

# Clinical and Laboratory Characteristics of Chronic Pyelonephritis in Pregnant Women

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**Abstract:** Among extragenital diseases, cardiovascular diseases take the leading role in the development of various complications during pregnancy. Thus, the mortality rate during pregnancy, childbirth and postpartum CVD is 0.2-2.5%, but the proportion of the causes of maternal mortality in the developed world remains high (15-20%) and is also growing. In this connection, the work carried out to study the prevalence of arterial hypertension (AH) and the factors of cardiovascular risk pregnant women.

**Keywords:** Chronic pyelonephritis, chronic kidney diseases, pregnancy, extragenital pathology.

**Introduction:** During pregnancy, even during the period of exacerbation of CP, there may be an erased clinical picture of the disease, with minor or even no complaints, with minimal deviations from the norm of laboratory data. Along with the main clinical and laboratory methods for the diagnosis of CP, there are other research methods that can assess the functional state of the kidneys, the severity of the pathological process, the nature and intensity of the effect of urinary tract infection on other organs and systems. However, the pregnancy status of women suffering from CP significantly limits the use of informative diagnostic tests due to their teratogenic effect on the fetus. In particular, radioisotope examinations, X-ray examinations, and computed tomography are used according to very strict criteria in such cases.

The importance of chronic pyelonephritis is determined by the high prevalence, increasing frequency of latent forms, the tracing of a low-symptomatic course, the limitation of the use of informative diagnostic studies during pregnancy, and sometimes insufficient effectiveness of therapy, this problem remains relevant. In such conditions, early detection of chronic pyelonephritis and its latent forms and complications is extremely important in order to provide timely treatment and medical examination of patients.

**Purpose of the study.** The study of clinical and laboratory characteristics of chronic pyelonephritis in pregnant women.

## METHODS

The study included women with CP according to archival material in the Department of pathology of pregnant women at the 5th city Clinical Hospital in Tashkent. A retrospective analysis of 37 medical records was conducted, patients with chronic pyelonephritis on the background of standard treatment of the disease – the first group. Among them, 21 women had chronic pyelonephritis in the stage of active inflammation and 16 in the latent stage. The second group (a prospective study) consisted of 34 women (19 of them with CP from the stage of active inflammation and 15 in the latent stage) who were being treated with CP, who were prescribed medical ozone along with standard therapy.

## RESULTS

A comparative analysis of the symptoms of the disease characteristic of CP and laboratory data indicators in both study groups was carried out. It turned out that symptoms such as lower back pain, pasty complexion, and swelling of the eyelids in the morning occur with the same frequency among both groups. With respect to the remaining symptoms, there is a predominance among the groups identified during a complete clinical

examination with the inclusion of a questionnaire research method - an algorithm (program) for detecting CP (n=34), but not exceeding the limits of 5-7% compared to those examined according to archived

medical history (n=37).

Thus, the characteristics of symptoms CP among women of both groups was almost the same.

**Table 1.**

**The results of the clinical characteristics of pregnant women with CP (in %)**

	The first group (n=37)		The second group (n=34)	
	in the active stage (n=21)	in the latent stage (n=16)	in the active stage (n=19)	in the latent stage (n=15)
Lower back pain	19 - 90,47%	12 - 75%*	18 - 94,7 %	11 - 73,3%*
dysuria	18 - 85,71%	13 - 81,25 %	17 - 89,47%	12 - 80%
pollakiuria	7 - 33,3%	8 - 50%*	7 - 36,84	8 - 53,33%*
stranguria	5 - 23,8 %	4 - 25%	5 - 26,31%	3 - 20%
nikturia	6 - 28,57 %	4 - 25%	6 - 31,57%	4 - 26,6%
Chills	13 - 61,9 %	12 - 75%*	12 - 63,15%	12 - 80%*
Headaches	11 - 52,38%	12 - 75%*	11 - 57,89%	9 - 60%
Weakness, malaise, increased fatigue	16 - 76,19%	12 - 75%	15 - 78,94%	11 - 73,3%
<b>Temperature rise</b>				
Before 38 °C	4 - 19,04%	8 - 50%**	3 - 15,78	9 - 60%**
Above 38 °C	17 - 80,95%	4 - 25%**	16 - 84,21%	4 - 26,6%**
Pasty face, swelling of the eyelids	5 - 23,8%	16 - 18,75%	5 - 26,31%	3 - 20%
A positive symptom of shaking	18 - 85,71%	8 - 50%**	17 - 89,47%	8 - 53,33%*

\*p<0,05, \* \*p<0,001 the significance of differences between CP during the period of active and latent inflammation.

Along with clinical studies, a comparative assessment of laboratory parameters was carried out (table 2).

**Table 2**

**Characteristics of the laboratory data of the examined**

	The first group (n=37)		The second group (n=34)	
	in the active stage (n=21)	in the latent stage (n=16)	in the active stage (n=19)	in the latent stage (n=15)
<b>General blood test</b>				
Red blood cells	3,27±0,17	4,24±0,15	3,57±0,11	4,01±0,17
Hemoglobin	89,17±2,1	115,2±3,32*	102,19±3,1	117,3±3,01*

g/l				
White blood cells	10,01±0,53	8,01±0,21	9,69±0,31	7,91±0,42
ESR	29,32±2,75	17,4±1,24*	27,74±1,65	18,5±1,3*
Biochim. blood tests				
Creatinine mmol/l	88,94±5,77	75,54±2,71	87,05±5,77	79,21±1,6
Urea mmol/l	6,4±0,8	5,7±0,2	6,4±0,8	5,7±0,2
Total protein g/l	64,21±0,7	67,02±0,31	65,6±0,9	68,01±0,24
General urinalysis				
specific gravity	1012,31±12,31	1011,42±14,01	1012,01±2,1	1011,02±15,1
white blood cells	14,77±3,31	12,46±2,41	13,05±2,01	12,06±2,93
bacteriuria	2,4±1,05 г/л.	2,1±1,03 г/л.	2,6±2,01 г/л.	1,9±1,04 г/л.
Nechiporenko's urine test				
red blood cells	621,88±117,8	1016,5±311,21	741,07±110,7	1036,5±412,21
white blood cells	6604,28±1094,82	8204,28±2108,71	7604,28±1094,82	8604,28±2108,71
bacteriuria (in %)	85,71% (18та)	25% (4та)	89,47%	33,3%

\*p<0,05, \* \*p<0,001 the significance of differences between CP during the period of active and latent inflammation.

A blood test revealed a significant decrease in hemoglobin levels in acute CP in women of the first group (89.17±2.1) and in the second group (102.19±3.1). The number of leukocytes in the blood (10.01±0.53) was 1.6 times higher in the stage of active inflammation than the number of leukocytes (7.01±0.21) in the latent phase of CP (Table 2). This trend is also observed in the second group, with a predominance of leukocytosis in the active phase of the disease. There was a 1.9-fold increase in ESR (29.32±2.75) in the active phase of CP in women of the first group compared with the group of women with CP in the latent phase of the disease (17.4±1.24). The number of leukocytes in urine (14.77±3.31) is 1.79 times higher in the active phase of CP in women compared with the group of patients in the latent phase (8.01±0.21). Similar results were obtained when comparing these indicators in the second group of patients.

## CONCLUSIONS

Thus, the results of the conducted studies showed the presence of pathological changes detected in CP, both during the period of exacerbation and during the latent course, with the predominance of CP with exacerbation in the group of people. Clinically, more pronounced changes were observed in women in the active stage of CP. However, in the latent stage of CP, cognition, headaches, pollakiuria, and fever to subfebrile levels were more troubling.

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