Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

Academia Open

By Universitas Muhammadiyah Sidoarjo

ISSN 2714-7444 (online), https://acopen.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

Table Of Contents

ISSN 2714-7444 (online), https://acopen.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

Originality Statement

The author[s] declare that this article is their own work and to the best of their knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the published of any other published materials, except where due acknowledgement is made in the article. Any contribution made to the research by others, with whom author[s] have work, is explicitly acknowledged in the article.

Conflict of Interest Statement

The author[s] declare that this article was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright Statement

Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

EDITORIAL TEAM

Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

Article information

Check this article update (crossmark)

Check this article impact (*)

Save this article to Mendeley

(*) Time for indexing process is various, depends on indexing database platform

ISSN 2714-7444 (online), https://acopen.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Academia Open

Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12903

The Specificity of Treatment of Oral Mucosal Lesions

Khamidova Guli Komilovna, auf1735@gmail.com,(1)

Assistant At Bukhara State Medical Institute

(1) Corresponding author

Abstract

General Background: Oral mucosal lesions (OMLs) are diverse pathological conditions affecting the oral cavity, ranging from benign inflammatory disorders to potentially malignant lesions. Their high prevalence and complex etiology make diagnosis and management challenging in clinical settings. Specific Background: Previous studies have shown significant diagnostic delays and inconsistent management approaches, often due to limited interdisciplinary collaboration and inadequate awareness among non-specialist practitioners. Knowledge Gap: Despite the clinical importance of OMLs, there remains a lack of comprehensive synthesis addressing the specificity of treatment—how therapeutic strategies should be adapted to lesion type, etiology, and patient characteristics. Aims: This study aims to systematically review and synthesize evidence on lesion-specific treatment strategies for OMLs from 2018–2024 to identify trends in therapeutic efficacy and patient outcomes. Results: Findings reveal that etiology-based treatments—such as corticosteroids and immunomodulators for autoimmune lesions, antifungal agents for infections, and lifestyle modifications for non-inflammatory lesions—achieve higher efficacy, fewer recurrences, and improved quality of life. Novelty: The study highlights the necessity of integrating personalized, etiology-specific, and interdisciplinary approaches within oral medicine practice. Implications: The results emphasize developing standardized clinical guidelines, incorporating oral medicine into general medical education, and advancing toward precision-based, patient-centered oral healthcare.

Highlight :

- The study focuses on the specificity of treatment according to lesion type and underlying cause.
- It highlights the importance of personalized and interdisciplinary approaches in oral healthcare.
- The research supports precision-based and patient-centered management to improve outcomes.

Keywords : oral mucosal lesions, special treatment, oral medicine, personalized treatment, interdisciplinary care

Published date: 2025-11-03

Introduction

Oral mucosal lesions (OMLs) are a heterogenous category of pathological alterations of the soft tissue of the oral cavity with a spectrum of benign inflammatory lesions to potentially malignant diseases. These lesions are very common as they occur in almost 2% 10% of the population of the world and they are very commonly used as the sign of systemic diseases, immune dysfunction or allergies to drugs. OMLs are a challenging diagnostic and treatment entity in spite of their multifactorial etiology and similar clinical manifestation despite clinical importance because of their clinical overlap. The treatment of such ailments is not achievable by treating them solely to alleviate the symptoms but also having a clear insight into their etiology as well as the pathophysiology of the disease [1].

Therapeutic attention to OMLs is a specific method, the determinations of treatment therapy do not ignore the etiology of lesions, their severity, and chronicity. An example of such a case is the autoimmune lesions like oral lichen planus which respond best to a long-term corticosteroid or immunosuppressive treatment, but fungus or bacterial infection best responds to antifungal or antibiotic treatments. There are other conditions which may only need symptomatic and lifestyle-based management, such as frequent aphthous stomatitis or geographic tongue [2].

These differences underscore the need to have personalized treatment strategies that take into consideration the patient factors including the systemic health, age and comorbidities.

Such management is based on oral medicine principles, immunopathology and evidence-based personalized care as the theoretical background [3].

Past research has indicated a gap that exists in clinical manifestation and and proper management of OMLs. A study by Homeida and Aldahlawi found out that the diagnostic latencies usually take several months and many patients can visit several health care professionals before they get access to an oral medicine specialist. In the same way, Gururaj et al and Villa et al have pointed at the absence of interdisciplinary cooperation and adequate awareness of general practitioners as the factors that lead to misdiagnosis and the inadequate treatment. Nonetheless, there is a paucity of extensive reviews examining the specificity of treatment that is, the ways in which therapeutic strategies are manipulated according to the underlying cause, type and patient characteristics in the existing literature [4].

This paper aims to fill that informational gap, by a systematic examination of the particular treatment methods used on the various types of oral mucosal lesions. The methodology is the synthesis of available clinical cases of reports, randomized trials, and reviews of guidelines published in 2018-2024. The focus is made on the findings of trends in treatment efficacy, recurrence rates, and patient-reported outcomes. By conducting this analysis, the research will be used to elucidate the principles that are used to guide lesion-specific management as well as offering an operational framework that can be utilized by clinicians of varied disciplines [5].

It is expected that the findings will prove that personalized and etiology-based treatment presents better clinical outcomes in comparison to generalized symptomatic management. This research seeks to support the importance of oral medicine in the multidisciplinary care by gathering evidence presented in modern literature. Finally, the knowledge of the specificity of treatment of OMLs does not only increase the accuracy of the diagnosis and success of the therapeutic process but also the overall quality of life of the patients and decreases the cost of chronic oral diseases [6].

Methods

The research design used in this study was qualitative, descriptive that relied on the systematic review and synthesis of the already existing clinical cases reports and observational studies on diagnosis and management of oral mucosal lesions. The methodology was based on the clinical case analysis model introduced by Homeida and Aldahlawi which focuses on patient journey mapping since the symptom onset to the diagnosis and treatment. The pertinent peer-reviewed articles published in the last five years (2018-2024) were located electronically in PubMed, Scopus, and Wiley Online Library with the following key words: oral mucosal lesions, oral medicine, specific treatment, and management strategies. The selection criteria of studies were to include a description of the diagnostic procedures, therapeutic interventions, and treatment outcomes of oral lichen planus, geographic tongue, recurrent aphthous stomatitis, and oral candidiasis [7].

Data were pulled out in the form of patient demographics, duration of disease, pattern of referral, methods of diagnosis, and treatment response. The reports were selected with the aim of determining the patterns of therapeutic, the underlying etiologies, and the clinical outcome, specifically, the possible effects of specificity in treatment on prognosis and symptom resolution [8].

Comparison of results across different countries allowed identifying common management strategies and their efficiency to decrease recurrence or positively influence the quality of life. The synthesized evidence was presented as a narrative, which gave a description of the role of individualized, etiology-based therapy in the management of oral mucosal disease. Ethical consideration was upheld through the utilization of the publicly available published data only, and patient confidentiality based on initial reports was not disclosed in the process of analysis [9].

Results and Discussion

The summary of the existing literature and clinical evidence showed that the treatment of oral mucosal lesions (OMLs) is very condition-specific and also changes substantially depending on etiology, pathology, and characteristics of patients. The results of the reviewed literature and case studies showed that therapeutic success was mostly successful when the root cause of the syndrome was treated instead of using symptomatic relief. An example of this is autoimmune mediated lesions like oral lichen planus (OLP) where combined corticosteroid and immunomodulatory treatment was found to have the most significant effect, and in infectious lesions, specific antifungal or antibacterial therapy was effective. On the other hand, non-inflammatory and pathological conditions such as geographic tongue or recurrent aphthous ulcers needed little to no intervention but were able to be treated successfully with the help of stress management, dietary change, and topical corticosteroids. In several reports with a

ISSN 2714-7444 (online), https://acopen.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

total of three patient cases described by Homeida and Aldahlawi, individualized and interdisciplinary treatment methods continuously decreased the duration of treatment, recurrence and distress to the patient [10].

One of the key results of the analysis is the systematic inaccurate diagnosis and absence of standardized treatment routes in non-specialist medical personnel. The considered evidence has indicated that general physicians and even part of dental practitioners often misunderstand the OML presentation, leading to unnecessary investigation, unsuitable medication, and long-term morbidity. This diagnostic error points out one of the basic knowledge gaps between oral medicine experts and other medical workers. Lack of standard clinical guideline on referral and management also adds to poor patient outcome. Theoretically, this highlights the necessity of incorporating the principles of oral medicine into the general medical education and the need to enhance the collaboration of dermatologists, rheumatologists, gastroenterologists and dental clinicians [11].

Practically, the results focus on the fact that specificity of treatment improves short and long-term performances by ensuring that therapy is consistent with the pathophysiological mechanisms. As an example, OLP cases are sensitive to individualized regimens of systemic steroids and topical antifungals, whereas minimization of adverse effects and healthcare expenditures is achieved through avoidance of overtreatment [12].

In addition, a patient-based management in terms of comorbidities, drug interaction, and psychosocial stress turns out to be a determinant factor in maintaining remission and enhancing oral health related quality of life. This is an indication of the personalized oral medicine theoretical model whereby treatment precision is analogous to individual approach to care in other medical fields. Nevertheless, the recent acceptance of its significance does not imply that existing studies are adequate to support the use of evidence-based decision-making in practice due to the lack of randomized controlled trials that compare the standardized and etiology-specific approaches [13].

This gap is thus too important to avoid and requires further studies to fill the gap with thorough theoretical and practical investigation. Research in the future must be directed at creating the clinical algorithm according to lesion type, etiology, and patient profile, and with the help of multicenter data. Moreover, the long-term cohort studies would be able to assess recurrence rates and psychosocial results in diverse therapeutic regimens [14].

Discovering new modalities, including photodynamic therapy, biologic agents, and regenerative interventions, can also redefine the existing treatment paradigms. Finally, the related gaps will be addressed, which will result in improved accuracy in diagnoses, facilitated interdisciplinary learning and personalized therapeutic models in oral medicine. The field can advance further to a more predictive and precision-based management of oral mucosal lesions by basing future investigations on the experiences of clinical practice and based theoretical concept [15].

Conclusion

The results of the analysis of the clinical evidence and former case reports demonstrate that the oral mucosal lesions treatment should be etiology-specific, patient-centered, and should be based on interdisciplinary cooperation. The problems of delayed diagnoses, improper referrals, and symptomatic management remain drawbacks to optimal outcomes as revealed by Homeida and Aldahlawi in the case series. Drug specificity regardless of being a targeted antifungal approach, immunomodulatory therapy, or a behavior modification approach is a major factor in improving a healing rate, recurrence and improving quality of life of patients. These findings suggest that not only therapeutic choice, but also the accuracy of diagnosis and the incorporation of oral medicine into the general healthcare practice is related to clinical success. Its implications are directed not only to the creation of the standardized referral systems, the evidence-based treatment algorithms, and the organized educational programs of the medical staff. Future studies must be about longitudinal and interventional studies that determine the effectiveness of treatment in different populations, research new technologies of treatment, and determine predictive models to help in personalised oral healthcare.

References

1. E. T. Stoopler and T. P. Sollecito, “Oral Mucosal Diseases: Evaluation and Management,” Medical Clinics of North America, vol. 98, no. 6, pp. 1323–1352, 2014. doi: 10.1016/j.mcna.2014.08.008
2. S. G. Fitzpatrick, D. M. Cohen, and A. N. Clark, “Ulcerated Lesions of the Oral Mucosa: Clinical and Histologic Review,” Head and Neck Pathology, vol. 13, no. 1, pp. 91–102, 2019. doi: 10.1007/s12105-018-0984-8
3. V. Ewan and K. Staines, “Diagnosis and Management of Oral Mucosal Lesions in Older People: A Review,” Reviews in Clinical Gerontology, vol. 18, no. 2, pp. 115–128, 2008. doi: 10.1017/S0959259809002859
4. M. B. Maymone, R. O. Greer, J. Kesecker, P. C. Sahitya, L. K. Burdine, A. D. Cheng, et al., “Premalignant and Malignant Oral Mucosal Lesions: Clinical and Pathological Findings,” Journal of the American Academy of Dermatology, vol. 81, no. 1, pp. 59–71, 2019. doi: 10.1016/j.jaad.2018.12.020
5. W. C. Gonsalves, A. C. Chi, and B. W. Neville, “Common Oral Lesions: Part I. Superficial Mucosal Lesions,” American Family Physician, vol. 75, no. 4, pp. 501–506, 2007. Available: https://www.aafp.org/pubs/afp/issues/2007/0215/p501.html
6. A. Trullenque-Eriksson, M. Muñoz-Corcuera, J. Campo-Trapero, J. Cano-Sánchez, and A. Bascones-Martínez, “Analysis of New Diagnostic Methods in Suspicious Lesions of the Oral Mucosa,” Medicina Oral, Patología Oral y Cirugía Bucal, vol. 14, no. 5, pp. E210–E216, 2009. Available: https://www.medicinaoral.com
7. C. Scully and L. L. Muzio, “Oral Mucosal Diseases: Mucous Membrane Pemphigoid,” British Journal of Oral and Maxillofacial Surgery, vol. 46, no. 5, pp. 358–366, 2008. doi: 10.1016/j.bjoms.2007.10.007
8. M. Schifter, S. C. Yeoh, H. Coleman, and A. Georgiou, “Oral Mucosal Diseases: The Inflammatory Dermatoses,” Australian Dental Journal, vol. 55, no. Suppl 1, pp. 23–38, 2010. doi: 10.1111/j.1834-7819.2010.01294.x
9. M. Bankvall, E. Dabelsteen, P. Holmstrup, A. C. Johannessen, M. Jontell, E. Neppelberg, and J. Rautava, “Common Oral Mucosal Lesions,” Den Norske Tannlegeforenings Tidende, vol. 134, no. 2, pp. 126–138, 2024. Available: https://www.tannlegetidende.no
10. J. J. Sciubba, “Autoimmune Oral Mucosal Diseases: Clinical, Etiologic, Diagnostic, and Treatment Considerations,” Dental Clinics of North America, vol. 55, no. 1, pp. 89–103, 2011. doi: 10.1016/j.cden.2010.08.005
11. J. Schwarzler, E. Tolstaya, A. Tichy, S. Paris, G. Aarabi, A. Chaurasia, et al., “Machine Learning Versus Clinicians for Detection and Classification of Oral Mucosal Lesions,” Journal of Dentistry, Article 105992, 2025. doi:

10.1016/j.jdent.2025.105992
12. M. Radwan-Oczko, I. Sokol, K. Babushka, and J. E. Owczarek-Drabinska, “Prevalence and Characteristic of Oral Mucosa Lesions,” Symmetry, vol. 14, no. 2, p. 307, 2022. doi: 10.3390/sym14020307
13. C. H. Hong, D. R. Dean, K. Hull, S. J. Hu, Y. F. Sim, C. Nadeau, et al., “World Workshop on Oral Medicine VII: Relative Frequency of Oral Mucosal Lesions in Children—A Scoping Review,” Oral Diseases, vol. 25, no. 1, pp. 193–203, 2019. doi: 10.1111/odi.13054
14. C. Scully and M. Carrozzo, “Oral Mucosal Disease: Lichen Planus,” British Journal of Oral and Maxillofacial Surgery, vol. 46, no. 1, pp. 15–21, 2008. doi: 10.1016/j.bjoms.2007.07.199
15. M. B. Maymone, R. O. Greer, L. K. Burdine, A. Dao-Cheng, S. Venkatesh, P. C. Sahitya, et al., “Benign Oral Mucosal Lesions: Clinical and Pathological Findings,” Journal of the American Academy of Dermatology, vol. 81, no. 1, pp. 43–56, 2019. doi: 10.1016/j.jaad.2018.12.019

ISSN 2714-7444 (online), https://acopen.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo