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# REACTIVITY OF THE BODY OF PATIENTS WITH COMPLEX FORMS OF ACUTE PURULENT PARAPRACTITIS

**Karabaev Jurabek Aminjon ugli**,
Candidate of the Department of General Surgery, Samarkand State Medical University, Samarkand, Uzbekistan.

**Annotation.** In the study of patients with sciatica-rectal paraproctitis in the proctological department, the inflammatory nature of complex forms of acute purulent paraproctitis of a sciatica-rectal, retro-rectal, pelviorectal nature depends on the reactivity of the body, the MDA/catalase coefficient, and the MSM280/MSM254 protein stability coefficient. Depending on the complex forms of acute purulent paraproctitis of sciatica, retroectal, pelviorectal nature, a decrease in the reactivity of the body, an increase in the MDA/catalase coefficient, a decrease in the MSM280/MSM254 coefficient of protein stability have been determined and serves as a criterion for determining the severity of acute purulent paraproctitis of sciatica, retroectal, pelviorectal nature.

**Keywords.** Reactivity of the body, adaptation, prooxidant. antioxidant, endogenous intoxication, protein stability coefficient sciatica, retroectal, pelviorectal paraproctitis.

**Relevance.** Currently, forecasting and tactics of choosing surgical treatment methods remain one of the urgent problems in surgical proctology [7, 11]. In recent years, the development of industry around the world has contributed to environmental disruption and, in turn, as stressors acting on the human body, contribute to the development of adaptive processes. According to P.D. Horizontov, five stages of adaptive processes develop in the human body: 1. Mobilization of energy and structural resources; 2. Activation of functional systems of the body; 3. Activation of the prooxidant system; 4. Activation of the adenylate cyclase system; 5. Activation of the anabolic process to ensure long-term adaptation [4]. In the process of this kind of reactivity, with prolonged exposure to stressful factors in the body, energy materials are exhausted, and, accordingly, the body's adaptive capabilities decrease. A sharp decrease in the reactivity of the body is also facilitated by a decrease in the specific reactivity of the body. We know that the development of destructive changes in the human body plays an important role in reducing the body's resistance. One of these manifestations in the

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body is acute paraproctitis. In recent years, issues related to the diagnosis and treatment of patients with this pathology have been the subject of worldwide debate [7, 11, 9]. Since this pathology is one of the most common proctological diseases, and its frequency varies from 20 to 40% of all diseases of the rectum [6, 13, 15]. According to some authors, the issues of etiopathology, the development of acute paraproctitis, prognosis and choice of tactics of surgical and antibacterial treatment are very controversial [9, 12, 14]. In this regard, rapid diagnostics of the body's reactivity, pro-oxidant, antioxidant activity of the body and indicators of endogenous intoxication during aerobic infection in patients with acute paraproctitis for performing initial rehabilitation surgery is an urgent problem.

**The purpose of the study.** To identify the state of the body's reactivity, pro-oxidant, antioxidant activity and indicators of endogenous intoxication, the coefficient of protein stability in pararectal purulent paraproctitis

**Materials and research methods.** The scientific study was conducted during 2021-2025 in 30 healthy men and 30 patients with acute sciatica at the age of 35-40 years. In the proctology department of the multidisciplinary clinic No. 1 of the Samarkand State Medical University**.**

The reactivity of the patients“ body was determined using the Neurolab Biomish KPF-01b device Depending on the stress of the system during data processing, four types of functional nosological diagnosis were established. Exactly: 1. Normal (hyperadaptive) or satisfactory adaptive state; 2. Functional stress; 3. excessive stress or unsatisfactory adaptive state; 4. The occurrence of maladaptive state. In each case, the device provides data on the state of the autonomic nervous system and humoral regulation of the body. In addition, the content of MDA, catalase activity, indicators of endogenous intoxication of MSM 254 and MSM 280, and the coefficient of protein stability in the blood were determined. The reliability of the differences in the data obtained was analyzed using the Microsoft Office - Excel 2000 package. The difference between the two compared indicators was assumed to be significant at $P=0.05$ and $P<0.05$ using the Student's t-test.

**The results obtained and their discussion.** When examining the heart rate variability index in healthy men, the primary mathematical indicator Amo-mode amplitude was 37.7±1.1%, the secondary geometric indicator IVR-the index of vegetative equilibrium was 137.6±7.8, and the VPR-the vegetative rhythm index was 5.3±0.3, IN-the stress index of the regulatory system was 100.5± 6.0 and the spectral In the TR analysis, the triangular index was 9.6±0.4, and the functional state index was 3.5±0.3. At the same time, HF was a relative

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indicator of the parasympathetic nervous system, 34.1±0.7%, and LF was a relative indicator of the sympathetic nervous system. it was 43.2±0.6%%, VLF - the relative indicator of humoral regulation was 22.6±1.0%%, LF/HF - centralization of regulatory systems at the same time was 1.26±0.1. If the data obtained are interpreted with data from other researchers. the reactivity of the body in healthy men is in a state of hyperadaptive reactivity [2]. Against the background of this kind of reactivity of the body in the prooxidant system, the indicator of malondialdehyde in the blood was 3.6±0.2 mmol/l, the activity of the antioxidant system was blood catalase 0.93± 0.01 mmol/s*L. At the same time, the MDA/catalase coefficient was 4.1±0.2 cu, the indicators of endogenous intaxification MSM254-0.243± 0.01 cu, MSM280-0.250± 0.01, the coefficient of protein stability 1.0±0.04 cu. If the data obtained are compared with the data of scientists, then against the background of hyperadaptive reactivity, the indicators of prooxidant, the antioxidant system, indicators of endogenous intoxication are in a balanced state [8, 10].

When examining the heart rate variability index in patients with a complex form of parapractitis - with an ischoorectal form of paraproctitis, the primary mathematical indicator revealed an increase in the amplitude of the mode ($P<0.001$) compared with the data of normal Amo indicators, the secondary geometric indicator IVR-the index of vegetative equilibrium ($P<0.001$), and VPR-the vegetative rhythm index ($P<0.001$), IN-index voltage of the regulatory system. At the same time, in the spectral analysis, the TP-triangular index, the functional state index ($P<0.001$), HF-the relative indicator of the parasympathetic nervous system ($P<0.001$), VLF- the relative humarrhal regulation, against the background of an increase in LF-the relative indicator of the sympathetic nervous system ($P<0.001$), LF/HF - centralization regulatory systems ($P<0.001$).

If the data obtained is interpreted with the data of scientists, then the body's reactivity in healthy men is in a state of intense reactivity [3]. Against the background of this kind of reactivity of the body, the prooxidant system revealed an increase in the amount of MDA in the blood to 4.0±0.1 mmol/l ($P<0.001$), the activity of the antioxidant system, blood catalase, decreased to 0.87± 0.01mmol/s*L. ($P<0.001$), while the MDA/catalase coefficient increased to 4.6±0.1 cu, the indicators of endogenous intaxification of MSM254 increased to 0.296±0.01 cu, MSM280 to 0.269±0.01, the coefficient of protein stability decreased to 0.92±0.02 cu. If the data obtained are compared with the data Against the background of intense reactivity of the body of patients with ischemic parapractitis, an increase in the MDA/catalase coefficient, an indicator of endogenous intoxication, and a decrease in the protein stability coefficient ($P<0.05$) were revealed.

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Examination of patients with retroctal parapractitis revealed an increase in the activity of the sympathoadrenal system, a decrease in humoral regulation, and a functional state of the body. Since at the same time, in the heart rate variability compared with the data of the sciatica-rectal form of parapractitis, the Amo index increased 1.1 times (P<0.05), IVR-the index of vegetative equilibrium 1.37 times (P<0.05), VPR – the vegetative rhythm index 1.26 times (P<0.01), In- the index of tension of vegetative regulation 1.45 times (P<0.01). In the spectral analysis, against the background of a slight decrease in the triangular index, and the functional state of the body, humoral regulation (P>0.05), a decrease in the activity of the HF-parasympathetic component 1.25 times (P<0.001), an increase in the LF-sympathetic component of regulation 1.15 times (P<0.001), with centralization of the LH-sympathetic regulatory system 1.68 times (P<0.001). That is, the reactivity of the body in healthy men is in a state of excessive stress [3].

Examination of the indicators of pro-oxidant and anti-oxidant activity of patients revealed an increase in the MDA/catalase coefficient of 4.6 rha (P<0.001), MSM254-indicators of endogenous intoxication increased 1.6 times (P<0.001), MSM 280 1.5 times (P<0.001), the coefficient of protein stability decreased to 1.1 times (P<0.01).

Examination of patients with pleuorectal parapractitis revealed a further increase in body reactivity, an increase in the activity of the sympathoadrenal system, a decrease in humoral regulation, and a functional state of the body. At the same time, in the heart rate variability compared with the data of the retroctal form of parapractitis, the Amo index increased 1.27 times (P<0.001), the IVR index of vegetative equilibrium 2.1 times (P<0.001), the VPR index of vegetative rhythm 1.97 times (P<0.001), the In index of vegetative regulation tension 2.45 times (P<0.001). Spectral analysis showed a decrease in the triangular index by 1.62 times (P<0.001), the functional state of the body by 6.0 times (P<0.001), humoral regulation by 1.04 times (P>0.05), a decrease in the activity of the HF-parasympathetic component by 1.66 times (P<0.001), and an increase in the LF-sympathetic component of regulation by 1.16 times (P<0.001),with centralization of the LH-sympathetic regulatory system 1.67 times (P<0.001) That is, at the same time, the reactivity of the body and excessive stress are an unsatisfactory adaptive state [3].

Examination of the indicators of pro-oxidant and anti-oxidant activity of patients revealed an increase in the MDA/catalase coefficient of 8.0 times (P<0.001), MSM254-indicators of endogenous intoxication increased 1.29 times (P<0.001), MSM 280 1.2 times (P<0.001), the coefficient of protein stability decreased to 1.07 times (P<0.01).

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Thus, in comparison with retroectal and sciatica, pelviorectal versus retroectal forms of paraproctitis are defined in heart rate variability, increased activity of sympathetic nervous regulation, decreased parasympathetic and humoral regulation, triangular inex, and the coefficient of functional state of the body, an increase in the MDA/catalase coefficient, an index of endogenous intoxication, and a decrease in the coefficient of protein stability. From the data obtained, it was shown that the course of complex forms of acute purulent parapractitis depends on reactivity, activity indicators of the pro-oxidant, antioxidant system, indicators of endogenous intoxication and the coefficient of protein stability.

If the data obtained are interpreted with the data of scientists, then depending on the degree of activity of the sympathetic nervous system, an overloaded hypoxic process occurs at the cellular level. At the same time, an increase in the number of active electrons against the background of activation of pro-oxidant activity, depletion of the antioxidant system. Acting on the body, it provides an increase in the index of endogenous intoxication and a decrease in the coefficient of protein stability in the cellular structure. Which in turn reduces the overall reactivity and resistance of the body. At the same time, depending on the decrease in the reactivity of the body, the functional state and cell resistance, the purulent inflammatory process in the pararectal patch is aggravated [1, 5], Since the results obtained, that is, a decrease in the reactivity of the body, an increase in the coefficients of MDA/catalase, MSM280//MSM254-the coefficient of protein resistance and is a prognostic criterion for determining the severity of acute purulent paraproctitis of sciatica, retroectal, pelviorectal character

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**Conclusions**

1. The inflammatory nature of complex forms of acute purulent paraproctitis of sciatica, retroectal, pelviorectal nature depends on the reactivity of the body and indicators of endogenous intoxication.

2. Depending on the complex forms of acute purulent paraproctitis of a sciatic, retroectal, pelviorectal nature, a decrease in body reactivity was determined, indicators of endogenous intoxication of the MDA/catalase coefficient increased, and a decrease in the MSM280/MSM254 protein stability coefficient.

3. A decrease in the reactivity of the body, an increase in the MDA/catalase coefficient, a decrease in the MSM280/MSM254 coefficient of protein stability serves as a criterion for

determining the severity of acute purulent paraproctitis of an ischiorectal, retroectal, pelviorectal nature.

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