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PECULIARITIES OF THE FORMAT OF GENETIC BLOOD SYSTEMS IN PATIENTS WITH ORAL LICHEN PLANUS

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Ключові слова: *слизова оболонка порожнини рота, червоний плескатий лишай, еритроцитарні системи крові, генетична детермінованість, оклюзійні співвідношення щелеп*

Abstract. Peculiarities of the format of genetic blood systems in patients with oral lichen planus. Proschenko A.M., Proschenko N.S., Zelinskaya N.A., Reshetnyk L.L., Chervonna N.V., Bida O.V. *The number of patients with oral lichen planus (OLP) has increased due to the raise of aggressive forms of the disease (erosive, ulcerative and hyperkeratotic forms) with a possible risk of malignancy. There are isolated researches which indicate a genetic*

determinism to OLP, but more often these conclusions are based on insufficiently adequate and out of date methods, which make it impossible to correctly interpret the obtained data. The aim was to identify a genetical predisposition with a programmed risk to the oral lichen planus. The main group – 278 patients with the OLP (aged 26-65 years). The control group – 298 people (blood donors) who didn't have dental diseases, as well as diseases of internal organs and systems. The groups were homogeneous by gender and age. In our research we used such methods: clinical, radiological, immunogenetic, statistical methods were used. The erosive form of OLP was associated with 0(I) group in 54.2±0.4% of cases, while the hyperkeratotic form was associated with group 0(I) only in 28.7±1.8% of cases. B(III) and AB(IB) groups were less often associated with the erosive form of OLP and were observed in 17.3±0.1% and 2.0±0.1% of cases, respectively. The integration of A(II) group in the erosive form of OLP was 30.5±0.1%, but the indicator was higher than in individuals with B(III) and AB(IV) groups. Hyperkeratotic form of OLP was more often observed in A(II) carriers than in 0(I) and was 44.1±0.1% versus 28.7±1.8%, respectively. With blood group B (III), the relationship with OLP is not traced. Correlative relationship with erythrocyte blood antigens of the ABO system in patients with oral lichen planus was established. Risk groups for the development of erosive and hyperkeratotic forms of lichen planus in patients with gastrointestinal tract pathology O(I)>A(II)>B(III) – with erosive form and A(II)>O(I)>B(III)) – with hyperkeratosis.

Реферат. Особливості формату генетичних систем крові у хворих на червоний плескатий лишай слизової оболонки порожнини рота. Прощенко А.М., Прощенко Н.С., Зелінська Н.А., Решетник Л.Л., Червонна Н.В., Біда О.В. *За останні роки кількість хворих на червоний плескатий лишай (ЧПЛ) слизової оболонки порожнини рота (СОПР) зросла вдвічі за рахунок збільшення агресивних форм ЧПЛ з можливим ризиком до малігнізації. У літературі є поодинокі дослідження, які вказують на генетичну детермінованість до ЧПЛ СОПР, але частіше ці висновки були отримані, спираючись на недостатньо адекватні та сучасні методи дослідження, що унеможливлюють правильну інтерпретацію отриманих даних. Метою було виявити генетичну схильність із запрограмованим ризиком до червоного плескатого лишаю слизової оболонки порожнини рота. У дослідженні пацієнти були розподілені на 2 групи: основна група – 278 пацієнтів з ЧПЛ СОПР (віком 26-65 років) та контрольна – 298 осіб (донори крові), де стоматологічні захворювання, а також захворювання внутрішніх органів і систем були виключені. Групи були однорідними за віком і статтю. Були застосовані клінічні, рентгенологічні, імуногенетичні та статистичні методи. Ерозивна форма ЧПЛ у 54,2±0,4% випадків асоціювалася з 0(I) групою крові, а гіперкератозна форма була поєднана з групою крові 0(I) тільки у 28,7±1,8% випадків. Групи крові В (III) та АВ (IV) рідше асоціювалися з ерозивною формою ЧПЛ, яка спостерігалася в 17,3±0,1 і 2,0±0,1% випадків відповідно. Інтегрованість А(II) групи крові при ерозивній формі ЧПЛ була достовірно нижче, ніж при носійстві 0(I), і становила 30,5±0,1%, проте показник був вище, ніж в осіб з В (III) та АВ (IV) груп крові. Гіперкератозна форма ЧПЛ частіше спостерігалася при А(II) носійстві, ніж при 0(I), і становила 44,1±0,1% проти 28,7±1,8% відповідно. З групою крові В(III) взаємозв'язок з ЧПЛ не простежується. Установлено корелятивний зв'язок з еритроцитарними антигенами крові системи АВО у хворих на червоний плескатий лишай слизової оболонки порожнини рота. Деталізовані групи ризику для розвитку ерозивної та гіперкератозної форми ЧПЛ у хворих з патологією шлунково-кишкового тракту: О(I)>А(II)>В(III) – при ерозивній формі та А(II)>О(I)>В(III) – при гіперкератозній.*

Oral lichen planus (OLP) is a nodular chronic disease that occurs on the mucous membrane and skin and occupies a specific weight in the structure of dental diseases. The frequency of various forms of oral lichen planus varies from 17 to 80%. In recent years, the number of patients with OLP has increased due to the raise of aggressive forms of the disease (erosive, ulcerative and hyperkeratotic forms) with a possible risk of malignancy [1, 2]. In previous years OLP was diagnosed more often in women, but in recent years this direction has been changed towards almost equal components [3]. They state a significant "rejuvenation" of the OLP. A big problem for patients with OLP is that this disease is often affiliated with a number of concomitant diseases, in particular with diseases of the intestinal system.

It is characteristic that, having started on the oral musosa, OLP subsequently often affects various parts of the skin, but in the general structure of dermatological diseases, this pathology accounts for 1.5-2.5%.

In recent years, data have been obtained about the special susceptibility of people with a certain blood group to a number of chronic diseases, in particular to the OLP [4]. Such attention to the study of the influence of genetic blood systems of OLP was due to the fact that blood group isoantigens, as well as any of the components that determine the individuality of an antigen, due to certain circumstances, can be the cause of a violation of homeostasis with further development of the disease [5]. Most of the scientific works were devoted to the study of the influence of blood factors of the ABO(H) and Lewis systems [6]. Short time ago there has been evidence that these systems belong to a large histocompatibility complex – MHC (Maior Histocompatibility Complex), the main function of which is determinism and histocompatibility [7].

We emphasize that group-specific factors O, A, B are genetically determined, they are associated with the 9th chromosome. Formation of antigens A and B occurs under the influence of genes A and B on

substance H, which is one common precursor. The H antigen gene represses the transformation of the H substance and thereby forms the O antigen. Thus, for a complete characterization of the ABO system, the H component should be added, that is, the ABO(H) system should be determined [8].

In the literature, we didn't find any researches of the influence of MNS_S systems in patients with OLP. In our opinion, this is a certain disadvantage, because anti-M and anti-N antibodies don't fix the antigen-antibody complex and belong to the IgC class and can be a reason for the development of autosensitization of the body, which is often determined in the case of OLP [9].

The P_1 blood system is one of the systems under the influence of which a special tissue structure is formed, including oral mucosa, since the genes of this system are located on the 6^{th} chromosome, near the Human leukocyte antigen (HLA) system [10].

Thus, the given data from the literature [8, 9, 10, 11, 12, 13] indicate an important direction of immunogenetic research on the study of genetically determined predisposition with a programmed risk of OLP, not only for a better understanding it, but also provide an opportunity to more professionally approach the choice of methods of prevention and treatment OLP, which will significantly increase patient's quality of life.

Aim of our research was to identify a genetically predisposition with a programmed risk to the oral lichen planus.

MATERIALS AND METHODS OF RESEARCH

Clinical methods were used to determine the forms of OLP.

We examined 278 patients with OLP, who made up the main group (Table 1).

Table 1

Characteristic of patients with OLP by gender and age

Group	Examined group	Total	Age							
			18-25		26-45		46-55		56-65	
			men	women	men	women	men	women	men	women
The main group	Under treatment at the Dental medical center of Bogomolets National Medical University	30	10 (33.33%)	11 (36.66%)	1 (3.33%)	5 (16.66%)	-	3 (10%)	-	-
	Institute of Gerontology	37	-	-	-	-	9 (24.3%)	27 (72.97%)	1 (2.7%)	-
	Sent from polyclinics	187	30 (16%)	10 (5.35%)	61 (32.6%)	35 (18.72%)	40 (21.4%)	11 (5.9%)	-	-
	Interns of Bogomolets National Medical University	4	1 (25%)	2 (50%)	1 (25%)	-	-	-	-	-
	Patients of the Kyiv Military Hospital	20	8 (40%)	-	10 (50%)	-	2 (10%)	-	-	-
	Total	278	49 (17.6%)	23 (8.3%)	73 (26.3%)	40 (14.4%)	51 (18.3%)	41 (14.3%)	1 (2.7%)	-

As indicated in Table 1, the majority of patients were aged 26-45 and 46-65 years (26.3% and 18.3%, respectively).

The control group consisted of 298 people (blood donors) (Table 2), where dental diseases, as well as diseases of internal organs and systems, were excluded through a comprehensive clinical and radiological examination of the dental and jaw system and ultrasound examination of internal organs.

Table 2

Characteristics of the control group by gender and age

Group	Examined group	Total	Age					
			18-25		26-45		46-55	
			men	women	men	women	men	women
Control group	Blood donors	298	94 (31.5%)	21 (7.1%)	61 (20.5%)	57 (19.1%)	43 (14.4%)	22 (7.4%)

The groups were homogeneous by gender and age. All examined patients had signed informed consent for research.

The characteristics of patients with chronic gastrointestinal disease, who also had concomitant diseases, are presented in Table 3.

Table 3

Characteristics of patients with OLP with various somatic diseases

Diagnosis of concomitant disease	Total (%)	Age							
		18-25		26-45		46-55		56-65	
		men	women	men	women	men	women	men	women
Chronic gastritis	12 (4.3%)	-	4 (1.4%)	8 (2.9%)	-	-	-	-	-
Gastric ulcer disease	77 (27.7%)	-	-	14 (5.1%)	4 (1.4%)	34 (12.2%)	25 (9.2%)	-	-
Hepatocholecystitis	40 (14.4%)	-	-	8 (2.9%)	23 (8.3%)	9 (3.2%)	-	-	-
Cardiovascular diseases	45 (16.2%)	-	-	29 (10.4%)	-	16 (5.8%)	-	-	-
Diabetes	34 (12.2%)	8 (2.9%)	-	-	11 (4.1%)	6 (2.2%)	9 (3.2%)	-	-
Hepatitis	47 (16.9%)	-	-	-	13 (4.7%)	27 (9.2%)	7 (2.6%)	-	-
Pancreatitis	23 (8.3%)	-	-	-	-	9 (3.2%)	14 (5.1%)	-	-
Total	278	8 (2.9%)	4 (1.4%)	59 (21.3%)	51 (18.5%)	101 (35.8%)	55 (20.1%)	-	-

As shown in the Table, the majority of patients with OLP had chronic diseases of the gastrointestinal tract, including gastritis, stomach ulcer.

The characteristics of patients with various forms of OLP, depending on gender and age, are presented in Table 4.

It is not difficult to notice that the largest number of patients had an erosive form without damage to the red border of the lips (32.1%).

The study of group antigens of biological fluids of the ABO(H), Rh, P_1, MN, Lewis systems was conditioned by the fact that blood isoantigens and histocompatibility antigens (HLA) determine and initiate processes of cellular recognition of "own"-"foreign", determine the effector link of cellular interactions , and also determine susceptibility to disease due to the biochemical structure of their molecules. These systems store the immune response gene (IR gene), which determines the intensity of the immune response to various infectious and non-infectious agents, programs the level of antibody formation, blast formation.

To determine the genetic markers of blood, rabbit liquid absorbed anti-M, anti-N sera, goat liquid absorbed anti-P sera, goat liquid absorbed anti-Je^a and anti-Je^b sera, hemagglubinating isosera α, ß of Oαß(I), Bß(II), Bα(III), AB0(IV) groups of the Kyiv Blood Transfusion Station were used [14].

Table 4

Characteristics of patients with various forms of OLP depending on gender and age

The form of the disease	Total (%)	Age							
		18 - 25		26 - 45		46 - 55		56 - 65	
		men	women	men	women	men	women	men	women
Erosive form with the involvement of a red border	54 (19.4%)	18 (6.5%)	6 (2.2%)	21 (7.6%)	9 (3.2%)	-	-	-	-
Erosive form without the involvement of a red border	89 (32.1%)	13 (4.7%)	9 (3.2%)	29 (10.4%)	38 (13.7%)	-	-	-	-
Hyperkeratosis with the involvement of a red border	54 (19.4%)	9 (3.2%)	6 (2.2%)	7 (2.5%)	18 (6.5%)	14 (5.1%)	-	-	-
Hyperkeratosis without the involvement of a red border	81 (29.1%)	8 (6.5%)	11 (4%)	14 (5.1%)	17 (6.1%)	19 (6.8%)	12 (4.3%)	-	-
Total	278	48 (17.3%)	32 (11.5%)	71 (25.5%)	82 (29.5%)	33 (11.9%)	12 (4.3%)		

Immunogenetic studies were carried out as part of the research work of the Department of Dentistry of Bogomolets National Medical University "An interdisciplinary approach in the prevention, treatment and rehabilitation of patients with parodontal diseases and impaired functional occlusion" (state registry No. 0123U105134) in the Bureau of Forensic Medical Examination of the Ministry of Health. Peripheral blood and mixed unstimulated saliva were used as biological substrates [14].

To determine the genetic markers of saliva, hemagglutinating isosera α, ß diluted from 1:20 to 1:64 were used. The most dilution of serum that causes agglutination was an indicator of its titer, as a rule, this titer corresponded to a dilution of 1:32.

Determination of H antigen in saliva was carried out with anti-H goat liquid absorbed serum diluted 1:2, 1:3, 1:4, 1:5, 1:6, 1:7, 1:8, 1:10, 1:12, 1:14, 1:16, 1:20 [14].

The highest dilution of the serum, which caused the present agglutination, was an indicator of its titer. In our study, it was equal to 1:16.

The relative degree of risk of the disease depending on the presence of one or another blood and saliva marker was calculated according to the formula [15]:

$$X = \frac{P^B(1-P^K)}{P^K(1-P^B)},$$

where X is the relative risk of the disease,
P^B – antigen frequency among patients,
P^K – antigen frequency among healthy (control).

An indicator of the degree of risk greater than 1 indicates a positive associative relationship with the disease. In the case when the relative indicator of the degree of risk is less than 1, we speak of a negative relationship.

The research was conducted according to the written informed consent of the patients and was carried out in compliance with the principles of bioethics and the rights of the patient in accordance with the Helsinki Declaration (2000) and the Fundamentals of Ukrainian legislation on health care (1992).

The study was approved by the Biomedical commission of ethics of Bogomolets National Medical University, Kyiv, Ukraine (protocol No. 185, May 27, 2024).

The analysis of the obtained results was carried out with calculation of mean value (M) and mean square deviation (SD), Student's criterion and Pearson's correlation coefficient (to detect relationship between quantitative features). For population checks for normality of distribution the Shapiro-Wilk test was used. Analysis was carried out using the "Statistica 6.1" program (SN AJAX909E615822FB). The difference was considered statistically significant at $p<0.05$ [15].

RESULTS AND DISCUSSION

Given the fact that the majority of the examined (80%) had concomitant diseases of the gastrointestinal tract, such as erosive gastritis, peptic ulcer disease of the stomach and duodenum, we considered it appropriate and adequate to conduct an analysis of the role and place of genetic markers of the ABO system in patients, where OLP was associated with diseases of the gastrointestinal tract.

Data on the frequency of ABO blood groups in patients with OLP are presented in Table 5.

Table 5

Frequency of ABO blood groups in patients with OLP, (P±m)

ABO	Number of examined	Gastrointestinal pathology (gastritis, peptic ulcer disease of the stomach and duodenum, %)
0(I)	18	75.0±3.17
A(II)	13	41.9±2.91
B(III)	7	53.84±2.2
AB(IV)	3	37.5±6.09

From the Table 5, we can see that 75.0±3.17% of people with diseases of the gastrointestinal tract, such as gastritis and peptic ulcer disease of the stomach and duodenum, had 0 (I) group, 53.84±2.2% belonged to B (III) group, and (II) – was in 41.9±2.91%, and AB (IV) group was observed in 37.5±6.09% of cases.

We established that among the total number of patients with OLP, patients with blood group 0 (I) prevailed – 38.8±5.3%. The frequency of blood groups can be determined by comparing the frequency of determination of groups of the ABO system (H) in the control group. It was found that the frequency of groups 0 (I) in patients with OLP was significantly higher than in the control group and was 30.9±2.7% in the group of blood donors (Table 6).

Table 6

Frequency of blood groups of the erythrocyte system ABO in patients with various forms of OLP

Diagnosis, form of the disease	Number of examined	ABO blood groups (frequency, P±m)							
		0(I)		A(II)		B(III)		AB(IV)	
		abs.	%	abs.	%	abs.	%	abs.	%
Oral lichen planus	85	33	38.8±5.3	31	36.5±5.2	13	15.3±3.9	8	9.4±3.2
OLP, erosive form	45	24	53.3±7.4	13	28.9±6.8	7	15.6±5.4	1	2.2±2.2
OLP, hyperkeratotic form	30	9	30±8.4	13	43.3±9	5	16.7±6.8	3	10±5.5
Control group Blood donors	298	93	30.9±2.7	116	38.9±2.8	57	19.1±2.3	32	10.7±1.8

It was found that the erosive form of OLP was associated with 0 (I) group in 53.3±7.4% of cases, while the hyperkeratotic form was combined with group 0 (I) only in 30±8.4% of cases. It was established that B (III) and AB (IB) groups were less often associated with the erosive form of the OLP and were observed in 15.6±5.4% and 2.2±2.2% of cases, respectively. And (II) group occupied an intermediate position. Thus, the integration of this group with the erosive form of OLP was significantly lower than in carriers of 0 (I) and amounted to 28.9±6.8%, but the indicator was higher than in individuals from B (III) and AB (IV) groups. It was established that the hyperkeratotic form of OLP was more often observed in A (II) carriers than in 0 (I) and was 43.3±9% versus 30±8.4%, respectively (Table 6).

Thus, among patients with OLP with concomitant diseases of the gastrointestinal tract, the frequency of groups of the erythrocyte system ABO, as a factor of genetic determinism, can be presented as follows: 0 (I)>B (III)>A (II).

Analyzing the connection of genetic markers of the ABO (H) system with various forms of OLP, this scheme has a different focus. Thus, in the case of an erosive form, the scheme looks as follows: 0 (I)>A(II)>B (III), and in the case of a hyperkeratotic form: A (II)>0(I)>B (III). The relationship with OLP is not traced in blood group B (III).

With blood group AB(IV), systematic calculations are incorrect due to the small number of observations.

Analysis of the influence of erythrocyte systems P_1, MNS, Lewis established a number of genophenotypic combinations: "critical", "equilibrium" and "protective", which affect the possibility of occurrence of OLP and the relative risk of the disease. Conditionally, genetic markers that were associated with a high risk of OLP (over 1.5) were defined by us as "critical". Markers that were associated with a low risk of OLP (up to 0.75) were classified as "protective", and markers that had a neutral position were considered "balanced". Data on indicators of relative risk for OLP depending on the presence of erythrocyte antigens P_1, MNS, Lewis $^{(a\text{-}b+)}$ are shown in Tables 7 and 8.

Table 7

Frequency of "critical" phenotypic characteristics in patients with OLP

Phenotypes	N	Phenotype frequency of healthy (control group)		Phenotype frequency of patients with OLP	
		abs.	%	abs.	%
P_1	60	18	62.1	42	77.8
MN	31	6	20.7	25	46.2
$Le^{(a\text{-}b+)}$	61	20	65.5	41	77.7

Table 8

Indicators of the relative risk of OLP depending on the presence of "critical phenotypes"

Phenotypes	Frequency of erythrocyte groups (P±m)		Relative risk
	patients with OLP	control	
P_1	77.8±5.6	62.1±9.2	2.13
MN	46.2±6.8	20.7±7.6	3.30
$Le^{(a\text{-}b+)}$	17.7±5.7	65.5±9.1	1.83

As can be seen from Table 8, the frequency of antigen P_1 was higher among patients with OLP and was 77.8±5.6% against 62.1±9.2% in control group. The indicator of the relative degree of risk was assessed as high and was 2.13. It was established that the presence of the MN antigen in patients with OLP was observed in 46.2±6.8% of cases, while in the control group this indicator corresponded to 20.7±7.6%, and the degree of relative risk was equal to 3.30.

The $Le^{(a\text{-}b+)}$ phenotype was found in 17.7±5.7% of patients with OLP, and in controls this indicator was equal to 65.5±9.1% with a disease risk of 1.83 (Table 8).

Thus, antigens P_1 and MN, as well as $Le^{(a\text{-}b+)}$ were classified as "critical", where the risk of the disease was 2.13; 3.30; and 1.83, respectively.

As evidenced by the data in Table 9, the phenotype P_1, MN, N, $Le^{(a\text{-}b+)}$ can be attributed to the "protective" antigens, which were more often registered among conditionally healthy individuals (control group) than among patients with OLP.

Thus, the frequency of carriage of P_1 antigen in OLP was 22.2±5.8% of cases, and in controls – 37.9±9.2% with a disease risk of 0.47. Antigens MN, N, $Le^{(a\text{-}b+)}$ were found much less often than in the control group – 11.2±4.3%; 42.6±6.1%; 13.1±4.6% according to the control group. The risk of OLP of oral mucosa (OM) in the case of carriers of these antigens in OLP was 0.47; 0.48; 0.53; 0.49, respectively (Table 10).

Table 9

Indicators of the relative risk of OLP depending on the presence of "critical phenotypes"

Phenotypes	N	The frequency of the healthy phenotype (control group)		Phenotype frequency among patients with OLP	
		abs.	%	abs.	%
P_1	23	11	37.9±9.2	12	22.2±5.8
N	12	6	20.7±7.6	6	11.2±4.3
MN	40	17	58.6±9.3	23	42.6±6.1
$Le^{(a-b+)}$	14	7	24.2±8.1	7	13.1±4.6

Table 10

Indicators of the relative risk of OLP of OM depending on the "protective" phenotypes

Phenotypes	Frequency of erythrocyte groups (P±m)		Relative risk
	patients with OLP	control	
P_1	2.2±5.8	37.9±9.2	0.47
N	11.2±4.3	20.7±7.6	0.48
MN	42.6±6.1	58.6±9.3	0.53
$Le^{(a-b+)}$	13.1±4.6	24.2±8.1	0.49

Thus, genophenotypes P_1, MN, N, $Le^{(a-b+)}$ provide a protective, protective, role in the development of OLP.

It was established that the role of the "equilibrium" antigen could be considered by the genophenotypic combination $Le^{(a-b+)}$, where the relative risk of the disease was 0.9, and the frequency of detection among patients with OLP (in 10 patients) and in the control group was approximately equal and corresponded to 9.3±2.1% and 10.3±3.1%.

With regard to the role and significance of phenotypic combinations in various forms of OLP, it was established that the presence of "critical" combinations was characteristic of individuals with aggressive clinical forms of the disease - the erosive form. But only in 13% of examined patients "critical" phenotypic combination was detected in hyperkeratotic form of OLP.

Analyzing the obtained data, it was established that the "protective" phenotypic combination was detected by us in the majority of patients with the hyperkeratotic form of the disease.

Thus, as a result of the conducted research, it was established that group antigens of the system P_1, M, $Le^{(a-b+)}$ can be classified as markers of genetic determinism of OLP, and the high frequency of their prevalence made it possible to classify them as "critical"; a high relative risk of OLP of OM was determined depending on the presence of group antigens P_1, M, where the risk of the disease was 2.13 and 3.3, respectively; established "protective" markers for OLP - P_1, MN, N, $Le^{(a-b+)}$, in the presence of which the risk of the disease was 0.47, respectively; 0.48; 0.53 and 0.49; the $Le^{(a-b+)}$, system should not be considered as a marker of determinism, since the risk of developing the disease in OLP was 0.9; the presence of "critical" antigens can determine the severity of OLP damage, probably causes therapeutic resistance and short duration of remission.

Analyzing scientific sources [8, 9, 10, 11, 12, 13], we didn't find any explanations regarding the mechanism of implementation of genetically determined predisposition with a programmed risk of OLP. In our

opinion, the development of various forms of OLP of OM and a group of specific blood factors is important because most of the bacteria of the oral cavity and the intestinal tract environment have common and cross specificities, either individually or in combination with antigens A, B and H(O). It is possible to assume another mechanism of the development of associated connections of group-specific blood factors of the ABO(H), MNS and OLP (for example, P_1, Lewis, a different structure of oral mucosa), where a failure in the recognition system of "self"-"foreign" is the main factor in the development of the disease.

CONCLUSIONS

1. Correlative relationship with erythrocyte blood antigens of the ABO system in patients with oral lichen planus was established.
2. Detailed risk groups for the development of erosive and hyperkeratotic forms of lichen planus in patients with gastrointestinal tract pathology O(I)>A(II)>B(III) – with erosive form and A(II)>O(I)>B(III)) – with hyperkeratosis.
3. "Critical" P1, MN, Le(a-b+) and protective – P1, N, MN, Le(a-b+) phenotypes were determined in patients with oral lichen planus.

Prospects for further research: to find out the mechanism of implementation of genetically determined predisposition with a programmed disease risk to improve the quality of patient treatment with oral lichen planus.

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