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FEATURES OF KIDNEY DAMAGE AT PATIENTS WITH RHEUMATOID ARTHRITIS

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✓ ***Resume,***

The article presents the materials of kidney damage in patients with rheumatoid arthritis (ra). The most common cause of kidney damage among inflammatory joint diseases is rheumatoid arthritis, which increases the rate of occurrence of the kidney pathological process with an increase in the duration of the disease. Risk factors for kidney damage in rheumatoid arthritis are older patients with high activity, a disease duration of more than 5 years, a late clinical stage, and the seropositive nature of ra. The basis of the work was the results of a comprehensive clinical, instrumental and laboratory examination of 60 patients with ra.

Key words: Rheumatoid arthritis, inflammation, kidney damage, microalbuminuria, proteinuria, glomerular filtration rate.

ОСОБЕННОСТИ ПОРАЖЕНИЯ ПОЧЕК ПРИРЕВМАТОИДНОМ АРТРИТЕ

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✓ ***Резюме,***

В статье приведены материалы поражения почек у больных ревматоидным артритом (РА). Наиболее частой причиной развития поражения почек среди воспалительных болезней суставов является ревматоидный артрит, при котором повышаются темпы возникновения патологического процесса с увеличением длительности заболевания. Факторами риска поражения почек при ревматоидным артритом являются пациенты старшего возраста с высокой активностью, продолжительностью заболевания более 5 лет, поздней клинической стадией, серопозитивным характером РА. Основу работы составили результаты комплексного клинического, инструментально-лабораторного обследования 60 больных РА.

Ключевые слова: ревматоидный артрит, воспаление, поражения почек, микроальбуминурия, протеинурия, скорость клубочковой фильтрации.

РЕВМАТОИДЛИ АРТРИТ БЕМОРЛАРДА БУЙРАК ЗАРАРЛАНИШ ЎЗИГА ХОСЛИГИ

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✓ ***Резюме,***

Ишда ревматоидли артрит (РА) беморларда буйрак зарарланиш маълумотлари қайд этилган. Бўғимлар яллиғланиш касалликлари орасида энг кўп учрайдиган сабабларидан бири ревматоидли артрит бўлиб ҳисобланади. Бу ҳолат касалликнинг давомийлиги узайиши билан буйракда патологик жараённинг кучайиши ҳам мос ҳолда қайд этилади. Ревматоидли артрит беморларида буйрак зарарланиши хавф омилларига юқори активликда кечувчи катта ёшдаги беморлар, 5 йилдан кўпроқ касаллик давом этиши, кеч клиник босқичнинг аниқланиши ва серопозитив ревматоидли артрит шакллари киради. Ишнинг асосини РА билан касалланган 60 беморнинг комплекс инструментал - лаборатор, клиник текширув материаллари ташкил этади.

Калит сўзлар: ревматоидли артрит, яллиғланиш, буйрак зарарланиши, микроальбуминурия, протеинурия, буйрак коптокча фильтрацияси.

Relevance

RA characterized by chronic erosive arthritis and systemic damage to internal organs. The prevalence of RA is about 0.7% of the total population. Every year, approximately 0.02% of the population becomes ill with RA [1,2,7]. In recent years, the attention of many researchers has been attracted by the prognostic value of kidney damage in rheumatoid arthritis, including at a subclinical level [1,3,8]. According to some estimates, kidney damage in RA can occur in more than half of patients [2,5,9]. It is important to note that when considering kidney damage in RA, its proteinuric forms can be represented as glomerulonephritis, amyloidosis, drug-induced tubulointerstitial nephritis, and subclinical kidney damage, manifested mainly by functional disorders (chronic kidney disease) without a clearly defined nosological affiliation [6,4,10,11]. Thus, the assessment of functional renal impairment and associated factors in RA is relevant for clinical medical practice, insufficiently developed

approaches to the early detection of renal pathology and assessment the risk of its progression in RA.

Purpose of the study. To study the prevalence of kidney damage in patients with rheumatoid arthritis (RA), to identify the main risk factors for the development of renal dysfunction.

Material and methods

The study was open comparative randomized. The basis of the work was the results of a comprehensive clinical, instrumental and laboratory examination of 60 patients with RA (40 women and 20 men). The demographic and clinical characteristics of patients are given in table. 1. The diagnosis of RA was established on the basis of diagnostic criteria of the American College of Rheumatology (1987). To evaluate functional the state of the kidneys in all patients was determined by serum creatinine, a general urinalysis, daily proteinuria was performed. Glomerular filtration rate (GFR) was calculated using the MDRD (Modification of Diet in Renal Disease Study) formula. To assess RA activity, the DAS28 activity index (Disease Activity Score) was calculated. The clinical and radiological stage was determined by Steinbrocker, the presence of systemic manifestations was taken into account. Patients were excluded from the study in the presence of data confirming the presence of infectious, oncological diseases, alcoholic liver damage, acute coronary pathology, allergic reactions, type 1 diabetes mellitus, functional heart failure III-IV NYHA grades.

Table 1

Demographic characteristics and activity of rheumatoid arthritis in patients included in the study (n = 60)

Characteristic	Значение
Age	56,1 ± 13,4
% women	67,7
Duration of RA, years	8,9 ± 5,2
Positiveness by RF,%	72,1
Positiveness for ASSP,%	77,6
Radiological confirmed erosion,%	37,2
Pain (visual analogue scale), мм	7,4 ± 1,5
Condition (visual analogue scale), мм	6,1 ± 1,5
ESR, mm / h	36,1 ± 8,3
CRP, mg / l	24,4 ± 6,7
DAS28	5,2 ± 1,4

Patients of the clinical group, depending on the presence or absence of clinical signs of kidney damage, were divided into two groups. Group 1 consisted of 34 (57.0%) patients who did not have renal dysfunction, and group 2 consisted of 26 (43.0%) patients with renal dysfunction. Within the 2nd group, among patients with RA, subgroups with different involvement of the kidneys in the pathological process were distinguished: depending on the value of glomerular filtration rate (GFR) (GFR ≥ 90 ml / min / 1.73 m^2; GFR 60-89 ml / min / 1 , 73 m^2 and GFR 30-59 ml / min / 1.73 m^2), the presence or absence of microalbuminuria (MAU), proteinuria, the level of excretion of albumin and protein in the urine. The study of the functional state of the kidneys included a general urine analysis, urinalysis according to the methodology of Zimnitsky, Kakovsky-Addis; determination of glomerular filtration rate according to Cockcroft-Gault and MDRD (Modification of Diet in Renal Disease Study) formulas. An ultrasound examination of the kidneys was also performed, the presence and severity of MAU, proteinuria were assessed. During a biochemical blood test, the determination of total protein, albumin, creatinine, uric acid, the ratio of albumin / creatinine, total cholesterol, glucose was determined.

Among 60 patients of the clinical group, 34 (57%) patients did not show kidney damage (group 1). Accordingly, 26 (43%) patients were included in the 2nd group. Among patients of the 2nd group, among kidney damage with microalbuminuria (MAU), 16 (61%) patients were identified: in 4 patients on the basis of persistent MAU, and in one patient on the basis of persistent urinary syndrome in the form of erythrocyturia. In RA, various clinical and morphological variants of renal pathology are described (mesangio-proliferative glomerulonephritis, tubulo-interstitial nephritis, amyloidosis), most of which are accompanied by the development of proteinuria in the opening, which can remain the main diagnostic sign for a long time.

Research results and discussion

Among 60 patients of the clinical group, 34 (57%) patients did not show kidney damage (group 1). Accordingly, 26 (43%) patients were included in the 2nd group. Among patients of the 2nd group, among kidney damage with microalbuminuria (MAU), 16 (61%) patients were identified: in 4 patients on the basis of persistent MAU, and in one patient on the basis of persistent urinary syndrome in the form of erythrocyturia. In RA, various clinical and morphological variants of renal pathology are described (mesangio-proliferative glomerulonephritis, tubulo-interstitial nephritis, amyloidosis) [9, 10], most of which are accompanied by the development of proteinuria in the debut, which can remain the main diagnostic sign for a long time. Early manifestations of functional renal impairment, especially with moderate severity of proteinuria, do not always attract the attention of clinicians, while the progression of CKD in RA can be

rapid, especially in old age and in association with cardiovascular disease.

A slight decrease in GFR (60-89 ml / min / 1.73 sq. M) was observed in 16 (61%) patients with RA with kidney damage. 10 (39%) patients with nephropathy had a moderate decrease in GFR in the range of 30-59 ml / min / 1.73 sq. m. Normal or elevated GFR (90 or more ml / min / 1.73 sq. m) was determined in 3 patients of the 2nd group. Noteworthy is the small proportion of patients with RA with normal or elevated GFR (90 or more ml / min / 1.73 sq. M) among patients of the 2nd group with kidney damage.

In general, the MAU group was observed in 17 (28%), and proteinuria was detected in 10 (16%) patients. In the 2nd group of patients, MAU was observed in 4 patients with a slight decrease in GFR, in 10 patients with a moderate decrease in GFR, and proteinuria in 1 patient with a 2nd and 10 patients with kidney damage. In total, in the 2nd group, MAU was detected in 18 (69%), and proteinuria in 8 (31%) patients.

The average creatinine level in patients with RA was 82.6 ± 1.6 μmol / L, the swing range was from 61 to 135 μmol / L. Hypercreatinemia (in men above 115 μmol / L, in women above 97 μmol / L) was observed in 8 cases (13%). In patients with RA, blood urea ranged from 2.9 to 13.7 mmol / L, averaging 6.4 ± 0.8 mmol / L. An increase in urea above normal (8.3 mmol / L) was detected in 8 patients (13%).

At the next stage of the study, the main indicators reflecting the functional state of the kidneys were analyzed separately in groups with the presence or absence of kidney damage.

In patients of the 2nd group, with the addition of kidney damage, there was a decrease in GFR by 48.7% ($p < 0.001$), the level of daily proteinuria increased by 863.5 times ($p < 0.001$), and the content of creatinine by 9.8% ($p < 0.05$).

In a preliminary assessment of the specific gravity of urine according to the results of a general analysis, it was found that in the group, the relative density of urine ranged from 1005 to 1030, the average value was 1018.2 ± 1.2. In the 1st group, the relative density of urine varied from 1005 to 1030, in the 2nd group - from 1005 to 1020. The average specific gravity of urine in patients of the 1st group was 1016.9 ± 0.56, of the 2nd group - 1018.7 ± 0.59. The average value of the relative density of urine in patients of the 1st and 2nd groups, as well as in the clinical group in general, was slightly less than the lower limit of the norm. According to the results of the Zimnitsky test, it was found that in the whole group, as well as in the 1st group, the concentration and water excretion ability of the kidneys was normal. In patients of the 2nd group, the concentration ability of the kidneys was impaired, since the relative density of urine was lower than 1018. In patients of the 2nd group, the concentration index was lower by 35.7% compared with the 1st group ($p < 0.001$).

Thus, the determination of microalbuminuria can be a simple and sensitive marker for early renal damage, including drug-induced damage. A large amount of data on the most important prognostic significance of the determination of microalbuminuria (proteinuria) as an additional marker of functional renal impairment has been taken into account recently at the international level, which was reflected in the new classification of chronic kidney disease, in which the division at the stage was performed not only by assessing glomerular velocity filtration, but the significance of microalbuminuria (proteinuria).

So, patients with RA are a group of increased risk of renal pathology, the likelihood of developing which increases with a prolonged and active course of RA. Clinical symptoms of renal dysfunction in patients with RA with high activity and duration of the underlying disease, as well as in the detection of arterial hypertension and dyslipidemia, should be the basis for active clinical observation of patients. This approach will direct the efforts of clinicians in the timely treatment of kidney pathology in patients with RA, which will extend the life of patients and improve its quality.

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