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SYSTEMIC SCLERODERMA OCCURRING AGAINST THE BACKGROUND OF GASTROINTESTINAL TRACT LESIONS AND ITS CLINICAL AND IMMUNOLOGICAL FEATURES

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ABSTRACT

Systemic scleroderma (SSD) is a disease characterized by a degenerative-sclerosing process of connective tissue of the skin and internal organs with obliterating lesion of arterioles. The disease is generalized, systemic, and progressive and affects mainly women aged 30 to 40 years [2, p. 348; 4, p. 90]. The prevalence of SSD is not yet amenable to accounting due to the small acquaintance of doctors with it and the difficulties of diagnosis, even for a qualified specialist. However, in recent years there has been a noticeable increase in the diagnosis of this disease. Many erased cases of scleroderma are hidden under other diagnoses (Raynaud's disease, pneumosclerosis, esophageal disease, etc.) [1, p. 4; 3, p. 251].

The lesion of the gastrointestinal tract in SSD has such a clearly defined and peculiar clinical and radiological picture that, in its diagnostic significance, it comes to the fore among other visceral manifestations of systemic scleroderma [6, p. 18].

Despite the fact that recently, there have been studies devoted to the study of specific mechanisms of the development of the disease [5, p. 512]; many issues of the etiology and pathogenesis of SSD remain unclear.

The purpose of the research: to study the state of the immunological status and its participation in the pathogenesis of systemic scleroderma with lesions of the gastrointestinal tract.

Materials and methods of research: To solve the tasks set, we conducted an examination and treatment of 65 patients with SSD. In the group of patients under observation, women fell ill more often than men did (97% and 3.0%, respectively), the disease occurred in 80% of patients under the age of 50 years. The most numerous (53 patients; 81.5%) patients were the group of patients with stage II of SSD, which was characterized by generalization of the process. These patients had a lesion of the gastrointestinal tract. A small number of patients (4; 6.2%) with stage I are due to difficulties in diagnosing SSD in the first years of the disease. In the chronic course (58 people; 89.2%), the disease most often began with Raynaud's syndrome, and in the

subacute 7 patients (10.8%) – with articular syndrome. The onset of the disease with symptoms of gastrointestinal tract damage was not observed in any patient.

Cellular and humoral parameters were determined to study immune status disorders in 28 patients. The control group consisted of 25 healthy donors.

Targeted X-ray examination of the chest organs, contrast examination of the esophagus, stomach, duodenum and small intestine was performed in 65 patients; serial cholecystography was performed in 27 patients according to indications. Endoscopic examination with examination of the esophagus, stomach, and duodenum was performed according to the indications of 18 patients. Ultrasound examination of the liver, gallbladder, and pancreas was performed in 40 patients.

Research results and their discussion: in the patients with SSD observed by us, gastrointestinal tract lesion was diagnosed in 98.5% of cases. We have found that the severity of the lesion of the digestive tract in most cases increases in proportion to the stage of SSD. A detailed clinical and radiological examination of patients revealed esophageal lesion in 81.2%, and small intestine lesion in 84.6% of cases. It turned out to be generalized in all patients.

According to our observations, pathological changes in the gastrointestinal tract during endoscopic examination of patients with SSD were detected in 27.7% of cases. It should be noted that for the diagnosis of gastrointestinal tract lesions in patients with diabetes, the use of esophagogastroduodenoscopy is less appropriate than radiography.

In the above study, X-ray signs of pathology of the gallbladder and biliary tract were detected in 15 (45.6%) of 27 patients with SSD. Radiologically, gallstones were found in 4 out of 15 patients, and biliary dyskinesia was found in 11 patients, including hypomotor dyskinesia in 4 and hypermotor dyskinesia in 7. The defeat of the biliary tract in patients was combined with damage to the liver, pancreas, and duodenum.

According to ultrasound data, pancreatic tissue fibrosis is most common in patients with SSD in all 3 stages (61.5%). Increased hydrophilicity of the tissue is determined less frequently, which corresponds to the clinical picture of pancreatic lesions in patients with SSD, characterized by the absence of pronounced pain attacks.

Analysis of data on the state of the gastrointestinal tract in patients with SSD has shown that the use of complex research methods, such as targeted X-ray examination of the esophagus, stomach, duodenum, small intestine, cholecystography and ultrasound increases the frequency of detection of gastrointestinal tract lesions in the early stages of the sclerodermic process and clarifies the nature of these changes.

In the group of patients examined by us, the content of T-lymphocytes ranged from 23 to 70%. The content of T-lymphocytes averaged 46.11± 2.83%, i.e. it was significantly less than in healthy donors ($P< 0.01$). The absolute number of T-lymphocytes in these patients ranged from 270 to 2178 in 1 ml. On average, the absolute content of T-lymphocytes was 1002.53±104.5, which corresponded to the number of T-lymphocytes in healthy donors.

In patients with SSD, the content of T-suppressors (T-s) and T-helpers (T-h) before treatment corresponded to similar indicators in the control. The ratio of subpopulations T-s: T-h corresponded to the control value. Significant changes in comparison with the data in the control group were revealed when analyzing the content of B-lymphocytes in patients with SSD.

The content of B-lymphocytes in 54% of patients with SSD exceeded normal values. On average, the content of B-lymphocytes was significantly higher than the percentage of B-lymphocytes in the control group ($p<0.001$). The absolute content of B-lymphocytes in the blood of patients with SSD was almost 2 times higher than similar indicators in the control group ($P<0.001$). An increase in the content of B-lymphocytes is accompanied by an increase in their functional activity.

The above is confirmed by the results of the analysis of the concentration of immunoglobulins in the blood serum of patients with SSD. The concentration of IgA in the blood serum of patients with SSD exceeds its level in the control group by 64%, IgM-by more than 2 times, and IgG-by 66% ($P < 0.01$; $P<0.001$; $P<0.001$, respectively).

In our studies, ANF was detected in 38 (59%) of 65 patients and, as a rule, characterized the subacute course of the disease. Rheumatoid factor (RF) was detected in 29 (45%) of 65 examined patients, more often in low and medium titer.

Thus, there were no patients with stage I of the disease in the group we examined. In patients with SSD with stage II of the disease, there was a tendency to decrease the content of T-lymphocytes (compared with the data of the control group), in patients with stage II of the disease, this decrease was more pronounced. The content of T-h in the blood of patients with SSD in stage II of the disease does not differ from the same indicator in the blood of healthy donors, whereas in patients with stage III of the disease, the content of

T-h slightly exceeds the control level. The content of T-s in peripheral blood in patients with DM in stages II and III of the disease does not significantly differ from the same indicator in the control group.

The ratio T-h: T-s is more demonstrative in patients with different stages of SSD. In patients with SSD in stage III of the disease, this ratio significantly exceeds the control value, but is statistically unreliable. The revealed differences indicate the dependence of the nature of the subpopulation ratios on the stage of the disease. The content of B-lymphocytes in peripheral blood appears to be more dependent on the stage of the disease. In stage II of the disease, the content of B-lymphocytes exceeds that of healthy donors ($P<0.001$), and in stage III of the disease, the content of B-lymphocytes increases to a greater extent ($P<0.001$).

Quantitative changes in B-lymphocytes correspond to the change in the concentration of immunoglobulins in blood serum observed in patients with SSD. The concentration of SHPA in patients with stage I of the disease does not differ from the concentration of healthy donors. At stage II of the disease, the concentration of IgA in the blood serum is increased ($P < 0.01$), at stage III of SSD, the highest concentration of IgA is determined ($P < 0.05$). In all patients with DM, regardless of the stage of the disease, there is an increase in the concentration of IgM ($P <0.05$; $P<0.001$; $P<0.001$; for patients in stages I, II, III of the disease, respectively). The level of IgG in patients in stage I of the disease tends to increase ($P<0.05$), in stage II and III there was a high level of IgG in the blood serum ($P<0.01$; $P<0.001$; for patients in stages II and I, respectively).

The rate of development of immunopathological reactions determines the degree of activity of the disease. The decrease in the content of T-lymphocytes is most pronounced in patients with CVD with III degree of activity ($P<0.001$). There were no changes in the amount of T-h in patients with I and II degree of activity, whereas in patients with III degree of activity, the

content of T-h was significantly increased compared to the control group (P<0.01). The content of T-s in patients with SSD decreases as the activity of the disease increases, reaching a minimum in patients with grade III activity (P<0.001). At the I and II degrees of disease activity, the ratio T-h: T-s does not differ from the control value, while at the III degree of activity, this coefficient significantly exceeds the control (P<0.001). An increase in the content of B-lymphocytes is manifested in patients with SSD with all degrees of activity. At the same time, the degree of increase in the content of lymphocytes in the blood corresponds to a greater activity of the pathological process. The concentration of immunoglobulins of classes A, M, G in the blood serum of patients with SSD in comparison with the control group is increased regardless of the degree of activeness of the disease.

CONCLUSIONS

1. A comprehensive examination of patients with SSD revealed a lesion of the gastrointestinal tract in 98.5% of cases. The severity of clinical symptoms and laboratory changes directly correlates with the nature of the course and stage of the sclerodermic process.
2. The leading disorders in SSD are changes in the T- and B-systems of immunity. These changes manifest themselves in the form of a decrease in the percentage of B-lymphocytes and an increase in the concentration of immunoglobulins (A, M, G). The direct dependence of changes in immunological parameters on the stage of activity of the pathological process was revealed.
3. The results obtained indicate the direct involvement of the identified immunological disorders in the pathogenetic mechanisms of SSDs.

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