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CLINICAL AND IMMUNOLOGICAL FEATURES OF NON-SPECIFIC ULCERATIVE COLITIS

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Abstract: To study the clinical and immunological features of nonspecific ulcerative colitis. The absolute and relative composition of T- and B-lymphocytes, the concentration of immunoglobulins of classes A, M, G, the number and functional activity of natural killers in 48 patients diagnosed with ulcerative colitis were studied.

Decrease in relative number of T-lymphocytes, increase in relative and absolute number of B-lymphocytes, concentration of class A, M, G immunoglobulins, number and functional activity of natural killers were found. It has been confirmed that the state of the immune system in patients with UC directly depends on the form of the disease, the severity of the disease and the activity of the pathological process.

Our results confirm that the determination of the state of the immune system in UC can serve as a criterion for determining the form and severity of UC.

Keywords: ulcerative colitis, immunology, T- and B-lymphocytes, natural killer cells..

Relevance. Despite recent successes in the modern treatment of non-specific ulcerative colitis (UC), it is currently one of the urgent problems of gastroenterology[1,10,13,15,16,17]. Nonspecific ulcerative colitis is characterized by a high risk of severe complications, a long course, seasonal recurrence, a high degree of disability in patients with this disease, mainly young and healthy working age people are affected [2,3,9 ,11,14,18,19,20,28,29,30]. In recent years, researches have focused on studying the features of the immune system in the pathogenesis of non-specific

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ulcerative colitis, showing its importance and determining the outcome of the disease in many ways[4.5,6,7,8,12,21,22,23].

In particular, in the study of the pathogenesis of non-specific ulcerative colitis, scientific studies have begun to confirm the importance of changes in certain parts of the immune system: a decrease in the total number of T-lymphocytes, their subpopulation heterogeneity, as well as changes in B-lymphocytes and natural killers [4,9,24,25,26,27].

Thus, studying the characteristics of changes in the immune system depending on the severity and form of the disease, the activity of the pathological process in the large intestine, developing clinical and immunological diagnostic criteria, forecasting the consequences of the disease, and developing the principles of immunocorrective therapy are currently relevant. is considered

The purpose of the study. Study of clinical and immunological characteristics of nonspecific ulcerative colitis.

Research materials and methods. 48 patients with a diagnosis of non-specific ulcerative colitis were observed in the therapy department of hospital №1 in Samarkand city. The age of the patients is 16-62 years, 28 of them are men and 20 are women. All patients were subjected to the following examination methods according to the standard: biochemical, X-ray, endoscopic (rector-mano-fibroscopy, colono-fibroscopy), immunological, bacteriological, histological examination of biopsy samples from the large intestine. 20 practically healthy individuals aged 17 - 56 years were examined as a control group.

Immune status was assessed according to accepted diagnostic standards. The absolute and relative content of T-lymphocytes, subpopulations of theophylline-resistant and theophylline-sensitive cells were determined. Also, the condition of the B-link of the immune system, the concentration of immunoglobulins of class A, M, G, the number and functional activity of natural killer cells were determined.

The results of the statistical processing of the obtained data were performed on the Rentum-IV computer using the Microsoft Excel program.

Results. In the study, patients were divided according to the classification of non-specific ulcerative colitis based on the severity of the disease, clinical forms of the disease and localization of the inflammatory process. This is shown in Table 1.

Table 1

The course of the disease	Clinical form		Localization of the inflammatory process				All	
	Chronic continuous	Chronic recurrent	Acute	Total	Left	Distal	Abs.	%
Light	-	10	-	-	3	7	10	20,8

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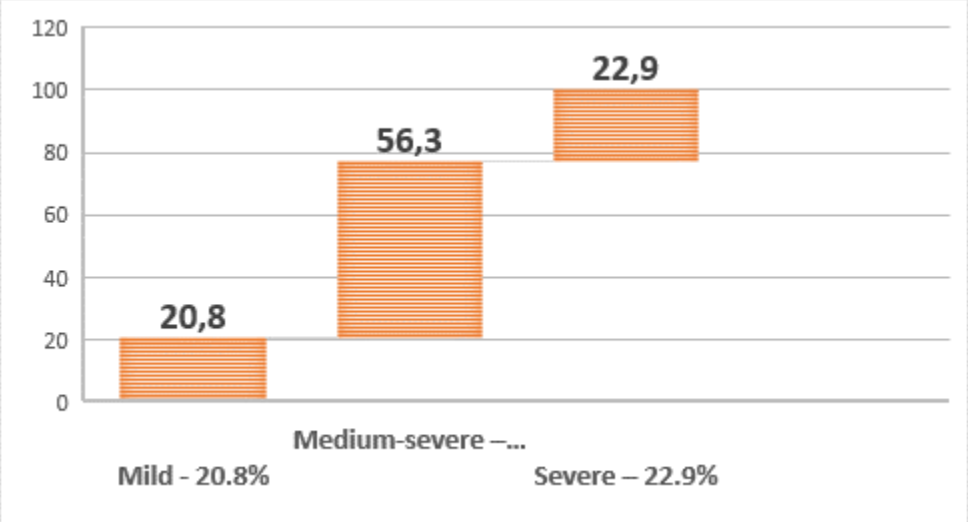
Medium heavy	**11**		**16**	**-**	**4**	**14**	**9**	**27**	**56,3**
Heavy	**7**		**2**	**2**	**9**	**2**	**-**	**11**	**22,9**
All	**Abs.**	**18**	**28**	**2**	**13**	**19**	**16**		
	%	**36,4**	**59,4**	**4,2**	**28,1**	**38,6**	**33,3**	**48**	**100**

20% of patients with a mild course of the disease, 56.3% with an average course, and 22.9% with a severe course of the disease were diagnosed as chronic relapse. This is shown in diagram 1.

Diagram 1



In our study, patients with chronic relapsing form of non-specific ulcerative colitis - 59.4%, chronic continuous form - 36.4%; acute form - was 4.2%. This is shown in diagram 2.

Diagram 2

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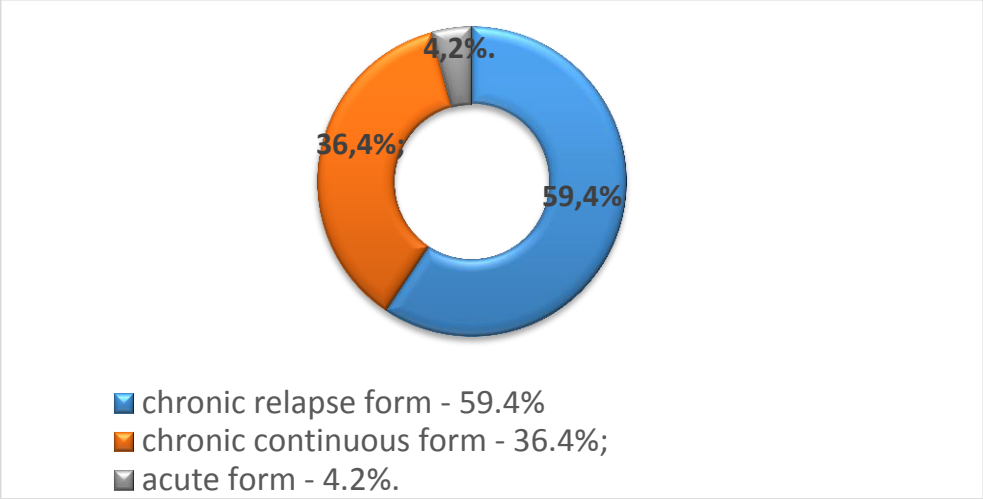

Clinical and immunological characteristics of patients with mild nonspecific ulcerative colitis:

We observed 10 patients with nonspecific ulcerative colitis aged 17 - 65 years. 4 of them are men and 6 are women. Other diseases (chronic hepatitis, chronic cholecystitis, acute appendicitis) were detected in 6 out of 10 patients, and when a full questionnaire and examination was conducted in these patients, it was found that they have symptoms of ulcerative colitis. 7 patients did not attribute their illness to anything.

Based on the anamnesis of those included in the study, it was found that all patients have a chronic recurrent form of the disease. The duration of the disease was 1-14 years. When analyzing the immune status of patients in this group, a decrease in the relative number of lymphocytes was revealed, i.e. 21.8+0.88% (25.76+1.0% in the control group). When redistributing their populations: a decrease in the relative number of T-lymphocytes, i.e. - 54.9 +2.6%; 0.76 + 0.06x109 / l (59.7 + 1.0% in the control group; 0.8 + 0.04x109 / l) and an increase in the relative and absolute number of B-lymphocytes, i.e. - 24.08 + 1, 5%; 0.33+0.03x109/l (20.5+1.0% in the control group; 0.26+0.02), $P<0.01$. T-lymphocyte subpopulations did not change significantly in these patients. A statistically significant increase in the concentration of IgE and IgA ($P<0.01$) was observed when studying the indicators of humoral immunity, and the content of IgM was 2.5 times higher than in the control group. The functional activity of natural killer cells showed only a decreasing trend.

Thus, in patients with mild nonspecific ulcerative colitis, changes in the immune system are characterized by a decrease in T-lymphocytes, an increase in B-lymphocytes and immunoglobulins of class A, M. Changes in the above indicators can serve as diagnostic criteria for mild chronic recurrent form of non-specific ulcerative colitis.

Clinical and immunological characteristics of patients with moderate nonspecific ulcerative colitis: Moderate course was diagnosed in 27 patients with nonspecific

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ulcerative colitis aged 15-67 years, 39% of whom had a chronic continuous form, 61 It was found that % had a chronic recurrent form of the disease.

When the condition of the patients' immune system was studied, it was found that the number of T-lymphocytes decreased, i.e. -48.3+1.2%; 0.72+0.06x109/l (59.7+1.0% in the control group; 0.8+0.04x109/l) P<0.001, T-helpers - 25.6+1.3%; 0.36+0.003x109/l (37.7+1.7% in the control group; 0.5+0.04x109/l) and T-suppressors - 14.4+1.31%; 0.19+0.02x109/l (19.4+1.3% in the control group; 0.25+0.02x109/l), a proportional decrease of R<0.01 was noted. An increase in IgA and IgM in blood serum was found when analyzing parameters of humoral immunity. It was found that the concentration of IgM was 2.3 times higher than in the control group, and in some subjects, this indicator increased by 3-7 times. The level of IgA also had a tendency to increase by 1.7 times.

In the group of patients with non-specific ulcerative colitis of moderate severity, 39% of patients had a chronic form of the disease. In these patients, we found the lowest level of T-cell immunity, in some patients, a 4-fold decrease in the prevalence of T-suppressors compared to the control group was noted. Average IgA values did not differ from healthy values.

Thus, the above indicators show that in comparison with moderate severity of non-specific ulcerative colitis with a mild course, having a pronounced clinical picture of the disease, a deficiency of the immune T-system, their subpopulations and natural killers are functional. decreased activity was observed. An imbalance of subpopulations of the immune system, such as a decrease in T-suppressors and an increase in B-lymphocytes, confirms the increase in the concentration of IgA and IgM.

Clinical and immunological characteristics of patients with severe non-specific ulcerative colitis: In our study, 11 patients aged 22-51 years had severe non-specific ulcerative colitis. 2 of them had acute, 7 had chronic continuous, 2 had chronic recurrent forms of the disease..

When the condition of the patients' immune system was studied, a sharp decrease of T-lymphocytes was observed against the background of normal indicators of the number of lymphocytes in the peripheral blood: 40.5+2.29%; 0.51+0.06x109/l (in the control group - 59.7+1.0%; 0.8+0.08x109/l), R<0.001. Levomycetin, long-term use of tetracycline, transfusion with delayed diagnosis, local and general complications such as anemia, cachexia, hepatomegaly, myocardial dystrophy, a decrease in the amount of total protein in the blood serum are the lowest in 41% of patients with acute and chronic continuous forms of the disease. indicators (21-36%; and 0.23-0.43x109 / l) were recorded.

In the group of patients with severe nonspecific ulcerative colitis, a decrease in the lymphocyte subpopulation against the background of T-lymphocyte deficiency was noted, that is, T-helpers -29.52+2.49%; 0.37+0.052x109/l (in the control group - 37.7+1.7%; 0.5+0.04x109/l) and T-suppressors - 12.23+1.26%; 0.15+0.02x109/l (in the

control group - 19.4+1.3%; 0.25+0.02x109/l), R<0.001. However, the degree of reduction by T-suppressors varied. The coefficient reflecting the balance of immunoregulatory cells increased by 2.4 + 0.2 (1.94 + 0.09 in the control group). Minimum values of T-suppressors were observed in 68.2% of patients, their change limits were 0.04-0.19x109/l (acute and chronic persistent forms of the disease). Along with the reduction of T-suppressors, the number of T-helpers also decreased.

We evaluated clinical and immunological characteristics for each group of patients with mild, moderate, and severe severity. despite the high concentration of precursors of natural killer cells, their functional activity was the lowest among all patients with nonspecific ulcerative colitis that we examined.

Thus, our study showed that changes in cellular and humoral immunity, functional activity of natural killer cells in nonspecific ulcerative colitis depend on the activity of the pathological process in the large intestine, the form and severity of the disease. Small changes in the T- and B-immune system were detected even in the mild form of chronic relapse. Increased activity of the disease, the spread of the pathological process in the large intestine, the expression of clinical and endoscopic manifestations, the decrease in the functional activity of natural killer cells, the expressed imbalance in the subpopulation of T-helper and T-suppressors deepen the deficiency of the T-system of immunity. Expressed imbalance of the immune T-system leads to the development of autoimmune reactions, systemic damage to all parts of the gastrointestinal tract, liver, heart and blood. It was noted that these manifestations were clearly manifested in chronic continuous and acute forms of nonspecific ulcerative colitis, in moderate and severe course. As a result of our research, we noted that the irrational, irregular use of antibiotics can lead to the deepening of the immune deficiency, the widespread spread of the inflammatory process, and the unfavorable outcome of the disease.

Summary. 1. Disorders of the immune system (cellular and humoral immunity) in patients with nonspecific ulcerative colitis directly depend on the form of the disease, the severity of the course, and the activity of the pathological process. Low indicators of the functional activity of natural killer cells indicate a severe course of the disease and an unfavorable prognosis, and are considered a criterion for diagnosing the severity of the disease.

2. It is recommended to determine the functional activity of natural killer cells as additional immunological criteria for the diagnosis of nonspecific ulcerative colitis.

3. When choosing immunomodulating drugs for differential therapy, it is recommended to determine the individual sensitivity of T-lymphocytes in the peripheral blood of patients to immunomodulating drugs.

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