STOMATOLOGY

Medical Science of Ukraine
Медична наука України

ISSN: 2664-472X
e-ISSN: 2664-4738
Vol. 22, No. 2, 2026

UDC 616.5-002.44-07:616.31-002.44
DOI: https://doi.org/10.32345/2664-4738.2.2026.07

Journal homepage: https://nmuofficial.com/zhurnal-medychna-nauka-ukrayiny/
Received: 08.01.2026 Revised: 28.04.2026 Accepted: 28.05.2026 Published: 30.06.2026

Oleksandr Nesyn
PhD in Medical Sciences, Associate Professor
Bogomolets National Medical University
01601, 13 T. Shevchenko Blvd., Kyiv, Ukraine
https://orcid.org/0000-0001-9197-4983

Kostiantyn Pechkovskyi*
PhD in Medical Sciences, Associate Professor
Bogomolets National Medical University
01601, 13 T. Shevchenko Blvd., Kyiv, Ukraine
https://orcid.org/0000-0001-5143-2768

Iryna Pechkovska
PhD in Medical Sciences, Associate Professor
Private Higher Educational Institution "Kyiv Medical University"
02099, 2 Boryspilska Str., Kyiv, Ukraine
https://orcid.org/0000-0003-1795-0566

Serhii Samoilenko
PhD in Medical Sciences, Associate Professor
P.L. Shupyk National Healthcare University of Ukraine
04112, 9 Dorohozytska Str., Kyiv, Ukraine
https://orcid.org/0000-0002-6441-3192

Oleksii Kuvaiev
PhD in Medical Sciences, Assistant Professor
Bogomolets National Medical University
01601, 13 T. Shevchenko Blvd., Kyiv, Ukraine
https://orcid.org/0000-0002-0012-333X

Clinical features and diagnostic errors in the manifestations of *pemphigus vulgaris* in the oral cavity

Abstract

Relevance. *Pemphigus vulgaris* is a rare autoimmune bullous disease characterised by the formation of intraepithelial blisters and erosions. Often, the oral mucous membrane is the first and, for quite some time, the only area affected by this disease. The oral manifestation of the disease is often misdiagnosed as erythema multiforme, candidiasis, recurrent herpes simplex infection or common diseases, which results in errors in diagnosis, late referral to a dermatologist, and inappropriate treatment. Timely recognition of the lesion will affect the prognosis and quality of life of the patient.

Aim. To generalise clinical manifestations of the oral cavity affected by *pemphigus vulgaris*, to analyse errors made when diagnosing at the stage of primary diagnosis, and to develop practical recommendations on the order of actions for physicians when suspected of *pemphigus vulgaris*.

Materials and methods. A prospective clinical, descriptive analysis of 42 patients diagnosed with *pemphigus vulgaris*, who were treated at the dental medical centre, O.O. Bogomolets National Medical University, was conducted. The observation period covered 2018-2025. Clinical, cytological (Tzanck smear), and serological methods (ELISA for anti-Dsg1 and anti-Dsg3 antibodies) were used. The quality of life in patients was measured using of the SF-36v2 and DLQI questionnaires. Statistical analysis was performed using of the t-test, the Mann-Whitney test, and Spearman's correlation analysis ($p < 0.05$).

Suggested Citation:
Nesyn O, Pechkovskyi K, Pechkovska I, Samoilenko S, Kuvaiev O. Clinical features and diagnostic errors in the manifestations of *pemphigus vulgaris* in the oral cavity. Med Sci Ukr. 2026;22(2):56–65. DOI: https://doi.org/10.32345/2664-4738.2.2026.07

*Corresponding author (*konpech.work@gmail.com*)

Results. Primary symptoms manifested as lesions of the oral mucous membrane in 83.3% of patients. In these cases, the differential diagnosis was difficult. The duration of the period between the first symptom and the diagnosis was 3.5 ± 0.6 months on average and was shorter in women than in men. At the time of referral, all patients had received incorrect diagnoses (candidiasis, erythema multiforme, recurrent herpes simplex infection) and inappropriate treatment. During the primary examination, acantholytic cells were detected by cytological examination in 47.6% of smears. When examining repeat cytological smear, it was found that acantholytic cells were present in 100% of cases. Serological testing confirmed the presence of anti-Dsg3 antibodies in all patients and anti-Dsg1 antibodies in 41.7%, which is consistent with the phenotype of the isolated and generalised forms. It was found that there was a direct correlation between the time of diagnostic uncertainty and the decline in quality of life ($\rho = 0.62$, $p < 0.01$).

Practical significance. Prompt identification of solitary lesions on the oral mucosa together with the simultaneous use of cytological and serological techniques minimises the time for establishing the correct diagnosis, helps differentiate between the various types of *pemphigus vulgaris* and prevents further evolution of the disease. The suggested pattern of clinical actions can serve as a working guideline to dentists and otolaryngologists to facilitate the timely and accurate detection of disease and the timely referral of patients to the corresponding specialists.

Conclusions. Oral manifestations of *pemphigus vulgaris* can manifest clinically as other pathologies and often lead to misdiagnosis and delayed diagnosis. Tzanck smear test is a very simple diagnostic tool and does not require special equipment, but this method should be performed together with serological research for a more accurate diagnosis of the disease, and as a result, better prognosis and higher quality of life of patients.

Keywords: *pemphigus vulgaris*, differential diagnosis; cytological examination; serological investigation; quality of life.

INTRODUCTION

Pemphigus vulgaris (PV) (pemphigus; International Classification of Diseases, 10th Revision: L10.0) represents a rare yet potentially fatal autoimmune disease with formation of intraepithelial blisters and erosions [1-2]. Oral mucosal lesions constitute the first symptoms in most cases of PV and can be the only manifestation of the disease at early stages, and they can remain the main complaints of the patient for a long time. These symptoms are often covered up by other, more common pathologies such as candidiasis, recurrent herpes simplex infection, erythema multiforme, and other diseases, which may complicate the diagnostic process. Such a picture of overlapping clinical manifestations can be quite a dilemma for doctors, especially at the time of the primary appointment and t he initial stage of the disease, when the possibility of establishing a wrong diagnosis and starting incorrect therapy is quite high. Therefore, these factors should be carefully considered during the diagnostic process in order to ensure timely recognition of the disease and the initiation of appropriate therapy [3-4]. Depending on the region, the incidence of PV ranges from 0.5 to 3 cases per 100,000 population, while more than 70% of patients initially seek medical attention because of oral erosions or ulcers accompanied by mild pain or discomfort in the oral cavity [5]. Clinical manifestations of PV, including fragile blistering of thin wall with rapid rupture, superficial erosion ("clean" erosions), no reaction of the oral mucosa, and variable signs of the Nikolsky sign, often lead to misdiagnosis. In these instances, erosive lesions are erroneously attributed to erythema multiforme, candidiasis, recurrent herpes simplex infection, oral lichen planus, and other conditions, and cytological confirmation of the presence of acantholysis by the Tzanck smear method is often delayed or may be false-negative [6]. Due to insufficient expertise regarding PV at the time of the first patient appointment and a lack of timely cytological and serological tests needed to establish the correct diagnosis, the patient is often prescribed inadequate medical treatment. The medical professional is likely to prescribe antifungals, antimicrobials, or topical antiseptics instead of referring the patient to a dermatologist for specific drug therapy, which may not be effective, and can even further harm the health of the patient as they are treated for another disease [7]. Considering the multidisciplinary character of the problem, it is extremely important to carry out timely cytological and serological verification of the diagnosis of PV [8]. Early detection of the isolated form of oral mucosal lesions of PV allows for decreasing the time of diagnostic search and preventing further development of the disease and deterioration of quality of life in patients [9]. Thus, systematisation of clinical data in PV and analysis of possible diagnostic errors are very important tasks of modern medicine, which will contribute to more efficient diagnosis of disease at the early stage, as well as will reduce the probability of errors at the first examination of patients. Early diagnosis, especially at the initial stage, as well as minimising mistakes at the stage of a primary examination, are important in improving the overall efficiency of treatment and, consequently, improving the quality of care of patients. Therefore, it is necessary to implement such a complex in determining diagnosis that helps not only to detect the disease at an early stage, to avoid delays, but also to ensure a differential diagnosis in PV and avoid

the appointment of incorrect therapy. This study aimed to systematise the oral features of PV, identify prevalent diagnostic mistakes at the initial visit, and formulate practical guidelines for clinicians to follow when PV is suspected.

MATERIALS AND METHODS

This study was conducted as a prospective clinical descriptive analysis (case series) based on data from 42 patients who, between 2018 and 2025, presented with pathological manifestations of the oral mucosa to the Dental Medical Centre of the O.O. Bogomolets National Medical University, which serves as the clinical base of the Department of Therapeutic Dentistry. A clinical diagnosis of PV was established. Patients were enrolled consecutively at the time of their initial presentation, thereby ensuring the prospective design of the study. Patients ranged in age from 44 to 65 years (56.0 ± 6.1 years), with 28 women (66.7%) and 14 men (33.3%) (female-tomale ratio 2:1). The patients were residents of Kyiv and the northern, central, and southern regions of Ukraine. The inclusion criteria comprised erosive and ulcerative lesions of the oral mucosa, a positive Nikolsky sign, and cytological confirmation of acantholysis. The only exclusion criteria were a lack of informed consent. Other diseases were not an exclusion criterion because the purpose of the study was to diagnose PV. The patient's comorbid condition had no bearing on enrolment, but it was discussed in the clinical description of each case. Assessment of the anamnestic data involved identification of the frequency of errors during the previous diagnosis, the time period during which the patients visited the medical institutions and also the frequency of empirical therapy. The diagnosis and treatment protocol utilised a sequential approach including clinical examination, Tzanck smear cytology [10], and serological detection of desmogleins 1 and 3 by enzyme-linked immunosorbent assay (ELISA) [11]. The latter was not performed before two negative cytological results were obtained. This was done to adhere to rational diagnostic principles. According to these guidelines, the sequence of diagnostic methods must progress from relatively simple and easy-to-use methods to more difficult and expensive ones, and each step must be justified by clinical necessity.

Primary diagnosis was based on clinical examination of patients with assessment of characteristic lesions of the mucous membranes and skin. Rubbing the normal oral mucosa near a lesion or skin was used to determine if the Nikolsky sign was positive. A positive sign was identified by epithelial or epidermal detachment and further blister and erosion formation. Cytological examination of the contents of the surface of the bottom of the ulcers and the blisters was carried out by the Tzanck method. When there were no acantholytic cells found in the original smears, smears were re-examined, when necessary, from scrapings of fresh blister bottoms. The re-examination is performed every week (every 7-10 days) in accordance with modern recommendations, since fresh blisters can be collected at the specified interval. Serological testing was subsequently done in 12 patients in whom false-negative results from two cytological examinations were obtained. The presence of autoantibodies against desmogleins 1 and 3 was also investigated in them by ELISA. Serum from venous blood was tested in the private certified laboratory Synevo (Ukraine), which has a license to handle biological samples.

Patients' quality of life was assessed using the standardised Short Form (SF)-36v2 and Dermatology Life Quality Index (DLQI) questionnaires. The surveys were conducted after diagnostic verification and before referral of patients for specialised dermatological treatment. Patients completed the questionnaires independently in accordance with the official instructions translated into and adapted for the Ukrainian language. Data processing was performed in accordance with the standard recommendations for these instruments. For the SF-36v2 questionnaire, the physical and mental health component scales were calculated using the developers' algorithm. For the DLQI questionnaire, the total score (0-30) was calculated and interpreted according to generally accepted categories reflecting the impact of dermatological diseases on quality of life. The results were entered into an electronic database and analysed statistically using descriptive indicators (mean value and standard deviation) together with comparative tests selected according to the structure of the sample. Age, time from diagnosis delay, number of consultations before receiving a diagnosis, number of oral mucosa affected areas, and quality-of-life indicators (SF-36v2 and DLQI) were characterised as descriptive statistics (M ± SD). The t-test was used to compare the mean time of diagnostic delay for men and women. Since the data had a non-parametric distribution, the number of consultations before receiving the diagnosis in groups was compared using the Mann-Whitney test. To determine the connection between the duration of diagnostic delay and quality-of-life indicators (SF-36v2, DLQI), as well as the relationship between the duration of diagnostic delay and the gender of the patients, Spearman correlation analysis was conducted. Statistical analysis was performed in IBM SPSS Statistics (v.26) and Excel (2019). $p < 0.05$ was considered the level of statistical significance.

The study was conducted in accordance with the principles of the Declaration of Helsinki [12] within the framework of the investigator-initiated research project of the P.L. Shupyk National Healthcare University of Ukraine entitled "Improving Methods of Diagnosis and Treatment of Patients with Certain Inflammatory and Oncological Diseases of the Ear, Nose and Throat", (state registration No. 0117U006094, 2017-2021),

as well as the research project of the Department of Therapeutic Dentistry of the O.O. Bogomolets National Medical University entitled "Development and Implementation of S cientifically Based Algorithms for Early Diagnosis and Differentiated Treatment of Diseases of Dental Hard Tissues and Periodontal Tissues" (No. 0119U104010, 2018-2022), and its continuation, "A Multidisciplinary Approach to the Prevention and Treatment of Diseases of Hard Tooth Tissues and Periodontal Diseases in Persons of Working Age" (No. 0119U104010, 2023-2025). The study received no external funding. All patients provided written informed consent for participation in the study.

RESULTS AND DISCUSSION

Discomfort or mild pain in the oral cavity was reported by 95.2% of patients (n = 40), aggravated by an increase in the size of the erosive area. In 83.3% of cases (n = 35), the first blisters and erosions were in the oral cavity and not involving the skin. In 92.9% of patients (n = 39), the process was found to be localised in several areas of the oral cavity, with an average of 3.7 ± 1.5 areas. Most often, erosions are detected on the buccal mucosa (81.0%, n = 34), the soft palate (76.2%, n = 32), and the tongue (57.1%, n = 24). Hoarseness in 73.8% of patients (n = 31) also indicated involvement of the organs located outside the mouth. Nikolsky's symptom was observed in 52.4% (n = 22) of the patients at the primary visit; in 47.6% (n = 20), it appeared only after provocative action performed by the doctor on the oral mucosa. The average period from the onset of symptoms of the disease until the diagnosis was made was 3.5 ± 0.6 months. This period is smaller in women (2.79 ± 0.5 months), while for men, it was longer and amounted to 4.23 ± 0.55 months, which confirms the difference between the groups and a positive correlation ($\rho = 0.62$; $p < 0.01$). Before applying for a referral, the patients received numerous consultations, a preliminary diagnosis, and a prescribed (non-therapeutic) treatment in all (100%) cases. The distribution of patients according to the type of clinical manifestations and laboratory findings is presented in Table 1.

Table 1. Distribution of clinical manifestations

Type of manifestation	Number of patients with verified diagnosis (n = 42)	Percentage (%)
Lesions confined to the oral mucosa	35	83.3
Oral mucosal and skin lesions	7	16.7
Positive Nikolsky sign at presentation	22	52.4
Acantholytic cells were detected in the smear	20	47.6
Anti-Dsg3 antibodies detected	12	100
Anti-Dsg1 antibodies detected	5	41.7

Source: developed by the authors

All patients before applying for a referral to the dental medical centre had visited several doctors: 33.3% (14 patients) were examined by four doctors, 19.0% (8) by five, 14.3% (6) by six, and 33.3% (14) by seven or more, and on average, the patient was visited by 6.2 ± 1.8 doctors. Initially, family physicians or general practitioners (n = 19; 45.2%) were the first ones to see patients diagnosed with PV, followed by otorhinolaryngologists (n = 13; 31.0%), dentists (n = 7; 16.7%) and other specialists (n = 3; 7.1%). Patients had erythema multiforme (n = 13; 31.0%), candidiasis (n = 10; 23.8%), recurrent herpes simplex infection (n = 7; 16.7%), recurrent aphthous stomatitis (n = 5; 11.9%), oral lichen planus (n = 4; 9.5%) and leukoplakia (n = 2; 4.8%) at first diagnosis, and bullous pemphigoid (n = 1; 2.4%). Acantholytic cells were found in 47.6% of smears (n = 20) in primary cytological examination. After repeated research, the number of patients with a positive result increased, so that all patients (100%) were able to verify their diagnosis. Serology (autoantibodies detection for desmogleins 1 and 3) was carried out in 12 (28.6%) patients. Anti-Dsg3 antibodies were detected in 100% of cases, while anti-Dsg1 antibodies were identified in 42%, which was consistent with the clinical manifestations observed, namely isolated oral mucosal involvement or the generalised form of the disease. In 31.0% of patients (n = 13), the final diagnosis of PV was established with a delay of more than 2 weeks, whereas in 16.7% (n = 7), the delay exceeded 3 weeks after the initial presentation. The distribution of patients according to the time required for confirmation of the final diagnosis at the Dental Medical Centre of the Bogomolets National Medical University is presented in Figure 1.

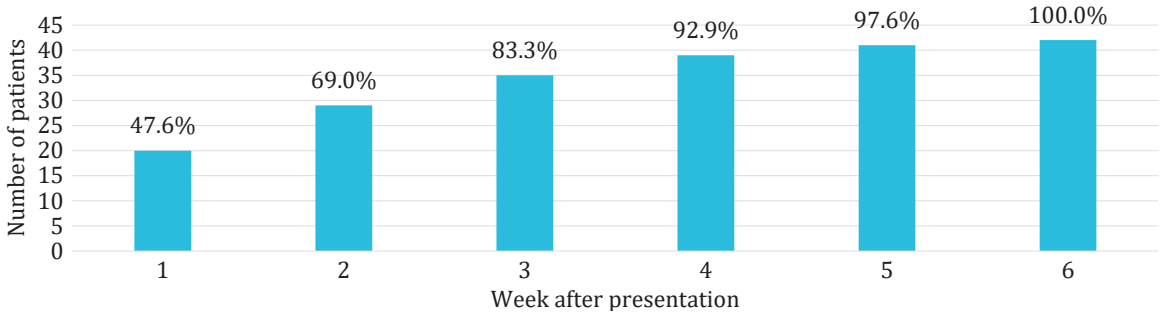

Figure 1. Dynamics of PV diagnostic verification
Source: developed by the authors

The graph demonstrates a progressive increase in the number of patients with a confirmed diagnosis, from 47.6% during the first week to complete diagnostic verification (100%) by the sixth week. Thus, within the first two weeks, the diagnosis of PV was verified in 69% of patients. Patients diagnosed with PV were examined with DLQI and SF-36v2 questionnaires for quality-of-life assessment to assess the effect of the disease. After diagnostic verification, the results showed a decrease in patients' scores in the "emotional functioning", "social functioning" and "pain" domains. The mean score was 13.4 ± 3.2 points for DLQI, which confirms the significant influence of the disease on daily life activities. When comparing different clinical forms of PV, it was found that the average DLQI score for patients with isolated oral mucosal lesions was 12.1 ± 2.8, but with combined oral and skin lesions reached 16.8 ± 3.1 ($p < 0.05$). Thus, generalised PV has a much greater impact on daily life. A positive correlation between the time until the diagnosis was confirmed and patients' DLQI scores ($\rho = 0.62$, $p < 0.01$) was found: the higher the number of days until a confirmed diagnosis, the lower the quality of life for these patients. In SF-36v2 questionnaire data, a reduction in the domains of "emotional functioning", "social functioning" and "pain" was the most noticeable. Patients had reduced physical functions, decreased working capacity and impaired social interaction. The combined analysis of the SF-36v2 summary indices revealed a significant decrease in both Physical Component Summary and the Mental Component Summary, showing a decline in physical and psycho-emotional domains in patients with PV. To illustrate the clinical manifestations of PV, Figures 2-13 are presented, demonstrating the characteristic features of the disease.

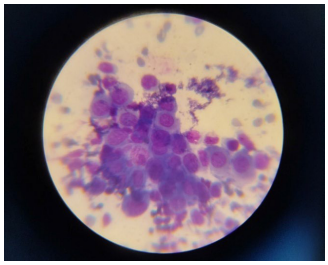

Figure 2. Acantholytic epithelial cells of the oral mucosa (Tzanck cells)
Source: authors' photo

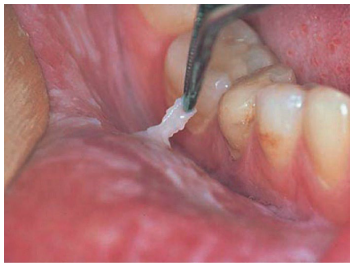

Figure 3. Nikolsky sign on the oral mucosa
Source: authors' photo

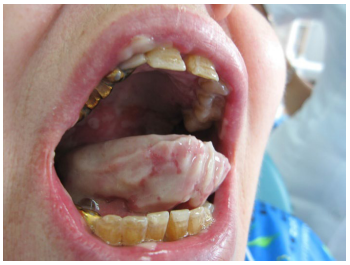

Figure 4. Tongue – macerated epithelium on the dorsal, lateral, and ventral surfaces
Source: authors' photo

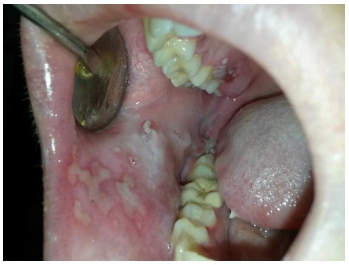

Figure 5. Buccal mucosa – erosions covered with detached macerated epithelial flaps
Source: authors' photo

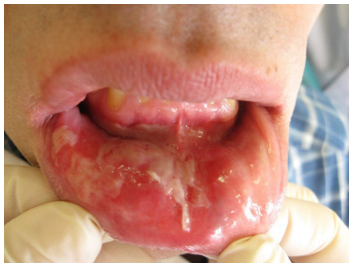

Figure 6. Lower lip – sheets of detached epithelium and fragments of blister roofs
Source: authors' photo

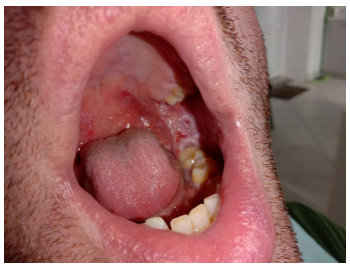

Figure 7. Retromolar area – red superficial erosions without bleeding or surrounding inflammatory reaction
Source: authors' photo

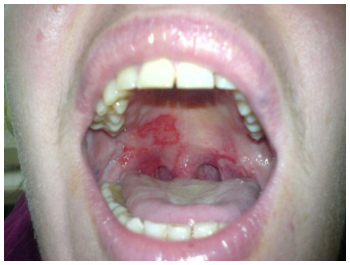

Figure 8. Soft palate and palatal arches – erythematous erosions surrounded by non-reactive mucosa
Source: authors' photo

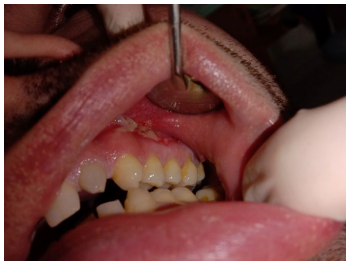

Figure 9. Macerated epithelium covering an erosive lesion surface
Source: authors' photo

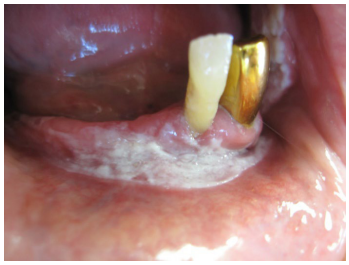

Figure 10. Gingiva of the mandible – detached (macerated) epithelium in the anterior region without inflammatory response
Source: authors' photo

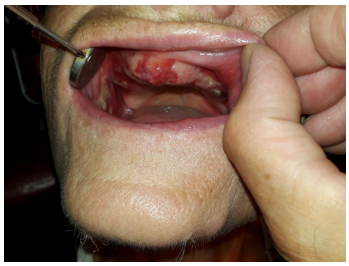

Figure 11. Maxillary alveolar ridge and buccal mucosa – erythematous erosions partially covered by macerated epithelium, without reactive changes in surrounding tissues
Source: authors' photo

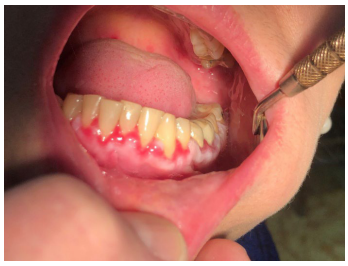

Figure 12. Mandibular gingiva – erosions of the papillary and marginal areas without inflammatory changes in adjacent tissues
Source: authors' photo

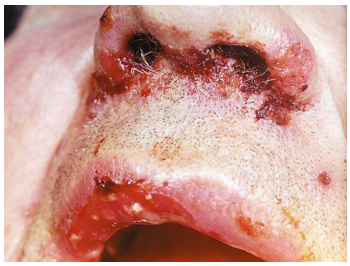

Figure 13. Generalised form of PV – involvement of the oral mucosa, vermilion border of the lips, nasal mucosa, and skin of the nose
Source: authors' photo

The cytological hallmark – acantholytic Tzanck cells (Fig. 2) – and the Nikolsky sign (Fig. 3) are presented. Typical erosive–bullous lesions of the oral mucosa are demonstrated across different anatomical sites: the tongue (Fig. 4), buccal mucosa (Fig. 5), lip (Fig. 6), retromolar region (Fig. 7), soft palate and palatal arches (Fig. 8), gingiva (Figs. 10, 12), and alveolar process (Fig. 11). The maceration of the epithelium on the surface of erosions is represented by Figures 4-6, 10-12. Figure 13 shows an example of the generalised form of PV involving the oral mucosa, vermilion border of the lips, nasal mucosa, and nasal skin. The illustrative part shows the characteristic manifestations and the clinical heterogeneity of PV manifestations in the oral mucosa.

The initial clinical manifestations of the PV disease are difficult to diagnose, especially if it is manifested solely by lesions of the oral mucosa. In this case, they are disguised by other more common diseases, which leads to mistakes in diagnosing the disease and delays in the visit to a dermatologist. The results obtained coincide with literature data on the low clinical suspicion of the general practitioners and the insufficient use of special diagnostic methods [13]. The occurrence of isolated lesions in the oral mucosa in most cases (83.3%) is the main clue to the diagnosis. The average diagnostic delay of 3.5 ± 0.6 months indicates an error in differential diagnosis, as in most patients, the initial diagnosis is often incorrect. According to V.A. Litvinov [14], in the case of oral manifestations, the PV is often confused with erythema multiforme, candidiasis, recurrent aphthous stomatitis and recurrent herpes simplex infection. This highlights the need to increase clinical awareness among primary care physicians, otorhinolaryngologists, and dentists. The delay in diagnosis causes clinical, psycho-emotional and organisational problems. The delay causes the progression of the lesion of the mucous membrane of the oral mucosa and its generalisation. From a psycho-emotional perspective, it is associated with increased discomfort, social maladjustment, and emotional exhaustion, as reflected in high DLQI scores reported by O. Segal *et al.* [15]. From an organisational standpoint, the delay causes an increase in the workload of the medical personnel of specialised outpatient care and increases the cost of medical assistance, as noted by D. Didona *et al.* [16]. The method of Tzanck was also shown to be effective. Acantholytic cells were revealed in 47.9% of cases in the initial period of observation and in 100% in the second study. The advantage of the method is its speed, accessibility, and minimal invasiveness. However, this approach has its limitations: it requires expertise, it does not exclude false negative results in

cases of minimal lesions, and it is not useful in determining subtype. A significant practical significance and high specificity were observed when determining the antibodies to Dsg1 and Dsg3 by the ELISA technique. Antibodies to Dsg3 were recorded with lesions localised on the oral mucosa, and the presence of antibodies to Dsg1 was associated with generalised forms; this matches the international data. It was also determined that it was a serological investigation that had the decisive impact on establishing the diagnosis in cases of false-negative results in cytological examination, in confirming the correctness of the initial diagnosis [17]. This confirms the hypothesis of the "molecular profile" in PV proposed by J. Wang *et al.* [18], which is important to predict generalisation and to monitor treatment. Thus, the combination of cytological and serological methods is the most acceptable option for diagnostics. This technique shortens diagnostic delay, allows for timely distinction between forms of PV and improves the prognosis. These data coincide with the results of previous studies by R. Czerninski *et al*. [19] regarding the significant negative effect of PV on physical and psychoemotional spheres of life. Patients with concomitant lesions of the oral mucosa and the skin showed high DLQI scores, which is likely due to the severity of the generalised form of the disease. The relationship between diagnostic delay and quality of life deterioration confirms the necessity of early diagnostic verification, as suggested by the results of J.Y. Sun *et al.* [20]. The diagnostic algorithm developed in this study for use in cases of suspected PV may serve as a practical guide in patients presenting with erosive and ulcerative oral mucosal lesions that are unresponsive to standard therapy (Table 2).

Table 2. Clinical decision-making algorithm in suspected PV

Stage	Actions	Aim
1. Initial examination	Identification of non-healing erosions; assessment of medical history	Increase clinical suspicion
2. Exclusion of common conditions	Candidiasis, erythema multiforme, recurrent aphthous stomatitis, oral lichen planus, bullous pemphigoid, recurrent herpes simplex infection, leukoplakia	Reduce risk of misdiagnosis
3. Detection of Tzanck cells	Smears taken from the base of a "fresh" erosion	Identification of acantholytic cells
4. Referral for serological testing	Determination of anti-Dsg3 and anti-Dsg1 antibodies	Diagnostic confirmation and prognosis assessment
5. Quality of life assessment	Use of DLQI or SF-36v2	Evaluation of patients' psycho-emotional and physical status
6. Dermatology consultation	Referral of the patient to a dermatologist	Timely and appropriate treatment and follow-up

Source: developed by the authors

The use of the proposed sequence of tests for suspected PV allows reduction of the time until diagnosis and timely referral to an expert. Early diagnosis of PV is very important as it is a precondition for effective treatment that today involves modern immunosuppressive or targeted therapeutic options.

CONCLUSIONS

1. PV more often involves the oral mucosa than skin, but the isolated oral form of the disease is the most common reason for incorrect and delayed diagnosis.

2. The clinical presentation in 83.3% of the PV cases was limited to oral mucosal lesions. This fact complicated differential diagnostics, resulting in misdiagnoses such as oral candidiasis, oral erythema multiforme, herpes simplex recurrent infection and others. The time between the onset of symptoms and the correct diagnosis of the disease in the current observation was 3.5 months; this period was longer in males than in females. These data confirm the significance of the time factor on prognosis and quality of life.

3. At first, when the disease begins, the pain for patients with PV is not pronounced; only mild pain or a feeling of soreness is observed. In the future, the larger the size of erosions, the stronger the pain that arises, interfering with chewing, talking, and affecting the general condition of patients.

4. At the very first examination, acantholytic cells were identified in 47.6% cases by cytological testing with the Tzanck method; repeat cytology showed a 100% confirmation of the diagnosis. Serological testing for antibodies against desmoglein 1 and 3 demonstrated a relatively high sensitivity: anti-Dsg3 antibodies were detected in all patients, and anti-Dsg1 antibodies in 41.7%, which correlates with the phenotypes of isolated and generalised forms of PV. This again proves that the combined use of cytology and serology will significantly improve the rate of diagnosing disease and shorten its delay.

5. There is a positive correlation between the length of delay in diagnosis and the deterioration of the patients' quality of life ($\rho = 0.62$; $p < 0.01$). Patients reported a gradual decline in emotional and social functioning as well as an escalating pain syndrome.

6. Early detection of the initial isolated oral mucosal lesions, enhanced clinical alertness among primary care doctors, and combined diagnostic methods will help prevent the development of this disease,

improve its prognosis and allow for the preservation of patients' quality of life.

7. The importance of the problem's multidisciplinary nature should be emphasised: dentists, otolaryngologists and family physicians should be well acquainted with the typical clinical symptoms of PV to ensure early referral of these patients to a dermatologist. Such an approach will make it possible to shorten the period of diagnosis, avoid inappropriate treatment and enable more accurate therapy.

Study limitations. The relatively small sample size (42 patients) and the descriptive prospective design do not exclude systematic bias and data incompleteness. Serological testing (anti-Dsg1 and anti-Dsg3 antibodies) is only available for a selected few patients. Socio-psychological factors were only partially considered, and standardised scales do not fully capture patients' cultural characteristics. It requires further confirmation and should be continued in a large-scale multicentre prospective study involving more patients and a wider range of diagnostic methodologies.

Further research directions. Multicentre prospective studies with larger patient cohorts, standardised diagnostic protocols, and expanded laboratory methods (ELISA, immunoblotting) are required for a more precise assessment of the antibody profile.

Disclaimer. The authors declare that the views expressed in this article are their own and do not represent the official positions of their affiliated institutions.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] National Center for Health Statistics: Classification of Diseases, Functioning, and Disability. ICD-10-CM [Internet]. 2024 June 7 [cited 2025 September 3]. Available from: https://surl.li/lgqlxi
[2] Oliinyk IO, Suprun KG, Havriushenko AS. A clinical case of pemphigus vulgaris (Diagnostic and treatment challenges in a wartime setting). Dermatol Venereol. 2024;4:26–8. DOI: 10.33743/2308-10667-2024-4-26-28
[3] Danilevskyi MF, Borysenko AV, Nesyn OF, Rakhnii ZhI, Kononova OV. Therapeutic dentistry: Diseases of the oral mucosa. Vol 4. 2nd ed. Kyiv: All-Ukrainian Specialised Publishing House "Medicine"; 2021. 640 P.
[4] Ribeiro Carlete Filho S, Morais da Silva LA, Maia CR, Andrade Santos PR, Alves PM, Andrade Santos PP. Oral pemphigus vulgaris diagnostic characteristics and treatment: A systematic review. Med Mol Morphol. 2025;58:1–22. DOI: 10.1007/s00795-024-00414-y
[5] Zhao L, Chen Y, Wang M. The global incidence rate of pemphigus vulgaris: A systematic review and meta-analysis. Dermatology. 2023;239(4):514–22. DOI: 10.1159/000530121
[6] Giannetti L, Generali L, Bertoldi C. Oral pemphigus. G Ital Dermatol Venereol. 2018;153(3):383–8. DOI: 10.23736/S0392-0488.18.05887-X
[7] Jindal A, Rao C, Pai SB, Rao R. Utility of oral mucosa as a substrate for the serodiagnosis of pemphigus: A descriptive analysis. Indian J Dermatol Venereol Leprol. 2022;88(2):156–61. DOI: 10.25259/IJDVL_469_20
[8] Chaudhari S, Meshram N, Bhatkule M, Srivastava A, Gadkari R. Tzanck smear: Old handy tool in modern dermatology. Diagn Cytopathol. 2025;53(7):333–43. DOI: 10.1002/dc.25470
[9] Altay E, Temiz SA, Özer İ, Daye M, Dursun R. The evolution of Tzanck smear publications: A bibliometric analysis with research trends and global productivity. Turk J Dermatol. 2025;19(3):158–68. DOI: 10.4274/tjd.galenos.2025.26817
[10] Schmitt T, Huber J, Pircher J, Schmidt E, Waschke J. The impact of signaling pathways on the desmosome ultrastructure in pemphigus. Front Immunol. 2024;15:1497241. DOI: 10.3389/fimmu.2024.1497241
[11] Zhou Y, Wang Y, Wang M, Zhou X, Luo L, Yan W, et al. Factors associated with persistent anti-desmoglein positivity after remission in pemphigus vulgaris: A prospective registry-based cohort study. Front Immunol. 2025;16:1557556. DOI: 10.3389/fimmu.2025.1557556
[12] World Medical Association. World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. JAMA. 2013;310(20):2191–4. DOI: 10.1001/jama.2013.281053
[13] Joly P, Horvath B, Patsatsi A, Uzun S, Bech R, Beissert S, et al. Updated S2K guidelines on the management of pemphigus vulgaris and foliaceus initiated by the European Academy of Dermatology and Venereology (EADV). J Eur Acad Dermatol Venereol. 2021;35(11):2151–77. DOI: 10.1111/jdv.16752
[14] Litvinov VA. Features of quality of life in patients with acantholytic pemphigus according to the results of the SF-36V2 questionnaire and the Dermatological Quality of Life Index during glucocorticosteroid therapy. Ukrainian J Med Biol Sport. 2021;6(6):123–33. DOI: 10.26693/jmbs06.06.123
[15] Segal O, Goldzweig G, Tako E, Barzilai A, Lyakhovitsky A, Baum S. Illness perception, perceived social support and quality of life in patients with pemphigus vulgaris: What should dermatologists know? Acta Derm Venereol. 2021;101(4):adv00441. DOI: 10.2340/00015555-3785

[16] Didona D, Maglie R, Eming R, Hertl M. Pemphigus: Current and future therapeutic strategies. Front Immunol. 2019;10:1418. DOI: 10.3389/fimmu.2019.01418
[17] Delavarian Z, Layegh P, Pakfetrat A, Zarghi N, Khorashadizadeh M, Ghazi A. Evaluation of desmoglein 1 and 3 autoantibodies in pemphigus vulgaris: Correlation with disease severity. J Clin Exp Dent. 2020;12(3):e237–43. DOI: 10.4317/jced.56289
[18] Wang J, Wu H, Cong W, Zheng J, Li X, Pan M. Psychological morbidity in patients with pemphigus and its clinicodemographic risk factors: A comparative study. J Dermatol. 2023;50(10):1237–45. DOI: 10.1111/1346-8138.16875
[19] Czerninski R, Abu Elhawa M, Cleiman M, Keshet N, Haviv Y, Armoni-Weiss G. Oral involvement and pain among pemphigus vulgaris patients as a clinical indicator for management – an epidemiological and clinical study. Appl Sci. 2025;15(18):10145. DOI: 10.3390/app151810145
[20] Sun JY, Roh MR, Kim SC. Quality of life evaluation in Korean patients with pemphigus. Ann Dermatol. 2015;27(5):492–8. DOI:10.5021/ad.2015.27.5.492

Олександр Несин
Кандидат медичних наук, доцент
Національний медичний університет імені О. О. Богомольця
01601, бульв. Тараса Шевченка, 13, м. Київ, Україна
https://orcid.org/0000-0001-9197-4983

Костянтин Печковський
Кандидат медичних наук, доцент
Національний медичний університет імені О. О. Богомольця
01601, бульв. Тараса Шевченка, 13, м. Київ, Україна
https://orcid.org/0000-0001-5143-2768

Ірина Печковська
Кандидат медичних наук, доцент
Приватний вищий навчальний заклад «Київський медичний університет»
02099, вул. Бориспільська, 2, м. Київ, Україна
https://orcid.org/0000-0003-1795-0566

Сергій Самойленко
Кандидат медичних наук, доцент
Національний університет охорони здоров'я України імені П. Л. Шупика
04112, вул. Дорогожицька, 9, м. Київ, Україна
https://orcid.org/0000-0002-6441-3192

Олексій Куваєв
Кандидат медичних наук, асистент
Національний медичний університет імені О. О. Богомольця
01601, бульв. Тараса Шевченка, 13, м. Київ, Україна
https://orcid.org/0000-0002-0012-333X

Клінічні особливості та діагностичні помилки при проявах *pemphigus vulgaris* у порожнині рота

Анотація
Актуальність. *Pemphigus vulgaris* – орфанне автоімунне бульозне захворювання, що характеризується утворенням внутрішньоепітеліальних пухирів та ерозій. У більшості випадків першими й тривалий час єдиними проявами є ураження слизової оболонки порожнини рота, які нерідко маскуються під поліморфну ексудативну еритему, кандидоз, хронічний рецидивний герпес чи інші поширені патології. Це зумовлює діагностичні помилки, затримку направлення пацієнтів до дерматолога та призначення неадекватної терапії. Вчасне розпізнавання ізольованих уражень слизової оболонки порожнини рота має вирішальне значення для прогнозу та якості життя пацієнтів.
Мета. Систематизувати клінічні прояви *pemphigus vulgaris* у порожнині рота, проаналізувати типові діагностичні помилки на етапі первинного звернення та розробити практичні рекомендації для лікарів щодо послідовності дій при підозрі на *pemphigus vulgaris*.
Матеріали та методи. Проведено проспективний клініко-описовий аналіз 42 пацієнтів із діагнозом *pemphigus vulgaris*, які звернулися до стоматологічного медичного центру Національного медичного

університету імені О. О. Богомольця з 2018 по 2025 р. Використано клінічні, цитологічні (метод Тцанка) та серологічні (ELISA на антиDsg1 та антиDsg3) методи. Якість життя пацієнтів оцінювали за допомогою опитувальників SF36v2 та DLQI. Статистичний аналіз проводили з використанням t-тесту, тесту МаннаУїтні та кореляційного аналізу за Спірменом ($p < 0,05$).

Результати. У 83,3 % пацієнтів первинні прояви були ізольованими ураженнями слизової оболонки порожнини рота, що значно ускладнювало диференційну діагностику. Середній інтервал між появою симптомів і встановленням діагнозу становив 3,5 ± 0,6 місяця, у жінок він був коротшим, ніж у чоловіків. На момент направлення всі пацієнти отримали хибні діагнози (кандидоз, поліморфна ексудативна еритема, хронічний рецидивний герпес тощо) та неадекватне лікування. Акантолітичні клітини виявлено у 47,6 % мазків при першому цитологічному дослідженні та у 100 % при повторних. Серологічне тестування підтвердило наявність антиDsg3 у всіх пацієнтів та антиDsg1 у 41,7 %, що узгоджується з фенотипом ізольованих і генералізованих форм. Встановлено позитивний кореляційний зв'язок між тривалістю діагностичної затримки та погіршенням якості життя ($\rho = 0,62$; $p < 0,01$).

Практичне значення. Раннє розпізнавання ізольованих уражень слизової оболонки порожнини рота та комбіноване застосування цитологічного й серологічного досліджень дозволяють скоротити діагностичну затримку, диференціювати форми *pemphigus vulgaris* та запобігти прогресуванню захворювання. Запропонована послідовність дій лікаря може слугувати практичним орієнтиром для стоматологів та оториноларингологів, підвищуючи настороженість і забезпечуючи своєчасне направлення пацієнтів для спеціалізованої допомоги.

Висновки. *Pemphigus vulgaris* у порожнині рота часто маскується під інші патології, що призводить до діагностичних помилок і затримки встановлення діагнозу. Цитологічне дослідження за методом Тцанка залишається простим і доступним інструментом, але потребує доповнення серологічними методами. Поєднання цих підходів забезпечує більш точну діагностику, покращує прогноз та якість життя пацієнтів.

Ключові слова: *pemphigus vulgaris*, диференційна діагностика; цитологічне обстеження; серологічне дослідження; якість життя.