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CORRELATION BETWEEN ALBUMINURIA, FIBROZE MARKERS AND GENERAL SITUATION OF PATIENTS , WHEN CHRONIC HEART FAILURE OCCURS WITH VARIOUS COMORBIDE DISEASES.

Erkinova Nigora Erkinovna[1]

Annotation: *Heart-vascular disease (SSZ) is one of the leading causes of death in the world, and 17 million people die in the world. Among them, the main place is occupied by chronic heart failure (CHF), which in most cases is due to the presence of comorbid conditions. For this reason, timely diagnosis of comorbid diseases observed in patients with LEG, concomitant treatment and preventive measures are considered an urgent problem in medicine. [1;2;4;6,28,29].*

The article examines patients with various comorbidities with chronic heart failure in the Republic of Uzbekistan [10;12;13;14,26,27]. Patients with an increase in albuminuria with increasing functional classes of chronic heart failure. [16;17;18;20] Almost all studies noted that a high level of comorbidity reduces the quality of life, leads to impaired social adaptation and increased mortality [3;5;9.19,24,25]. The wide and increasing prevalence of comorbidity indicates the importance of studying this problem for many countries, including Uzbekistan [7;8;11;15,22,23].

Keywords: *albuminuria, acomorbidity, renal dysfunction.*

The purpose of the study Ischemic heart disease and some other diseases advanced chronic heart failure is comorbid in different functional classes to study the occurrence of cases.

Materials and methods. The 120 patients with CHF in our follow-up were divided into three groups, with the first group consisting of 40 patients with CHF II-III FC albuminuria and one comorbid disease. Their mean age was 58.3 ± 4.2, 17 were male and 23 were female. The second group consisted of 40 patients with CHF II-III FC albuminuria and two comorbid diseases, with an average age of 61.8 ± 4.7, 19 men and 21 women.

Research results. The third group also consisted of 40 patients with CHF II-III F C albuminuria diagnosed and three or more comorbidities. Their mean age was 65.9 ± 5.3, of which 21 were male and 19 were female. In all cases, it was found that CHF was caused by UIC, post-infarction cardio-sclerosis and hypertension. In some cases, it was noted in the anamnesis and objective examination that IHD and AG caused CHF in one patient at the same time. All patients received 25-50 mg of eplerenone, the latest generation of mineralocorticoid receptor antagonist as a standard treatment of CHF, b-blockers, alsisartan as an angiotensin II receptor antagonist, and anti-fibrotic agent. Based on the instructions, cardiac glycosides, diuretics and antiarrhythmic drugs were prescribed in individual cases. Potassium levels and glomerular filtration rate (> 60 ml per 1.72 m2 body level) were monitored in all patients in the follow-up. Eplerenonewas discontinued in cases of hyperkalemia.

Data on comorbidities identified in the patients in our follow-up are presented in Table 1.

[1] Bukhara State Medical Institute

Table 1

INFORMATION ON COMORBIDE DISEASES DETECTED IN PATIENTS RESEARCHED FOR RESEARCH

№	Groups / Indicators	Patients with chronic heart failure II-III FC with albuminuria and a single comorbid disease n = 40		Patients with chronic heart failure II-III FC with albuminuria and two comorbidities n = 40		Patients with chronic heart failure II-III FC albuminuria and three or more comorbid diseases n = 40	
		Absolute	%	Absolute	%	Absolute	%
1	Men	17	42,5	19	47,5	21	52,5
2	Women	23	57,5	21	52,5	19	47,5
3	Middle age	58,3±4,2		61,8±4,7		65,9±5,3	
DISEASES CAUSED BY HEART FAILURE							
1	Ischemicheartdisease	18	45	20	50	22	55
2	Ischemic heart disease, post-infarction cardiosclerosis	12	30	15	37,5	17	42,5
3	Hypertension	10	25	8	20	7	17,5
COMORBIDE DISEASES							
1	Obesity	7	17,5	8	20	8	20
2	Diabetesmellitus II	5	12,5	6	15	7	17,5
3	Chronicpyelonephritis	7	17,5	8	20	20	50
4	Chronicgastritis	5	12,5	15	37,5	14	35
5	IntestinalSyndrome	4	10	13	32,5	20	50
6	Period of remission of chronic bronchitis	2	5	4	10	20	50
7	Remission period of chronic obstructive pulmonary disease	1	2,5	7	17,5	17	42,5
8	Good quality adenoma of the prostate gland	2	5	6	15	14	35
9	Anemia 1, 2 degrees	5	12,5	10	25	17	42,5
10	Chronichepatitis	2	5	3	7,5	4	10

In order to study the relationship between albuminuria and fibrosis markers and their preoperative and postoperative dynamics, cystatin-S, aldosterone, b1-transforming growth factor (TGF-b1) levels in the blood were determined using the enzyme-linked immune-sorbent method. So, patients ’endurance to physical exertion was also assessed in meters, quality of life, and clinical status in points.

RESULTS OF RESEARCH

The correlation between the level of albuminuria and fibrosis markers aldosterone, TGF-b1 as well as their resistance to physical loads (six-minute walking test) in clinical patients and quality of life was studied in 120 patients with CHF in our follow-up.

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It is known that aldosterone is involved in water-salt metabolism, causing a number of changes in its amount in the blood. In the CHFincrease in this hormone in the blood is caused not only by the activation of the renin-angiotensin system, but also by a decrease in its clearance due to changes in the liver. As a result, the half-life period of aldosterone in plasma is significantly increased, and the amount of the hormone in the serum increases by 3-4 times. According to recent data, aldosterone not only affects water-salt metabolism, but also leads to the development of fibrosis processes in CHF. In this context, the inhibition of aldosterone production by slows the development of fibrous processes of CHF. Therefore, the study of the interaction of aldosterone with albuminuria in different comorbid conditions of CHF is of some practical importance (Figure 1).

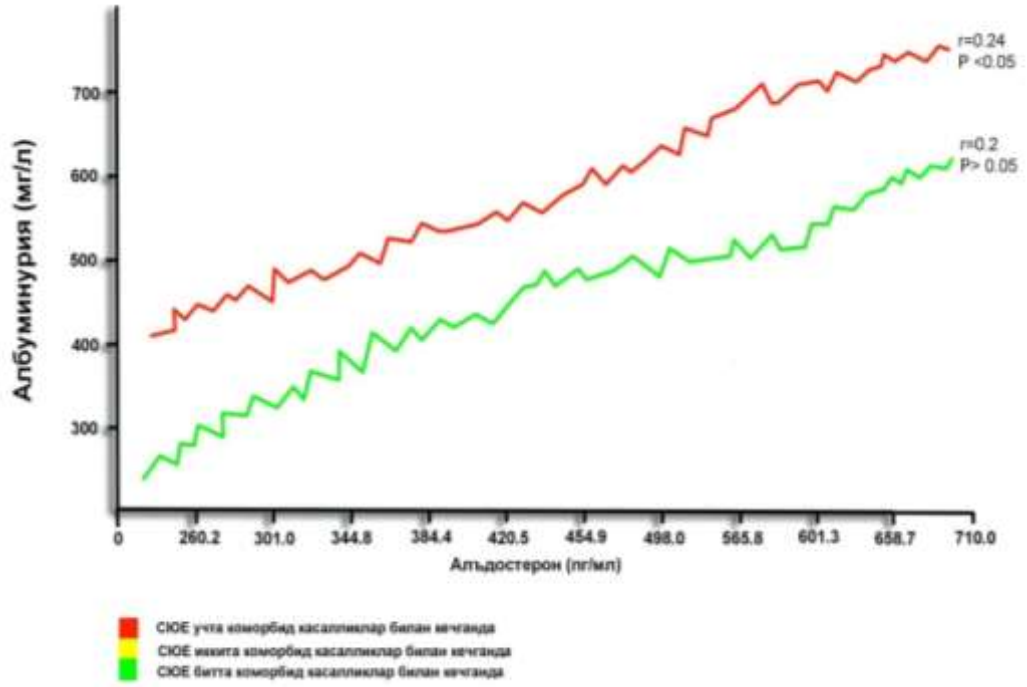
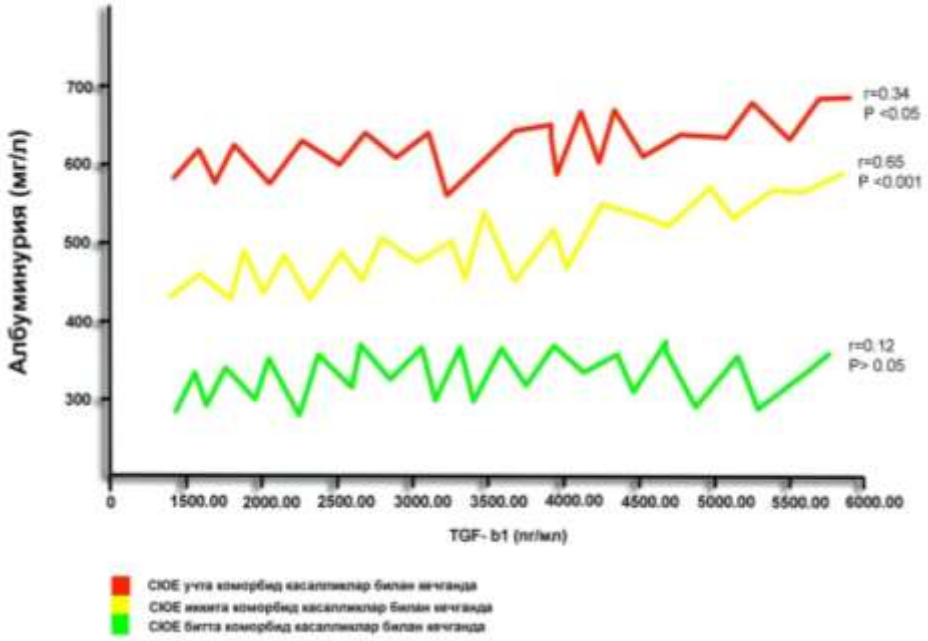


Figure 1.

Correlation between albuminuria and aldosterone in chronic heart failure with a number of comorbid diseases

A reliable correlation between albuminuria and aldosterone was found in the second and third groups of patients (r = 0.2; R <0.058 and r = 0.24; P <0.05), as shown in the diagram, in the case of CHF with one, two and three or more comorbid diseases. Thus, the development of fibrous processes in the patient's body and, above all, in the heart and kidneys, in parallel with CHF in parallel cases is accompanied by albuminuria. TGF-b1 belongs to the family of classic cytokines and is a leading factor in the proliferative chain not only in the development of heart and blood vessels , but also nephrosclerosis. An increase in its amount in the blood of patients with CHF reflects the interdependence of fibroplastic changes. Uremic toxins produced in the proximal segments of the nephron increase the concentration of TGF-b1 in the blood. It, in turn, accelerates the process of tubule-interstitial fibrosis, which is the main cause of loss of renal function. In this context, it is important to study the relationship between albuminuria and this cytokine (Figure 2).

Figure 2. Correlation between albuminuria and TGF-b1 in chronic heart failure with a number of comorbid diseases



In this case, CHF between albuminuria and TGF-b1 in one comorbid disease r = 0.12 (R> 0.05), in two and three or more comorbid diseases r = 0.65 (P <0.001) and r = 0 , 34 R <0.05) correlation was determined. This confirms that albuminuria is a marker indicating not only the functional status of the kidney but also the processes of tubulointerstitial fibrosis in it.

The main effectiveness of treatment of patients in accordance with generally accepted principles is determined by the improvement of their quality of life and prolongation of life. In this context, it is of practical importance to study the effects of albuminuria on patients' physical endurance, clinical condition, and quality of life when CHF occurs with a variety of comorbid conditions. The correlation between albuminuria and the six-minute gait test was r = 0.1 (R> 0.05) when CHF was present with a single comorbid disease. With two and three or more comorbid diseases, r = 0.19 (R <0.001) and r = 0.12 (R <0.05), respectively, changed reliably (Figure 3).

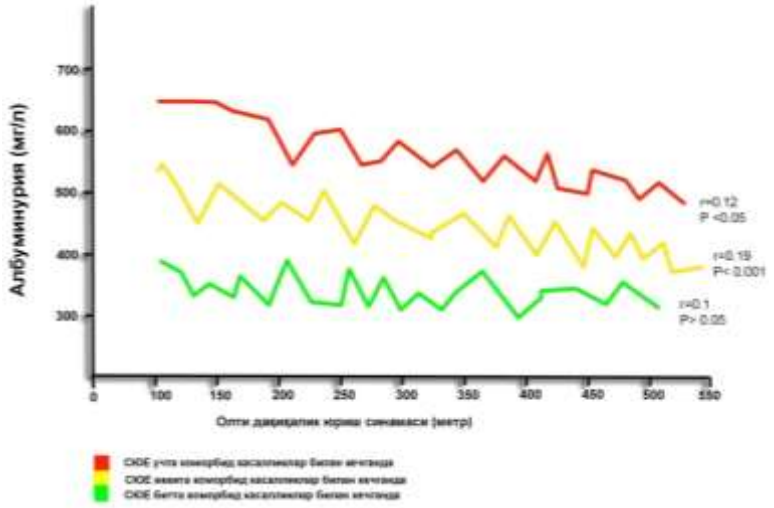


Figure 3. Correlation between albuminuria and six-minute walking test in chronic heart failure with a number of different comorbidities

That is, it was found that an increase in the inclusion of CHF comorbid diseases led to a decrease in patients 'resistance to physical exertion. The correlation between albuminuria and their clinical status in patients, when CHF occurs with various comorbid diseases was studied, the following was found (Figure 4).

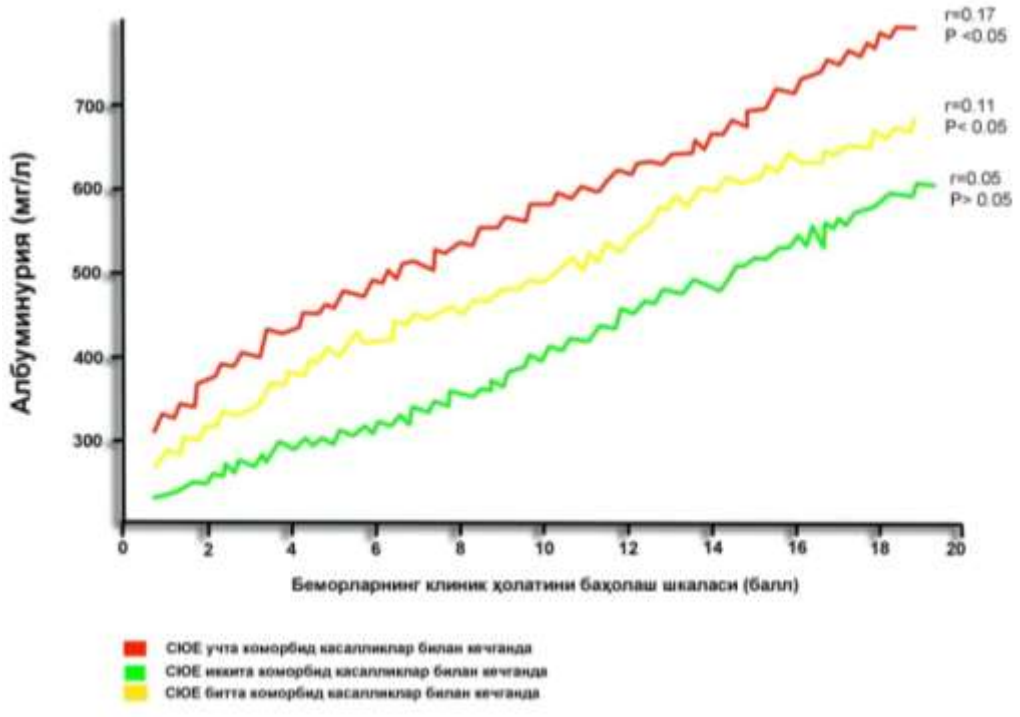


Figure 4. Correlation between albuminuria and clinical status scores when chronic heart failure is associated with a different number of comorbidities.

CHF with one comorbid disease r = 0.05 (P> 0.05), with two comorbid diseases r = 0.11 (P <0.05) and with three or more comorbid cases r = 0.17 (P < 0.05) and the clinical condition of the patients in the last two groups was markedly worsened.

Conclusions. As the number of CHF comorbidities increases, so does the rate of overnight proteinuria. Proteinuria was 335.6 ± 15.3, 449.9 ± 18.9, and 614.4 ± 23.3 mg / l, respectively, when he underwent single, double, and triple disease.

There is a correlation between CHF conditions between proteinuria indicators and the number of comorbidity and fibrosis markers. Proteinuria and comorbidity also increased in sync with aldosterone and TGF-b1.

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