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INDICATORS OF LIPID PEROXIDATION IN THE BLOOD OF PATIENTS WITH ATOPIC DERMATITIS

Resume: Laser therapy (LT) has long taken a strong position in modern medicine. The creation of highly efficient laser systems makes it possible to use LT methods in the treatment of many diseases and pathological conditions. One of the most common methods of exposure to low-intensity laser radiation (LLLТ) on the human body is intravenous laser blood irradiation (ILBI), which is currently successfully used in cardiology, pulmonology, endocrinology, gastroenterology, gynecology, urology, anesthesiology, dermatology and other fields of medicine. ...

Key words: blood, lipid, laser therapy, atopic dermatitis.

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ПОКАЗАТЕЛИ ПЕРЕКИСНОГО ОКИСЛЕНИЯ ЛИПИДОВ В КРОВИ У БОЛЬНЫХ АТОПИЧЕСКИМ ДЕРМАТИТОМ

Резюме: Лазерная терапия (ЛТ) уже давно заняла прочные позиции в современной медицине. Создание высокоэффективных лазерных установок позволяет использовать методы ЛТ при лечении многих заболеваний и патологических состояний. Одним из наиболее распространенных способов воздействия низкоинтенсивным лазерным излучением (НИЛИ) на организм человека является внутривенное лазерное облучение крови (ВЛОК), которое в настоящее время успешно используется в дерматовенерологии, кардиологии, пульмонологии, эндокринологии, гастроэнтерологии, гинекологии, урологии, анестезиологии, дерматологии и других областях медицины.

Ключевые слова: кров, липид, лазерная терапия, атопический дерматит.

Introduction. Atopic dermatitis is one of the most severe and common dermatoses that begin in early childhood. The disease is characterized by a chronic recurrent course, often resistant to many types of therapy [Skripkin Yu.K., 1990; Samsonov V.A., 1994; Jbng E.G., 1997].

The state of altered reactivity of the body in blood pressure is largely determined by the dysfunction of humoral-cellular factors of immunity. The research of domestic and foreign scientists has contributed to the study of immunity in AD [Vaisov A.Sh., G.A. Ismailova, N.R. Rasuleva, 1999; N.G. Korotky et al., 2001; E.V. Matushevskaya et al., 2003, 2006; O.R. Katunina, 2005; R.M. Zagrtidnova et al., 2006; Emson C.L. et al., 1998; Nickoloff B.J., 1999], and nevertheless there are still a number of poorly studied and controversial issues. These include, in particular, questions about the content of total IgE in the blood during blood pressure and the dependence of its concentration on the period of exacerbation and remission, the severity of the disease and the prevalence of the skin process.

Traditional methods of treatment used in dermatology are not always effective, and are often associated with a variety of side effects and complications [R.A.Капкаев, 2009]. The treatment of patients is an economic problem due to the high cost and shortage of medicines. In this regard, it is understandable that there is a great interest in drug therapies [T.U.Ulughodjaev, 2006; T.B.Rygzynova, 2006; Rakhmatov A.B., et al. 2014; Mamatkulov U.A. et al. 2014].

It is well known that in the pathogenesis of various dermatoses, changes in the immune system occupy an important place and have a significant impact on the course of the pathological process [N.G. Korotky et al., 2001; N.M. Sukhanova, 2003; E.V.Matushevskaya et al., 2003, 2006; O.R. Katunina, 2005; R.M. Zagrtidnova et al., 2006; Emson C.L. et al., 1998; Nickoloff B.J., 1999]. It has been established that disorders in the humoral link of immunity play an essential role in the occurrence

and course of atopic dermatitis (AD). As is known, Laser therapy is a universal pathogenetic method of influencing the humoral link of immunity.

Given the complexity of the pathogenesis of patients with blood pressure, which often occur against the background of diseases of the upper respiratory tract, gastrointestinal tract and nervous system, most authors emphasize the need to search for new therapies [A.S. Vaisov et al., 1998; A.B. Rakhmatov et al., 1998; A.M. Mannanov, 2000; T.U. Ulugkhodaev, 2006]. The complex method of treatment using Laser and external therapy, mainly therapeutic action, has a normalizing effect on the central nervous system and its vegetative link, on allergic and immunological processes.

The aim of the work was to study the nature of changes in catalase activity and the content of one of the end products of polyionic dialdehyde (MDA) in blood plasma under the influence of magneto-infrared light laser therapy in combination with external therapy (Vigantol and Advantan ointment).

Materials and methods. 71 patients with AD were under our supervision. According to the classification of B.T.Glukhenky and S.A.Grando (1990), we distinguish 2 clinical forms of blood pressure: a) the pruriginous form is severe in 48 (67.6%) patients; b) the lichenoid form is moderate in severity – 23 (32.3%). Among 71 patients with AD, there were 41 (57.7%) men and 30 (42.3%) women. The age of the patients ranged from 18 to 50 years. The duration of the disease in patients with psoriasis and blood pressure ranged widely from 1.5 to 45 years.

Results. Of the 71 patients with AD, 14 (19.7%) had the disease after vasomotor allergic rhinitis, 8 (11.3%) after bronchial asthma, 12 (16.9%) after chronic bronchitis, 14 (19.7%) after chronic pneumonia and 27 (38.3%) after chronic tonsillitis.

In complex therapy using magneto - infrared light - laser therapy in patients with hypertension, special attention was paid to concomitant diseases that were important in the pathogenesis and clinical course of dermatoses.

The content of one of the end products of HALF-malondialdehyde in blood plasma was determined by Yu.A.Vladimirovu and A.I.Archakov (1972). The concentration of this complex was determined using a Gilford – 260 spectrophotometer (USA).

The activity of blood catalase was determined by Bergmeyer H.Y.

As is known, the state of tissue hypoxia leads to the activation of free radical SEX processes. At the same time, as a rule, there are changes in the state of individual components of the body's antioxidant systems. Studies of the activity of blood catalase involved in the destruction of products of free radical lipid peroxidation and the determination of one of the end products of HALF-malondialdehyde in patients revealed changes compared with the norm. Catalase activity was reduced in 16 examined patients regardless of the pathology (BP – 191.46 ± 2.17 ($P > 0.05$); the norm is 313.04 ± 0.52 units of extinction), and the MDA content is increased (blood pressure is 4.42 ± 0.04 nmol/ml ($P < 0.05$); the norm is 3.20 ± 0.06 nmol/ml). This indicates that a change in the activity of free radical processes is one of the essential components of the pathogenesis of patients with blood pressure (Tables 1 and 2).

The analysis of clinical and laboratory data allowed us to draw the following conclusions. In the studied group of patients with blood pressure, violations of catalase activity and the content of one of the end products of HALF-malondialdehyde in blood plasma were revealed.

The degree of revealed GENDER disorders, the torpid course of dermatoses that are poorly treatable using traditional medicinal methods, the presence of contraindications to commonly used therapies, including concomitant diseases, is important both in evaluating subsequent data on the course of dermatoses and evaluating the therapeutic effectiveness of the drugs and treatment methods used. For this purpose, and with the impossibility of direct influence on the primary links of pathogenesis, schemes for the optimal mode of magneto-infrared light - laser therapy

in patients with blood pressure were developed for treatment (one procedure per day, procedures were performed daily, except Sundays, only 10-14 procedures).

The objective of laser therapy in the treatment of atopic dermatitis is the following direction: reducing the excitability of sensitive receptors in the affected area, activating regenerative and anti-inflammatory processes, eliminating the phenomena of endogenous intoxication, restoring immune activity.

The plan of therapeutic measures includes exposure directly to the affected area, irradiation of segmental innervation zones in accordance with the localization of the pathological focus. Zones of segmental innervation of individual parts of the body irradiation of the liver and lungs in the projection of Krenig fields (the area of the apices of the lungs). Modes of irradiation of therapeutic zones in the treatment of atopic dermatitis of the projection zones of the kidneys.

Exposure parameters: frequency 150 - 600 Hz, LED power 30 W, exposure for each zone – 2 minutes, per course – 10 - 15 procedures (one procedure per day in the morning).

Additionally, patients with atopic dermatitis received: vitamin therapy of group "B" (B-1, B-6, B-12), antihistamines and diuretics, externally – cream balm "Sea Buckthorn with mummy". The ointment was applied to the affected surface 2 times a day throughout the entire period of magneto -infrared light - laser therapy.

The results and their discussion. In order to select the optimal number of complex treatment procedures for patients with blood pressure, we carried out treatment according to two schemes: 5-7 and 10-14 complex treatment procedures per course under the mode of magneto -infrared light - laser therapy. External therapy was carried out in the form of a cream balm "Sea Buckthorn with mummy" the cream was applied in a thin layer 2 times a day.

After the 5th procedure of complex treatment, an increase in catalase activity was noted in patients. In the study, a week later, with the first scheme of complex therapy, the increase in its activity continued, significantly exceeding the baseline values of patients with blood pressure (236.3 ± 1.2 units of extinction) ($P < 0.05$). In

the second scheme of complex therapy, catalase activity, having increased by the 5th procedure of complex treatment, returned to the initial data by the end of complex treatment.

The content of MDA in both 5-7 procedures of complex treatment and 10-14, all patients studied showed a slight decrease in MDA (Tables 1 and 2).

Conclusion. Thus, an increase in catalase content after short courses of complex treatment using magneto - infrared light - laser therapy in patients with blood pressure is associated with the compensatory mechanism of the body. After 10-14 procedures of complex treatment using magneto - infrared light - laser therapy, a decrease in catalase concentration is associated with depletion of the compensatory mechanisms of the body. The level of MDA in the blood serum decreases after complex treatment using magneto - infrared light - laser therapy. This has a positive effect on the skin process, as lipid peroxidation decreases and tissue hypoxia disappears as a result.

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