hygiene, nutrition, place of living, bad habits, etc.) and genetics (hereditary predisposition). It has been established that the influence of environmental factors is covered sufficiently in scientific sources, while the role of genetic factors in the occurrence and development of periodontal diseases is insufficiently studied. One of the methods of studying the influence of the genetic factor is the use of the twin method.

The aim of the work was to investigate the role of genetic factors in the formation and development of periodontal diseases by analyzing the periodontal status of monozygotic and dizygotic twins using the twin method. The research was conducted using the community periodontal index (CPI) and the Green-Vermillion hygiene index (OHI-S).

After statistical processing of the results, indicators of concordance of the corresponding changes and features of the dental status among monozygotic and dizygotic twins of different sexes were established, which were presented as follows: the level of concordance of periodontal lesions among monozygotic male twins was 69.19±2.79%, among monozygotic twins female twins – 71.25±3.07%, among male dizygotic twins – 28.74±2.94%, among female dizygotic twins – 26.02±3.73%. The level of concordance of the registered index indicators of the state of oral hygiene among monozygotic male twins was 27.70±1.64%, among monozygotic female twins – 25.28±1.78%, among dizygotic male twins – 24.21± 2.27%, among female dizygotic twins – 25.09±1.56%.

The obtained results can be used in the future to study the genetic component of the occurrence of caries and periodontal lesions.

Key words: caries, periodontitis, CPI, genetics, twins, epigenetics, concordance, environment.

ORCID кожного автора та їх внесок до статті:
Bilinskyi O. Ya.: 0000-0002-0081-2346 [ABCD]
Kostenko E. Ya.: 0000-0002-3997-2371 [EF]

Конфлікт інтересів:
Автори статті підтверджують відсутність конфлікту інтересів.

Адреса для кореспонденції
Білинський Олександр Ярославович
ДВНЗ «Ужгородський національний університет»
Адреса: Україна, 88000, м. Ужгород, вул. Університетська 16а
Тел.: 0990847226
E-mail: olexander.bilinskij@uzhnu.edu.ua

A – концепція роботи та дизайн, **B** – збір та аналіз даних, **C** – відповідальність за статичний аналіз, **D** – написання статті, **E** – критичний огляд, **F** – остаточне затвердження статті.

Стаття надійшла 25.03.2022 року
Стаття прийнята до друку 05.09.2022 року

DOI 10.29254/2077-4214-2022-3-166-519-523
UDC 616.311-091.8:616.516

Bozhyk S. S.

ASPECTS OF ORAL MUCOSA CYTOLOGICAL SCREENING IN PATIENTS WITH RED LICHEN PLANUS

I. Horbachevsky Ternopil National Medical University of Ministry of Health of Ukraine (Ternopil, Ukraine)

bozhyk_ss@tdmu.edu.ua

The article presents the results of studying the cellular composition of the oral mucosa in patients with red lichen planus. Red lichen planus is a chronic inflammatory disease of the skin and mucous membranes; it rarely affects nails and hair; its typical elements are lichenoid papules. In the general structure of dermatological morbidity, it is from 0.16-1.2% and up to 35-70% among diseases of the oral musoca. In recent years, the number of patients with red lichen planus has increased significantly; forms that are rare and difficult to diagnose began to be registered. The purpose of research is to develop screening algorithms and cytospecific predictors of transformation of various clinical and morphological forms of red lichen planus under the conditions of the primary lesion localization only on the oral mucosa. According to the results of the research, it can be stated that the restructuring and reorganization of the cytological picture of this nosological unit are determined by the pathomorphosis of changes in the epithelial component, provided by a cascade of reactive changes in the lamina of the mucous membrane. The obtained scientific data make it possible to conduct timely cytological screening for malignancy in the early stages of the disease as well as determine the treatment scheme and predict the transformation of one clinical and morphological form into another.

Key words: *red lichen planus, cellular composition, hyperkeratosis, parakeratosis, keratinization.*

The connection of the publication with planned research works. The research was carried out as part of the research project "Increasing the efficiency of providing dental care to patients with primary and secondary lesions of the tissues of the oral cavity based on the study of the regularities of the clinical course and chains of pathogenesis", state registration No. 0120U104151.

Introduction. Red lichen planus is a chronic inflammatory disease of the skin and mucous membranes; it rarely affects nails and hair; its typical elements are lichenoid papules. In the general structure of dermatological morbidity, it is from 0.16-1.2% and up to 35-70% among diseases of the oral musoca. Patients with an isolated lesion of only the oral musoca are described by dermatologists much less often, while specialists in the dental field note a high percentage of isolated forms of red lichen planus – from 50 to 75% [1]. Rashes on the oral musoca can long precede the appearance of lesions on the skin or remain the only sign of the disease [2, 3].

In 1859, F. Gebra first described the lichen ruber acuminatus. In 1869, the English dermatologist E. Wilson first gave a clinical description of this disease, which differs from red lichen planus by flatter papular elements [4].

In recent years, the number of patients with red lichen planus has increased significantly; forms that are rare and difficult to diagnose began to be registered. Red lichen planus develops at any age, but it is worth noting that most cases occur in the age group from 30 to 60 years. The disease develops in women more than twice as often as in men, mainly during perimenopause. The number of patients with this disease is constantly increasing; children are getting sick more often [5, 6].

The aetiology of red lichen planus is not known for sure. According to modern views, red lichen planus is a specific type of cell-mediated reaction of the skin and mucous membrane to a number of antigens of a certain structure, for example – epidermal autoantigen. The expression of these antigens on keratinocytes and epitheliocytes can be a target of lymphotoxicity and even become fixed by immunocompetent memory cells. The nature of the antigen is unknown; it may be an autoreactive peptide or an unknown immunogenetic target [7]. In this case, red lichen planus can be clearly classified as an autoimmune disease. Currently, the autoimmune nature of the pemphigoid form of red lichen planus has been proven based on the detection of antibodies to the structural components of the basal membrane [8, 9].

Rapid death of the basal layer cells occurs as a result of necrobiosis by lymphocytic cytokines; colloidal bodies are formed from the dead keratinocytes, which, due to light scattering, give the Tyndall optical phenomenon and determine the whitish shade of the affected areas of the oral mucosa [10, 11, 12].

Immunopathological processes of the skin, as the organ that is most affected by the manifestations of red lichen planus, are complex and diverse, in many ways non-specific, have common features for all dermatoses and reflect the genetic features of the immune response during a specific disease. In the development of red lichen planus, a significant role, obviously, belongs to violations of the function of the epidermal barrier and the immune response, genetically determined or acquired [13, 14].

In conditions of the absence of damage or stimulating agents, epithelial cells perform only a barrier function and support normal epidermopoiesis (produce growth factors: keratinocyte growth factor, epidermal growth factor, etc.). However, in response to injuries, ultraviolet radiation, and other exogenous and endogenous stimuli, they begin to produce neuropeptides, antimicrobial peptides (β-defensins, cathelicidin and its activator kallikrein-5), cytokines (interleukins, tumour necrosis factor-α, chemokines, interferons). This process combines the role of provoking factors in the development of dermatoses. Cellular elements of innate immunity provide the first line of defence [15, 16].

However, for dentists, the issue of early screening of the mucous membrane in patients with isolated forms of red lichen planus on the mucous membrane remains relevant. This provision became the initiator for an in-depth study of the most common clinical and morphological forms in dental practice and offering cytological guidelines, since the main difficulties are associated with the lack of a specific cytological picture of this disease.

The aim of the research is to develop screening algorithms and cytospecific predictors of transformation of various clinical and morphological forms of red lichen planus under the conditions of the primary lesion localization only on the oral mucosa.

Object and methods of research. The patients underwent a general clinical dental examination, and material for cytological examination was taken from the elements of the lesion, depending on the clinical and morphological form. The patients with localization of lesion elements isolated on the oral mucosa were randomized.

Later, the material was subjected to the processing according to the stages of manufacturing a cytological preparation.

The study of the cellular composition of the oral mucosa was carried out by taking the material by the scraping method, and transferring it to a sterile glass slide. Drying the material for 2-3 minutes was carried out with open access to air, followed by Romanowsky–Giemsa staining with further microscopic and morphological analysis of cytological smears, taking into account the normal maturation of cells of the stratified squamous epithelium.

Research results and their discussion. Among the clinical and morphological forms, the typical and the erosive and ulcerative ones prevailed; a part of the patients had exudative and hyperaemic one. The gender distribution of patients remains stable – mostly female, middle-aged with some tendency to rejuvenation [17, 18, 19].

Patients' complaints are caused by the clinical and morphological form of nosology. Thus, at the typical form, the clinical picture was characterized by the presence of keratinized papules, which were grouped in the form of stripes, a grid, and a lacy plexus, forming keratinized bridges among themselves. According to the nature of the reactive changes of the mucous membrane on which the papules are located, it is possible to determine the clinical and morphological form of the disease. It should be noted that the localization of the lesion elements is characterized by the lesion of the distal parts of the oral cavity and the retromolar area [20].

We conducted a study of the cellular composition of the material under the conditions of damage to the oral mucosa by typical, exudative and hyperaemic, erosive and ulcerative clinical and morphological forms.

When studying the cellular composition of the material taken from the bottom of ulcers in patients with the erosive and ulcerative form of red lichen planus, epithelial cells at different stages of differentiation are determined, namely single basal cells corresponding to the first stage, and the majority of intermediate cells. The absence of parabasal cells is noteworthy. It should be noted that the intermediate epitheliocytes have a polygonal shape with a violation of the plasmolemma contours and numerous patterns, as well as an eccentrically displaced nucleus in the stage of karyopyknosis. Individual lymphocytes and neutrophilic granulocytes at different stages of phagocytosis have been determined **(fig. 1)**.

At the typical form of red lichen planus, the composition of the cytogram taken from the papular elements of the lesion is characterized by a large number of epithelial cells with cells predominance of the fourth, fifth and sixth stages of differentiation and horny scales. At the same time, fragments of nuclei were preserved in part of the scales, and this indicates the reorganization of the type of keratinization in the form of hyperkeratosis and parakeratosis. In this case, the increase in the processes of desquamation of the horny scales indicates the presence of an inflammatory process in the lamina of the mucous membrane **(fig. 2)**.

The results of the study of the cellular oral mucosa in patients with an exudative and hyperaemic form of red lichen planus were characterized by the presence of a large number of epithelial cells in the fourth, fifth, and sixth stages of differentiation, namely superficial ones **(fig. 3)**.

At the same time, it should be noted that in individual cells of the surface layer, the size and contours of the plasmolemma, the size of which corresponds to the horny scales, there are nuclei in a state of karyopyknosis and fragmentation. The above cellular changes characterize the phenomenon of keratinization disorders in the form of dyskeratosis and parakeratosis.

It should be noted that the number of epithelial cells of the intermediate layer is relatively low, which indicates a violation of the epithelial cells maturation of the oral mucosa.

The mechanism of transformation of the clinical and morphological forms of red lichen planus can occur under the influence of both general (somatic pathology) and local factors (the presence of dissimilar metals in the oral cavity, sharp edges of teeth, and orthopedic structures) [21, 22, 23].

Conclusions. The cellular composition of cytograms is characterized by a violation of the epithelium maturation in the form of para-, hyper- and dyskeratosis, and depends on the clinical and morphological form of red lichen planus. Cytospecific changes of epitheliocytes are characterized by numerous intussusceptions of plasmolemma. An important aspect of cytological screening is the increase of cells with signs of nuclear pyknosis and fragmentation, which is the basis for dynamic cytological observation for possible malignancy. The presence and quantitative composition of inflammatory cellular elements reflect the essence of pathomorphological changes in the epithelial and connective tissue components.

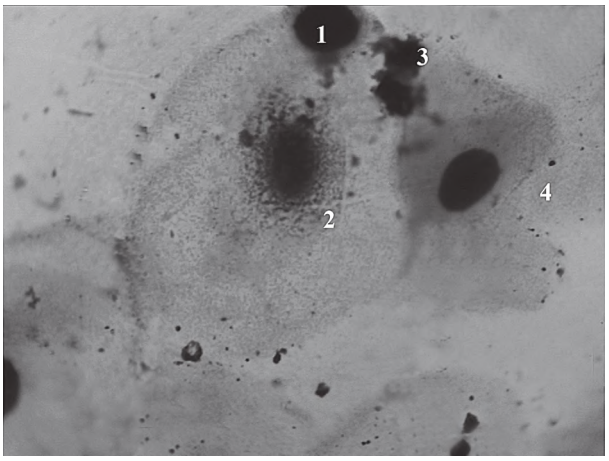

Figure 1 – Microphoto of scraping at the erosive and ulcerative form of red lichen planus. Romanowsky–Giemsa staining. Magnification: eyepiece 10, objective 100. Designation: 1 – basal cell, 2 – intermediate cells, 3 – neutrophil granulocytes at different stages of degeneration, 4 – intussusception of the plasmolemma of an epitheliocyte.

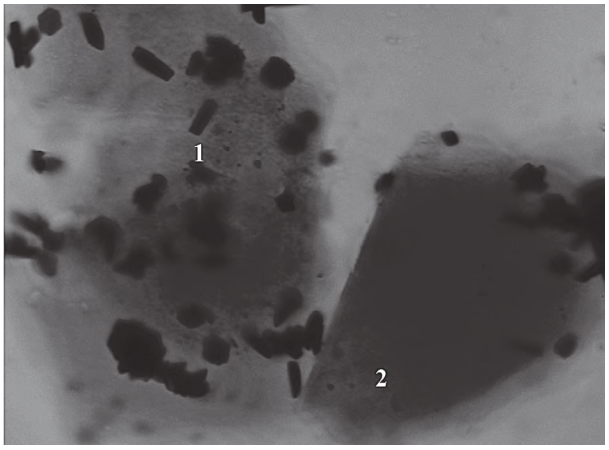

Figure 2 – Microphoto of scraping at the typical form with transformation into hyperkeratotic one. Romanowsky–Giemsa staining. Magnification: eyepiece 10, objective 100. Designation: 1 – horny scales, 2 – surface cells with parakeratosis phenomena.

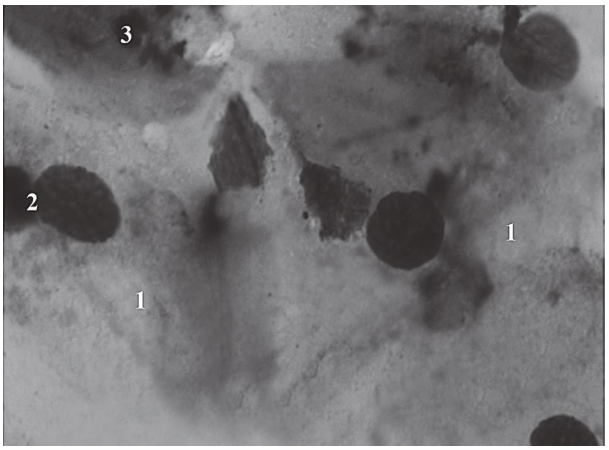

Figure 3 – Microphoto of scraping at the exudative and hyperemic form of red lichen planus. Romanowsky–Giemsa staining. Magnification: eyepiece 10, objective 100. Designation: 1 – intermediate cells, 2 – surface cells, 3 – degeneratively changed lymphocyte.

In particularly complex clinical cases, which are characterized by a lack of positive dynamics under the conditions of prescribed pharmacotherapy, we recom-

mend dynamic cytological monitoring and highly specific methods using immunohistochemistry and lectinogistochemistry in order to rule out malignancy of this nosological unit.

Prospects for further research. In the future, it is planned to introduce the results of the conducted research into the pathology clinic of the oral mucosa, which will make it possible to optimize the diagnostic process of both primary lesions of the oral mucosa and manifestations of dermatoses with an autoimmune component on it under the conditions of an isolated lesion, through the use of minimally invasive diagnostic methods.

References

1. Lucchese A, Di Stasio D, Romano A, Fiori F, De Felice GP, Lajolo C, et al. Correlation between Oral Lichen Planus and Viral Infections Other Than HCV: A Systematic Review. J Clin Med. 2022;11(18):5487. DOI: 10.3390/jcm11185487
2. Kolenko YG, Timokhina TO, Lynovytska OV, Mialkivskyi KO, Khrol NS. Epidemiological situation of pre-cancer diseases of the oral mucous in Ukraine. Wiad Lek. 2022;75(6):1453-1458. DOI: 10.36740/WLek2022 06105.
3. Popovska M, Atanasovska-Stojanovska A, Todoroska S, Radojkova-Nikolovska V, Bedhxeti LZ, Spasovska-Gjorgovska A, et al. Oral Lichen Planus - Related Connection with HLA-System Antigens. Pril (Makedon Akad Nauk Umet Odd Med Nauki). 2020;41(1):65-77. DOI: 10.2478/prilozi-2020-0024.
4. Vijayan AK, Muthukrishnan A, Nair AM, Fathima S, Nair PV, Roshan J. PCR-based Evaluation of Human Papillomavirus Genotypes in Oral Lichen Planus. J Pharm Bioallied Sci. 2022;14(1):449-453. DOI: 10.4103/jpbs. jpbs_147_22.
5. Cai X, Zhang J, Zhang H, Li T. Overestimated risk of transformation in oral lichen planus. Oral Oncol. 2022;133:106025. DOI: 10.1016/j. oraloncology. 2022.106025.
6. Mitchell K, Silverberg N. Systematic Review of Lichen Planus Pigmentosus in Children. J Drugs Dermatol. 2022;21(8):850-853. DOI: 10.36849/JDD. 6760.
7. Siponen M, Huuskonen L, Kallio-Pulkkinen S, Nieminen P, Salo T. Topical tacrolimus, triamcinolone acetonide, and placebo in oral lichen planus: a pilot randomized controlled trial. Oral Dis. 2017;23(5):660-668. DOI: 10.1111/odi.12653.
8. Olejnik M, Jenerowicz D, Adamski Z, Czarnecka-Operacz M, Dorocka-Bobkowska B. The prevalence of contact hypersensitivity in patients with oral lichen planus. Postepy Dermatol Alergol. 2022;39(4):668-674. DOI: 10.5114/ada.2021.107549.
9. Goel S, Khurana N. Effects of Mycophenolate Mofetil, Methotrexate and Pimecrolimus on cdk4 and p16 in Erosive Oral Lichen Planus. Indian J Dermatol. 2021;66(5):490-495. DOI: 10.4103/ijd.IJD_237_17.
10. Abboud CS, Brandão EHDS, Cunha KRL, de Sousa Brito K, Gallo CB, Molon AC, et al. Serum and salivary cytokines in patients with oral lichen planus treated with Photobiomodulation [published online ahead of print, 2021 Nov 24]. Oral Dis. 2021. DOI: 10.1111/odi.14084.
11. Zhu ZD, Ren XM, Zhou MM, Chen QM, Hua H, Li CL. Salivary cytokine profile in patients with oral lichen planus. J Dent Sci. 2022;17(1):100-105. DOI: 10.1016/j.jds.2021.06.013.
12. Radwan-Oczko M, Lis-Nawara A, Hałoń A, Bar J. Comparison of biomarker expression in oral lichen planus and oral lichenoid lesions [published online ahead of print, 2022 Sep 1]. Adv Clin Exp Med. 2022. DOI: 10.17219/acem/152429.
13. Edmans JG, Ollington B, Colley HE, Santocildes-Romero ME, Siim Madsen L, Hatton PV, et al. Electrospun patch delivery of anti-TNFα F(ab) for the treatment of inflammatory oral mucosal disease. J Control Release. 2022;350:146-157. DOI: 10.1016/j.jconrel.2022.08.016.
14. Al-Jamaei AA, Subramanyam RV, Helder MN, Forouzanfar T, Ruslin M, Meij EV, et al. Significance of immunohistochemistry biomarkers in prediction of malignant transformation of oral lichen planus: A systematic review. Med Oral Patol Oral Cir Bucal. 2022;27(5):e480-e488. DOI: 10.4317/medoral.25491.
15. Inoue A, Sawada Y, Yamaguchi T, Ohmori S, Omoto D, Haruyama S, et al. Lichenoid drug eruption caused by adalimumab: a case report and literature review. Eur J Dermatol. 2017;27(1):69-70. DOI: 10.1684/ejd.2016.2898.
16. Wang R, Zhang X, Wang S. Differential genotypes of TNF-α and IL-10 for immunological diagnosis in discoid lupus erythematosus and oral lichen planus: A narrative review. Front Immunol. 2022;13:967281. DOI: 10.3389/fimmu.2022.967281.
17. Viguier M, Bachelez H, Poirier B, Kagan J, Battistella M, Aubin F, et al. Peripheral and local human papillomavirus 16-specific CD8+ T-cell expansions characterize erosive oral lichen planus. J Invest Dermatol. 2015;135(2):418-424. DOI: 10.1038/jid.2014.397.
18. Singh AR, Rai A, Aftab M, Jain S, Singh M. Efficacy of steroidal vs non-steroidal agents in oral lichen planus: a randomised, open-label study. J Laryngol Otol. 2017;131(1):69-76. DOI: 10.1017/S0022215116009658.
19. Palaniappan P, Baalann KP. Erosive oral lichen planus. Pan Afr Med J. 2021;40:73. DOI: 10.11604/pamj.2021.40.73.26013.
20. Duplaine A, Cogrel O. Mycophenolate Mofetil in the Treatment of Severe Corticosteroid-Dependent or Corticosteroid-Resistant Nail Lichen Planus: A Case Series of 5 Patients. Skin Appendage Disord. 2022;8(5):427-430. DOI: 10.1159/000524246.
21. Girdhar A, Kamboj M, Narwal A, Devi A, Anand R, Gupta A. Immunohistochemical correlation of mast cells and angiogenesis in oral lichen planus. Arch Oral Biol. 2022;142:105509. DOI: 10.1016/j. archoralbio.2022.105509.
22. Pan L, Feng M, Chen J, Deng S, Han X, Wang Y, et al. Group 1 and 3 innate lymphoid cells are increased in oral lichen planus and oral lichenoid lesions [published online ahead of print, 2022 Sep 24]. Oral Dis. 2022. DOI: 10.1111/odi.14384.
23. Kolomiets, SV, Udaltsova KO, Shynkevich V I. Rekomendatsiyi shchodo taktyky pry vyyavlenni potentsiyno zloyakisnykh urazhen' u porozhnyni rota. Ukrayins'kyy stomatolohichnyy al'manakh. 2018;11:75-78. [in Ukrainian].

АСПЕКТИ ЦИТОЛОГІЧНОГО СКРИНІНГУ СЛИЗОВОЇ ОБОЛОНКИ ПОРОЖНИНИ РОТА У ПАЦІЄНТІВ ІЗ ЧЕРВОНИМ ПЛЕСКАТИМ ЛИШАЄМ

Божик С. С.

Резюме. Червоний плоский лишай – хронічне запальне захворювання шкіри і слизових оболонок, рідше вражає нігті і волосяні покриви, типовими елементами якого є ліхеноїдні папули. У загальній структурі дерматологічної захворюваності становить від 0,16-1,2% і до 35-70% серед хвороб слизової оболонки порожнини рота. В останні роки значно зросла кількість звернень хворих з червоним плескатим лишаєм, стали реєструватися форми, які рідко зустрічаються і важко діагностуються. Проте для стоматологів залишається актуальним питання раннього скринінгу слизової оболонки у пацієнтів із ізольованими формами червоного плескатого лишаю на слизовій оболонці. Дане положення стало ініціюючим, для поглибленого вивчити найбільш поширені на стоматологічному прийомі клініко-морфологічні форм та запропонувати цитологічні орієнтири, оскільки основні труднощі пов'язані із відсутністю специфічної цитологічної картини цього захворювання. Метою дослідження є розробка алгоритмів скринінгу та цитоспецифічних предикторів трасформації різних клініко-морфологічних форм червоного плескатого лишаю за умов локалізації первинного вогнища ураження тільки на слизовій оболонці ротової порожнини. Пацієнтам проведено загальний клінічний стоматологічний огляд та забір матеріалу для цитологічного дослідження із елементів ураження в залежності від клініко-морфологічної форми. В подальшому матеріал піддавали обробці згідно етапів виготовлення цитологічного

препарату. За результатами проведеного дослідження, можна констатувати, що перебудова та реорганізація цитологічної картини даної нозологічної одиниці визначається патоморфозом змін в епітеліальному компоненті, забезпеченому каскадом реактивних змін власної пластинки слизової оболонки. Отримані наукові дані дають можливість своєчасного цитологічного скринінгу на предмет малігнізації на ранніх стадіях захворювання та визначення схеми лікування і прогнозування трансформації однієї клініко-морфологічної форми в іншу.

Ключові слова: червоний плескатий лишай, клітинний склад, гіперкератоз, паракератоз, зроговіння.

ASPECTS OF ORAL MUCOSA CYTOLOGICAL SCREENING IN PATIENTS WITH RED LICHEN PLANUS

Bozhyk S. S.

Abstract. Red lichen planus is a chronic inflammatory disease of the skin and mucous membranes; it rarely affects nails and hair; its typical elements are lichenoid papules. In the general structure of dermatological morbidity, it is from 0.16-1.2% and up to 35-70% among diseases of the oral musoca. In recent years, the number of patients with red lichen planus has increased significantly; forms that are rare and difficult to diagnose began to be registered. For dentists, the issue of early screening of the mucous membrane in patients with isolated forms of red lichen planus on the mucous membrane remains relevant. This provision became the initiator for an in-depth study of the most common clinical and morphological forms in dental practice and offering cytological guidelines, since the main difficulties are associated with the lack of a specific cytological picture of this disease. The purpose of research is to develop screening algorithms and cytospecific predictors of transformation of various clinical and morphological forms of red lichen planus under the conditions of the primary lesion localization only on the oral mucosa. The patients underwent a general clinical dental examination, and material for cytological examination was taken from the elements of the lesion, depending on the clinical and morphological form. Later, the material was subjected to the processing according to the stages of manufacturing a cytological preparation. According to the results of the research, it can be stated that the restructuring and reorganization of the cytological picture of this nosological unit are determined by the pathomorphosis of changes in the epithelial component, provided by a cascade of reactive changes in the lamina of the mucous membrane. The obtained scientific data make it possible to conduct timely cytological screening for malignancy in the early stages of the disease as well as determine the treatment scheme and predict the transformation of one clinical and morphological form into another.

Keywords: red lichen planus, cellular composition, hyperkeratosis, parakeratosis, keratinization.

ORCID and contributionship:
Bozhyk S. S.: 0000-0002-2748-2308 ABCDEF

Corresponding author
Bozhyk Stepan Stepanovych
I. Horbachevsky Ternopil National Medical University
Ukraine, 46001, Ternopil, 7 Olena Teliga str.
Tel: 0987711538
E-mail: bozhyk_ss@tdmu.edu.ua

A – Work concept and design, **B** – Data collection and analysis, **C** – Responsibility for statistical analysis, **D** – Writing the article, **E** – Critical review, **F** – Final approval of the article.

Received 15.03.2022
Accepted 17.09.2022

DOI 10.29254/2077-4214-2022-3-166-523-539
UDC 616.311.2+616.314.17) -08 - 039. 71

Hodovanyi O. V.

NON-SURGICAL PERIODONTAL TREATMENT AS AN IMPORTANT COMPONENT OF EFFECTIVE PERIODONTAL DISEASES PREVENTION MEASURES

Danylo Halytsky Lviv National Medical University (Lviv, Ukraine)
ohodovanyi@gmail.com

The issue of improving the effectiveness of periodontal disease prevention and treatment remains extremely relevant today. The responsible role, at the level of secondary preventive measures, belongs precisely to non-surgical periodontal therapy. The purpose of the work was to formulate a step-by-step protocol of non-surgical periodontal treatment based on the analysis of modern evidence bases regarding the main approaches to the initial therapy of gingivitis and periodontitis. Based on the evidence bases of PubMed, Scopus, Cochrane, Web of Science, Google Scholar, ResearchGate, WHO sources, etc. formulated a step-by-step algorithm for non-surgical periodontal treatment, which can minimize or even eliminate the need for further surgical intervention. According to Step 1, the key to achieving optimal results in preventing and treating periodontal diseases is identifying, correcting or eliminating the main common risk factors. These are diabetes, hormonal factors, smoking, stress, immunodeficiency, the use of certain medications, obesity, and nutritional features. Step 2 involves assessing and eliminating local risk factors grouped into three general categories: 1. anatomical features, 2. position of teeth, 3. iatrogenic influences. Step 3