To study the clinical and biochemical indices of renal function assessment in chronic pyelonephritis in pregnant women.

In a comparative analysis, it has been studied renal function in 60 women with chronic pyelonephritis of the pregnant women. With this basic group (n = 30) were patients with chronic pyelonephritis without exacerbation, the comparison group (n = 30) - patients with chronic pyelonephritis in the acute stage and a control group (n = 30) - patients with uncomplicated pregnancy. Renal function in patients with chronic pyelonephritis was assessed using the results of clinical blood tests, urine samples Zimnitsky, Nechyporenko, bacteriological urine culture with identification of the species composition of microorganisms and microbial count of the number.

The studies revealed significant pathological changes of renal function in pregnant women surveyed in chronic pyelonephritis, both outside and in the acute stage.

The most significant changes were found during exacerbation of chronic pyelonephritis and the combination of preeclampsia.

Keywords: chronic pyelonephritis, pregnancy, diagnosis, patients: preeclampsia.

Introduction.

Diagnosis of chronic pyelonephritis at the present stage requires improvement from the standpoint of assessing the functional capacity of the kidneys and clarifying the risk factors in terms of prognosis of obstetric and perinatal complications in chronic pyelonephritis in pregnant women.

Among the clinical and laboratory studies in the diagnosis of pyelonephritis leading are clinical and biochemical blood and urine tests. In the overall analysis of the blood revealed leukocytes, neutrophil leukocyte left shift by increasing the number of band forms, acceleration of ESR. The above changes are expressed in acute pyelonephritis. In the course of the disease often develops hypochromic anemia. In 35-40% of cases, lymphopenia (lymphocyte count of less than 18%), both in the acute phase as well as in disease remission, indicating the presence of immunodeficiency in patients of this group. In the study of urine can be detected pyuria, bacteriuria, proteinuria, and microscopic hematuria. The latter being more pronounced in patients with secondary pyelonephritis, especially emerged against the background of urolithiasis [1, 2, 3].

It is believed that the criterion of infection of the urinary tract is an increase of more than 10⁷ colonies in 1 ml of urine, but in pregnant women with symptoms of urinary infection and leukocyte urea, finding a smaller number of colonies (10⁷ - 10⁸) bacteria, which are the main agents of the disease, also has diagnostic value. The intensification of the process of evidence of leukocytes in excess of 4000 in 1 ml of urine in the urinary sediment study to Nechyporenko.

In the test Zimnitsky in case of long course of the disease with impaired renal concentrating ability hypostenuria identified and nocturia. The clinical evaluation of possible violations of urinalysis and urine passage of urotranslocation from the affected organ. In this case, the degree of protein urea and leukocyte urea will not match the severity of acute pyelonephritis due to stagnation of infected urine above the obstruction.

For proper assessment of the severity of the disease, in these circumstances, given the severity of clinical symptoms, use additional diagnostic techniques [2, 4, 5].

Materials and methods.

In a comparative analysis has been studied renal function in 60 women with chronic pyelonephritis. With this basic group (n = 30) were patients with chronic pyelonephritis without exacerbation, the comparison group (n = 30) - patients with chronic pyelonephritis in the acute stage and a control group (n = 30) - patients with uncomplicated pregnancy.

Studies of renal function based on clinical and laboratory samples [6]. Renal function in patients with chronic pyelonephritis was assessed using the results of clinical blood tests, urine samples Zimnitsky, Nechyporenko, bacteriological urine culture with identification of the species composition of microorganisms and microbial count of the number.

Results of research.

Analysis of clinical blood indices showed that the level of Hb with uncomplicated pregnancy ranged from 107 to 115 g/l of erythrocytes of 3.5 to 3.7 × 10¹²/ml. In patients with acute exacerbation group of chronic pyelonephritis leukocyte count was elevated in 70% (21 of 30), averaged 12.3 × 10⁹ g/l, which is 2 times higher than the corresponding figure in the group with uncomplicated pregnancies, the number of band neutrophils was increased 73% (22 of 30) and averaged (7.8 ± 0.5)% and were 2.2-fold higher than those parameters uncomplicated pregnancy.

ESR in pregnant women with acute exacerbation of chronic pyelonephritis was on average 45.0 ± 4.3 mm/h, and was elevated in 66.7% (20 of 30).

In uncomplicated pregnancy average leukocyte band neutrophils and ESR meet regulatory performance and only slightly higher than 16.7-20.0% blocked. In order to study the nature of the microflora of urine was conducted microbiological study in 30 patients with acute exacerbation of chronic pyelonephritis, 30 patients - without exacerbation. Rising urogenital infection plays a significant role in the development of obstetric and perinatal complications in chronic pyelonephritis. In the study of urine in 23.3% (7 of 30) of women with chronic pyelonephritis without exacerbation revealed asymptomatic bacteriuria, while the urine stood facultative anaerobic microorganisms that are present in low concentrations (<10⁶ CFU/ml). In 35% (10 of 30) of cases were detected in 66.7% (26 of 30) of cases.

Microbiological studies revealed that the etiological factor of chronic pyelonephritis most often as the aerobic gram-negative microorganisms: Escherichia coli (33.3%), Proteus vulgarize (10.0%), Klebsiella spp. (5 %) or a group of Gram-positive bacteria Staphylococcus (6.7%), in 11.6% of cases world registered association Escherichia coli and Staphylococcus aureus.

Our data are consistent with the observations of other researchers showing that Escherichia coli is the dominant pathogen in pyelonephritis pregnant in modern conditions [7, 8, 9].

In studying the results of clinical urine clarified daily diuresis, the reaction, the number of white blood cells, protein, bacteria, cylinders. The magnitude of the specific gravity of urine (sample Zimnitsky) studied the concentration of renal function. According to the analysis of urine to Nechyporenko clarified the presence of inflammation. The daily urine of pregnant women with acute exacerbation of chronic pyelonephritis was reduced to 976.4 ml vs 1112.4 ml in the comparative group. The ratio of day to night diuresis during exacerbation of chronic pyelonephritis was 1.24 to 1.52.

Hematuria was detected in 4.5 times more frequently in the group with acute exacerbation of chronic pyelonephritis.

In the study of renal concentrating ability in pregnant women with acute exacerbation of chronic pyelonephritis was significantly (p < 0.001) more frequent hematuria, diagnosed in (60.0 ± 2.7)% of cases, and the reduction in the relative density of urine - 1009.2 ± 0.3
against 1017.8 ± 0.4 in the comparative group. At (80.0 ± 2.2)% of patients with acute exacerbation of chronic pyelonephritis was significantly (p <0.001) more frequently detected leukocyte urea (24 of 30).

In the study by the method Nechiperenko all pregnant groups with acute exacerbation of chronic pyelonephritis revealed elevated white blood cell count to 5140.1 ± 135.4% in 1 ml of urine. Proteinuria was diagnosed in (60.0 ± 2.7)% of patients with acute exacerbation group of chronic pyelonephritis, with every second (14 of 30) patients, it was moderate and ranged from 0.175 to 0.5 g/l, 30 % of protein in the urine was from 1 to 3 g/l and every second of them was with a preeclampsia.

Conclusions.
Thus, the tests revealed significant pathological changes of renal function in pregnant women surveyed in chronic pyelonephritis, both outside and in the acute stage. The most significant changes were found during exacerbation of chronic pyelonephritis and the combination of preeclampsia.

REFERENCES