after the use of non-narcotic analgesics. In blood tests, hyperthermia, local pathological changes in the area of introduction of a vascular catheter into the femoral artery were not observed. After one month, a follow-up examination in all patients with obstructive symptoms showed an improvement in urination. In a patient with 2-sided expansion of the upper urinary tract, a significant decrease was noted. In all 4 patients, the amount of residual urine did not exceed an average of 50 mm<sup>3</sup>. According to the control TRUS, the prostate volume decreased to 38 mm<sup>3</sup>. The average PSA level was 8.0 ng/ml. IPSS before surgery = 25, L-5. In dynamics, a month after the operation, the IPSS gradient was 37.4 ± 3.6%. Thus, Super-selective chemoembolization as