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REMOTE RESULTS OF TREATMENT OF PYELONEPHRITIS IN PREGNANT WOMEN

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Annotation. The results of treatment with acute pyelonephritis of pregnant women in 67 patients were studied. The data obtained revealed high efficiency in providing highly skilled care to patients with acute pyelonephritis of pregnant women. This led to a significant reduction in the duration of treatment of patients, normal delivery and a significant improvement in the quality of life of patients.

Key words: acute pyelonephritis of pregnant women, stenting of ureter, percutaneous nephrostomy, delivery, quality of life of patients.

Introduction. The incidence of pyelonephritis is very high. According to A. Ya. Pytel and S. D. Goligorsky (1977), pyelonephritis is one of the most common human diseases, ranking second after catarrh of the upper respiratory tract and at the same time being the most common form of kidney disease. According to O. L. Tiktinsky (1984), secondary or concomitant pyelonephritis is determined in 89.3% of cases among urological patients with various diseases. Due to the anatomical and physiological characteristics of the body, women suffer from pyelonephritis 5-6 times more often than men. According to N. A. Lopatkin and A. L. Shabad, over 15 years of observation, the proportion of women among patients with pyelonephritis increased from 69 to 83%. Penetration of infection into the kidney mainly occurs ascending from the urethra and lower urinary tract. The short urethra in women and its close location to the anus allow periurethral pathogenic bacteria to easily penetrate into the lower urinary tract during sexual intercourse or urethral manipulations. In girls and women with impaired local protection in the presence of an infection in the vestibule of the vagina and vagina, periurethral colonization with pathogenic flora and entry of infection from the urethra often occurs.

Men are less susceptible to ascending infection, since the prostate gland secretion contains zinc, which has a bactericidal effect.

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In recent years, there have been reports devoted to the study of the phenomenon of bacterial adhesion to urothelial cells. E. coli and Proteus have fimbriae, with the help of which they are fixed to the urothelium and then move up the urinary tract. As noted by A. V. Lyulko, the adhesive properties of bacteria are a prerequisite for fixation, colonization and production of endotoxins, that is, for the induction of the inflammatory process in the kidneys and urinary tract. According to R. Maskell, the highest adhesiveness is noted in acute pyelonephritis, less - in acute cystitis and insignificant - in asymptomatic bacteriuria, that is, the adhesiveness of bacteria to a certain extent characterizes their virulence. Clinical symptoms of acute pyelonephritis include: sudden onset of severe chills, high temperature, constant pain in the lumbar region on one or both sides, sometimes dysuria, frequent urination, nocturia and burning during urination. General symptoms may include malaise, weakness, nausea, vomiting, headache and others. Modern technologies have made it possible to abandon traumatic methods of catheterization or stenting of the ureters in favor of alternative methods. It is advisable to perform percutaneous nephrostomy on the patient both for the purpose of urine derivation and as the first stage of subsequent endourological intervention through the formed fistula. Inadequate drainage of the urinary tract or irrational antibacterial therapy may be a prerequisite for the development of purulent complications of pyelonephritis, fraught with possible urosepsis or bacteremic shock. In these cases, open surgeries are indicated for patients. As a rule, organ-preserving operations are performed.

Acute pyelonephritis of pregnancy is more common in later stages of pregnancy, usually in the last trimester, but can occur in the first and second trimester. The development of acute pyelonephritis of pregnancy in the first and second trimester is usually associated with hormonal changes in the female body after pregnancy, and in the third trimester it is usually associated with mechanical compression of the ureter.

Every tenth pregnant woman suffers from a urinary tract infection (UTI). Acute pyelonephritis develops in 20-40% of pregnant women with a urinary tract infection, and recurrent acute pyelonephritis develops in 10-30% of pregnant women. A study by Kass et al. showed that 20-40% of women with asymptomatic bacteriuria develop pyelonephritis during pregnancy. Treatment of bacteriuria reduces the risk of pyelonephritis. Acute pyelonephritis of pregnancy is always accompanied by urodynamic disturbances and the possibility of toxic effects of drugs on the fetus. Treatment of pyelonephritis in pregnancy: second- and third-generation cephalosporins, aminopenicillin with β-lactamase inhibitors or aminoglycosides.

Fluoroquinolones, tetracyclines and TMP (trimethoprim) in the first trimester and sulfonamides in the last trimester are contraindicated.

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Slow defervescence and upper urinary tract dilation may be an indication for ureteral stenting, and antibacterial prophylaxis antepartum and postpartum should be considered.

Materials and methods. From January 2022 to April 2024, we observed 67 pregnant women with gestational pyelonephritis aged 19 to 34 years in the Khorezm branch of the Republican Specialized Urology Center (RSCU). Their pregnancy terms ranged from 12 to 35 weeks. They complained of pain in the lumbar region, an increase in body temperature from 38 to 39-40 0C with chills, nausea, lack of appetite, and general weakness. The duration of these symptoms varied from 3 to 5 days. All pregnant women underwent a comprehensive laboratory and instrumental examination aimed at clarifying the functional state of the upper urinary tract and the activity of the inflammatory process in the kidneys, with the collection of urine from the middle portion for bacteriological culture. During the examination by the gynecologist, none of the patients had a threat of miscarriage. Statistical processing of the obtained data was performed using the Student and Fisher methods.

Results and discussion. All pregnant women were divided into 2 groups. Group 1 included 41 patients who, according to ultrasound examination of the kidneys, had a dilation of the pelvis from 2.5 to 3.5 cm, and a dilation of the calyces from 0.5 to 1.5 cm. These pregnant women had urodynamic disturbances of urine outflow from the upper urinary tract, which required restoration of the impaired passage of urine by performing internal drainage with a stent and simultaneous use of etiotropic therapy to eliminate the progression of pyelonephritis. Percutaneous nephrostomy was performed in two pregnant women due to knee-shaped deviation of the ureter in the upper third. Patients in this group were prescribed combination therapy: antibiotic (ceftazidime) 1.0 x 3 times a day, intramuscularly and canephron 1 tablet x 3 times a day, as well as non-steroidal, infusion and detoxification therapy.

The 2nd group included 26 patients with renal ultrasound examination revealing minor dilation of the renal pelvis and no signs of upper urinary tract obstruction. One patient in this group showed increasing intoxication, worsening general condition with pregnancy progression without the threat of miscarriage. She had no worsening of the renal concentrating ability or increase in creatinine and urea levels in the blood, but a general blood test showed high leukocytosis with a left shift. This patient was diagnosed with acute apostematous pyelonephritis and underwent surgery with revision and decapsulation of the kidney and drainage of the kidney. In the postoperative period, she was also prescribed ceftazidime 1.0 x 3 times a day, intramuscularly and canephron 1 tablet x 3 times a day, as well as general tonic, infusion and detoxification therapy.

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In 54 patients of both groups, E. Coli 10x4-10x5 CFU/ml sensitive to ceftazidime, cefotaxime and cefoperazone was isolated in 80.6% of cases in bacteriological urine cultures. Proteus was isolated in 5% of cases, Klebsiella in 5%, staphylococcus in 5.4%, and no microflora was detected in the remaining 4%. Chlamydia trachomatis was detected in 1 patient with a pregnancy period of 30 weeks (Group 2). In group 1, 39 patients underwent stenting of the upper urinary tract under intravenous anesthesia, and 2 patients underwent PC nephrostomy. They were prescribed antibiotics taking into account their sensitivity. In group 2, 26 patients were also prescribed etiotropic therapy according to the antibiogram, and one of them was given vilprofen (daily dose 1000 mg) taking into account the detected chlamydia trachomatis. We used intensive antibacterial, infusion, detoxification therapy for patients in both groups, as well as knee-elbow position therapy.

The treatment efficiency was assessed dynamically by changes in ultrasound, reduction of clinical symptoms, restoration of urine passage, urine analysis and observation by a gynecologist. Adverse events and drug tolerance were assessed by laboratory and subjective data.

After the treatment, a positive clinical effect was noted in patients of both groups, but especially in group 1, who underwent ureteral stenting and PC nephrostomy (2 patients) to eliminate the obstruction of urine passage from the upper urinary tract. They had clinical symptoms of the disease disappear reliably faster 2 times, the bed-day was reduced, the general condition improved compared to patients of group 2, where these indicators disappeared somewhat more slowly. In 3 patients of group 1, the stent was removed before delivery, in the rest, the stent and nephrostomy were removed 3-4 weeks after delivery.

In 37 parturient women (90%) of group 1, delivery was on time, without complications, and in group 2, half of the patients had premature delivery with low fetal weight. Thus, when treating acute pyelonephritis in pregnant women, it is necessary to carefully collect anamnesis from patients, promptly hospitalize them for adequate diagnostics and highly qualified adequate treatment, and in case of deterioration of the condition, signs of urinary tract obstruction, perform stenting and / or PC nephrostomy before delivery with ultrasound monitoring of the kidneys, pelvic organs, joint examination by a urologist and gynecologist. This will improve the results of delivery in patients with acute pyelonephritis in pregnant women.

Patients were monitored for 3 years. Every 6 months, ultrasound scanning of the kidneys, urine analysis according to Nechiporenko. Only 3 patients (from the 1st group who had the stent removed before delivery) had reinfection. These patients were treated inpatients until recovery.

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Conclusion: The outcome of pregnancy is determined by the characteristics of the course of the disease. The most favorable prognosis is in patients with acute pyelonephritis that occurred during the gestation period. The frequency of major obstetric complications in this case does not exceed the rates in healthy pregnant women, but the risk of intrauterine infection of the child increases. In the case of exacerbation of chronic uncomplicated pyelonephritis that debuted before pregnancy, gestation is complicated by 20-50% more often, but with adequate therapy it can be preserved. In pregnant women who have a stent and/or nephrostomy, it is advisable to remove it after delivery 20-30 days after checking the patency of the urinary tract. This approach will improve the quality of life of patients and prevent reinfection.

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