

CLINICAL AND BIOCHEMICAL INDICATORS OF RENAL FUNCTION IN CHRONIC PYELONEPHRITIS IN PREGNANT WOMEN

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

In a comparative analysis 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, Nechiporenko, 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 clarify 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, neutrophilic 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 10^5 colonies in 1 ml of urine, but in pregnant women with symptoms of urinary infection and leukocyte urea, finding a smaller number of colonies (10^3 - 10^4) 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 Nechiporenko.

In the test Zimnitsky in case of long course of the disease with impaired renal concentrating ability hyposthenuria identified and nocturia. The clinical evaluation of possible violations of urinalysis and urine passage of urostatics 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.

Us 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, Nechiporenko, 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 $3,7 \times 10^{12}$ g/l hematocrit - 29,4-31,5%. Hb without exacerbation rate ranged from 102 to 106 g/l, erythrocyte $3,3$ - $3,4 \times 10^{12}$ g/L, Ht - 28-29%. In the acute stage Hb values were an average of 93 - 101 g/l, hematocrit (Ht) - 25,9 - 28,2%, the level of red blood cells - 3,1 - $3,3 \times 10^{12}$ g/l. In patients with acute exacerbation group of chronic pyelonephritis leukocyte count was elevated in 70% (21 of 30), averaged $12,3 \times 10^9$ 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 ($7,8 \pm 0,5$)% and were 2.2-fold higher than those parameters uncomplicated pregnancy. ESR in pregnant women with acute exacerbation of chronic pyelonephritis was on average $45,0 \pm 4,3$ 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 ($<10^5$ CFU/ml). Positive results of bacteriological urine culture in pregnant women with acute exacerbation of chronic pyelonephritis were detected in 86,7% (26 of 30) of cases.

Microbiological studies revealed that the etiological factor of chronic pyelonephritis most often as the aerobic gram-negative microorganisms: *Esherichia coli* (33,3%), *Proteus vulgarize* (10,0%), *Klebsiela spp.* (5%) or a group of Gram-positive bacteria *Staphylococcus* (6,7%), in 11,6% of cases world registered association *Esherichia coli* and *Staphylococcus aureus*.

Our data are consistent with the observations of other researchers showing that *Esherichia 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 Nechiporenko 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.

Nocturia 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 ($p < 0,001$) was more frequent hyposthenuria, diagnosed in ($60,0 \pm 2,7$)% of cases, and the reduction in the relative density of urine - $1009,2 \pm 0,3$

against $1017,8 \pm 0,4$ in the comparative group. At $(80,0 \pm 2,2)\%$ of patients with acute exacerbation of chronic pyelonephritis was significantly ($p < 0.001$) was more frequently detected leukocyte urea (24 of 30).

In the study by the method Nechiporenko all pregnant groups with acute exacerbation of chronic pyelonephritis revealed elevated white blood cell count to $5140,1 \pm 135,4\%$ in 1 ml of urine. Proteinuria was diagnosed in $(60,0 \pm 2,7)\%$ 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

- 1 Nicholas I.G., Tareeva T.G., Mikaelian AV etc. Pyelonephritis and pregnancy. Etiology, pathogenesis, classification, clinical picture, prenatal chronic disease. Russian Bulletin obstetrician and gynecologist . - 2003. - № 2 . - page. 34-36 .
- 2 Shehtman M.M, V.V. Pavlov, Lineva O.I. Kidney and pregnancy. // New: S.E. "Perspective". - 2000. page - 256 .
- 3 Iremashvili V.V. Urinary tract infection: a modern view on the problem // Russian Journal of Medicine . - 2007. - № 15. - page. 31-36.
- 4 Serov V.N., V.L.Tyutyunnik Gestational pyelonephritis: diagnosis, prevention, treatment // Russian Medical magazine. 2008. - № 1.- Page.15 -22.
- 5 Safronova L.A., Pyelonephritis and pregnancy // Russian Medical magazine. 2000. - № 8.- page 8- 18.
- 6 Kamyshnikov R.S. Handbook of clinical and biochemical laboratory diagnosis. Belarus . - 2000. page - 495.
- 7 Tareeva T.G., Nicholas I., I.I. Tkachev Viral and bacterial diseases , sexually transmitted diseases in pregnant women with pyelonephritis. The program combined Plenum Interagency Council on Obstetrics and Gynecology RAMS and Russian scientific and practical conference "Actual problems of infection in obstetrics and gynecology". St Peterburi. - 1998. - page 55-56.
- 8 Kachalina T.S., N. Katkov, Nikolaeva O.A. Clinical aspects of a differentiated approach to the treatment and prevention of pyelonephritis in pregnancy. // Gynecology. - 2004 . - Т. 06, 6. - page. 80-84.
- 9 Derevyanko I.I. Complicated urinary tract infections: diagnosis and treatment // Consilium medicum. - 2003, V. 5, 7. - page.234 -238 .

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СОЗЫЛМАЛЫ ПИЕЛОНЕФРИТПЕН АУЫРАТЫН ЖҮКТІ ӘЙЕЛДЕРДІҢ БҮЙРЕКТЕРІНІҢ ФУНКЦИОНАЛЬДЫ ЖАҒДАЙЫНЫҢ КЛИНИКАЛЫҚ-БИОХИМИЯЛЫҚ КӨРСЕТКІШТЕРІ

Түйін: Созылмалы пиелонефритпен ауыратын жүкті әйелдердің бүйректерінің функциональды жағдайын бағалайтын клиникалық-биохимиялық көрсеткіштерін анықтау.

Созылмалы пиелонефритпен ауыратын 60 жүкті әйелдердің аурудың асқынған және асқынбаған сатыларында бүйректерінің функциональды жағдайы зерттелген. Мұнда негізгі топты ($n=30$) созылмалы пиелонефриті асқынбаған пациенттер құрады; салыстыру тобын ($n=30$) – созылмалы пиелонефриті асқыну сатысындағы пациенттер және бақылау тобын ($n=30$) – жүктілігінің жүру барысы асқынбаған пациенттер құрады. Созылмалы пиелонефритпен ауыратын пациенттердің бүйректерінің функциясы қан, несеп Зимницкий, Нечипоренко үлгілерін клиникалық талдау, несепті бактериологиялық егу арқылы микроорганизмдердің түрлік құрамы мен микробты санды есептеу нәтижелерінің көмегімен бағаланды.

Зерттеу нәтижелері созылмалы пиелонефриттің асқынбаған және асқынған сатыларында патологиялық өзгерістер бар екендігін дәлелдейді. Осы өзгерістердің жоғарғы мәндері созылмалы пиелонефриттің асқынған сатысында және гестозбен қатарласа жүргенде болатыны анықталды.

Түйінді сөздер: созылмалы пиелонефрит, жүктілік, диагностика, пациент, преэклампсия.

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КЛИНИКО-БИОХИМИЧЕСКИЕ ПОКАЗАТЕЛИ ФУНКЦИОНАЛЬНОГО СОСТОЯНИЯ ПОЧЕК ПРИ ХРОНИЧЕСКОМ ПИЕЛОНЕФРИТЕ У БЕРЕМЕННЫХ

Резюме: Изучение клинико-биохимических показателей оценки функционального состояния почек при хроническом пиелонефрите у беременных.

В сравнительном анализе была изучена функция почек у 60 женщин с хроническим пиелонефритом. При этом основную группу ($n=30$) составили пациентки с хроническим пиелонефритом без обострения, группу сравнения ($n=30$) – пациентки с хроническим пиелонефритом в стадии обострения и контрольную группу ($n=30$) – пациентки с неосложненным течением беременности. Функция почек у пациенток с хроническим пиелонефритом оценивалась с помощью результатов клинических анализов крови, мочи, пробы Зимницкого, Нечипоренко, бактериологического посева мочи с идентификацией видового состава микроорганизмов и подсчета микробного числа.

В результате проведенных исследований выявлены значительные патологические изменения функционального состояния почек у обследуемых беременных при хроническом пиелонефрите как вне, так и в стадии обострения.

Наиболее значительные изменения выявлены при обострении хронического пиелонефрита и при сочетании гестоза.

Ключевые слова: хронический пиелонефрит, беременность, диагностика, пациент, преэклампсия.