

**MORSICATIO BUCCARUM AND LABIORUM IN
SEVERE ANXIETY PATIENT**
*(MORSICATIO BUCCARUM DAN LABIORUM PADA
PASIEN ANSIETAS PARAH)*

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ABSTRACT

Morsicatio buccarum and labiorum are conditions generally caused by chronic habitual cheek and lip biting. Objective findings present thick, shaggy, irregular white lesions on the buccal and labial mucosa. Morsicatio is frequently associated with psychological conditions. This case report aims to assess the depression, anxiety, and stress levels in a patient with morsicatio buccarum and labiorum. A 22-year-old male patient visited the Integrated Polyclinic of Universitas Jenderal Achmad Yani Dental Hospital to check his oral status. Clinical examination revealed incidental findings. Extraoral examination showed clicking on both temporomandibular joint (TMJ) and lip desquamation sides. Intraoral mucosa examination revealed white lesions in the form of unsweepable plaque, irregular, slightly elevated from surrounding tissue, and interspersed with erythematous erosion areas on the buccal and labial mucosa. A pigmented lesion was found on the anterior attached gingiva mucosa on both the upper and lower jaws. The patient admitted to chronic habitual cheek biting since childhood. The Depression, Anxiety, and Stress-21 (DASS-21) assessment showed

anxiety reaching a severe level. A psychological approach is needed as part of the treatment planning in morsicatio cases.

Keywords: anxiety; morsication buccarum; morsicatio labiorum

ABSTRAK

Morsicatio buccarum and labiorum pada umumnya disebabkan oleh kebiasaan menggigit bibir dan pipi secara kronis. Presentasi klinis dapat berupa lesi putih yang tebal, kasar, tidak beraturan yang berlokasi pada mukosa bukal dan labial. Morsicatio biasanya berhubungan dengan kondisi psikologis. Laporan kasus ini bertujuan untuk mengungkap tingkat depresi, ansietas, dan stres pada pasien dengan kasus morsicatio buccarum dan labiorum. Pasien laki-laki berusia 22 tahun datang ke poliklinik integrasi Rumah Sakit Gigi dan Mulut Pendidikan Universitas Jenderal Achmad Yani ingin memeriksakan kesehatan rongga mulutnya. Pemeriksaan klinis menunjukkan beberapa temuan yang tidak disengaja. Pemeriksaan ekstraoral menunjukkan kliking pada sendi temporomandibular dan deskuamasi bibir. Pada pemeriksaan intraoral terdapat lesi putih berbentuk plak yang tidak dapat diseka, tidak beraturan dan sedikit meninggi dari jaringan sekitar, diselingi area erosi kemerahan pada mukosa bukal dan labial. Lesi pigmentasi ditemukan pada gingiva cekat anterior baik rahang atas maupun rahang bawah. Pasien mengakui kebiasaan menggigit kronis sejak kecil. Pasien diminta untuk mengisi kuesioner Depression, Anxiety and Stress-21 (DASS-21). Didapatkan hasil ansietas yang berada di level parah. Pendekatan secara psikologis dibutuhkan sebagai salah satu rencana perawatan pada kasus morsicatio.

Kata kunci: anxiety; morsication buccarum; morsicatio labiorum

INTRODUCTION

Morsicatio, also known as chronic

biting, is characterized by repetitive irritation or injury to the oral mucosa.^{1,2} It is

caused by chronic self-inflicted biting of the buccal mucosa (buccarum) and labial mucosa (labiorum). The condition is sometimes associated with physiological or mental conflict, such as hate, jealousy, aggression, feelings of inferiority, an isolated situation, compassion, and an identity problem.^{2,3} Clinical appearance morsicatio identify as white lesion plaque of the mucosa. The lesion is usually rough with a desquamative surface, interspersed with an erythematous erosion area spread on movable mucosa.⁴

A definitive diagnosis is essential to rule out another disease with a similar clinical appearance. White lesions on oral mucosa must be made aware due to some harmful differential diagnosis. Leukoplakia is an oral potential malignancy disorder (OPMD) with a similar clinical appearance to morsicatio.^{4,5} Thorough and detailed examination, especially in subjective examination, might help to rule out the malignant situation. Patient confession of conscious or unconscious habitual oral mucosal chewing is vital to ensure this condition.⁶ In this paper, we report the case of a 22-year-old male patient who was diagnosed with morsicatio buccarum. We also performed Depression Anxiety Stress (DASS-21) self-report scales. Surprisingly, the scoring showed a severe level of

anxiety. With a behavioural modification approach, the prognosis of the case could be positive.

This case report aims to assess the levels of depression, anxiety, and stress in a patient with morsicatio buccarum and labiorum. By understanding the psychological background and implementing a behavioural modification approach, we aim to improve this condition's overall prognosis and management.

CASE REPORT

A 22-year-old male patient came to the integrated polyclinic of Universitas Jenderal Achmad Yani Dental Hospital to check his oral condition. The patient's chief complaint was an aesthetic problem with his gingiva due to discolouration. The patient admits to smoking habit since two years ago with an intensity of twelve cigarette sticks every day. The pigmentation is asymptomatic but disturbing his confidence. The patient's oral hygiene is moderate, consisting of teeth brushing thrice daily. The last visit to the dentist was four years ago to perform a scaling procedure. The patient did not take any medication to reduce his complaints. Systemic disease was denied, and familial history of pigmentation was unknown. The

patient did not have any medical prescription. The daily nutritional diet was in good proportion, but minimal water intake was admitted, less than 1 litre per day.

Extraoral examination showed bilateral temporomandibular joint clicking with negative deviation. Sclera, pupils and all head and neck lymph nodes were within normal limits. The upper and lower lips' condition was dry and desquamated.

Intraoral examination revealed a pigmented macula lesion with a sharp border at the anterior attached gingiva in both the upper and lower jaw. The incidental finding exhibited a whitish plaque lesion on the buccal mucosa bilaterally and labial mucosa. The character of the white lesion was irregular, slightly elevated, shaggy and interspersed with an erythematous erosion area. (Figure 1.) Advanced anamnesis was performed after this asymptomatic incidental finding. The patient admits to having an oral mucosa chewing habit. This bad habit has been going on since childhood, consciously or unconsciously. The patient works as a boxing athlete and has trained intensely with a mouthguard.

Regarding this intraoral invention, the patient has been asked to fill out the Depression Anxiety and Stress (DASS-21) to assess his initial psychological status.

DASS-21 scoring was self-assessed based on patient-related situations. The result was no depression status, mild stress and severe anxiety. This finding might relate to the oral condition.

The condition was diagnosed as physiological pigmentation due to chief complaint, cheilitis simplex and morsicatio buccarum-labiorum with a psychological condition. The patient was then prescribed a mouthwash containing aloe vera and hyaluronic acid thrice daily. Non-pharmacological treatment includes communication, information and education about the normal variation of the pigmented lesion, cessation of bad habits (smoking and mucosal biting), and increased water intake of more than 1.5 litres per day. The patient was educated to reduce stress by coping with breathing exercises, playful exercises, or hobbies. 2-week control appointment was made.



Figure 1. Intraoral mucosa on first visit.

Two weeks later, the patient came to control the condition. The patient has already reduced smoking intensity to 6 cigarette sticks per day (reducing 50%). However, oral mucosal chewing still took place, and patients admit this activity unintentionally while driving, gaming, or feeling bored. Mouthwash had been used routinely only once per day before going to sleep. His familial history of depression was unknown, but the history of cheek chewing revealed his father also experienced this condition.

On intraoral examination, a white lesion of irregular plaque was still present, could not be wiped, was shaggy, and side by side with erythematous erosion. The left buccal mucosa showed better improvement than the right side.



Figure 2. Intraoral mucosa on second visit.

Treatment planning was to continue mouthwash medication containing aloe vera

and hyaluronic acid. We recommend that the patient consult a psychologist to help the patient quit chronic mucosal biting.

DISCUSSION

Most cases of lip and cheek biting are psychological problems such as chronic stress, depression or anxiety.⁷ In the present case, anxiety was the susceptible cause. The patient admitted a bad habit of unconsciously chewing his buccal and labial mucosa while driving, gaming, or when bored. Patient activity as a boxing athlete also increases the risk of mucosal trauma, even the mouthguard already used in every occasion of competition or training to prevent teeth and oral mucosa injuries.⁸ Study of the effect of using a mouth guard on the anaerobic and aerobic performance of combat sports athletes revealed that many athletes think that using a mouth guard during competition or training workouts has adverse effects in terms of discomfort, nausea, lack of concentration, difficulties in oral communication and exchange of breath.⁸ This reality could increase the likelihood that athletes refuse to use a mouth guard so that the potential of oral trauma can occur.

Anxiety is a subjective experience that everyone can feel when facing a condition or being in a situation that causes

worry or fear.⁹ Anxiety is a normal feeling of human beings, but when it persists and interfaces with daily activities, it could be harmful and recognized as an anxiety disorder. In this case, in the report, we found severe anxiety levels that were measured by the DASS-21 form. The DASS-21 scale is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress.¹⁰ Each of the three DASS-21 scales contains seven items, divided into subscales with similar content. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The condition was then categorized as normal, mild, moderate, severe and extremely severe. In this case report, patients are in the severe anxiety group. Even though the patient denied the condition subjectively, the DASS-21 scale identified this condition that could be related to oral condition.^{3,7}

Pathophysiology of morsicatio was related to trauma that caused abrasion and stimulated epithelium to respond by increasing the keratin.¹¹ The chewing habit caused erythematous lesions in the form of erosion adjacent to the white lesion, depending on the trauma's pressure.¹² The characteristic of this disease is the roughness of the mucosa.¹³ In the early stages, the plaque is visible as translucent

and pale. The advanced stage manifests as a white and solid white lesion. Sometimes, the lesion is desquamated and could be scrapped by the patient.¹⁴

The diagnosis is usually made based on clinical appearance and thorough anamnesis.¹¹ Considering leukoplakia as an oral potentially malignant disorder (OPMD), the differential diagnosis becomes vital in this case. Enquiring about oncogene agents such as smoking, alcohol consumption, preserved food consumption, or familial genetics is also needed to rule out leukoplakia.^{4,5} Other differential diagnoses of the case are oral candidiasis and oral lichen planus. This diagnosis was ruled out due to the patient's excellent immunity and the absence of pathognomonic lesions in Wickham's striae.⁵

The principal treatment of trauma in the oral cavity is the elimination of the source.¹² This case was caused by chronic chewing/biting on buccal and labial mucosa, so the primary treatment plan was to modify the behaviour to stop the parafunctional habit.⁷ In this case, the patient was directed to be able to manage his level of anxiety. Behavioural management is a specific process of planning, organizing, actuating, and controlling to reach the goal and become a better individual.¹³ Some techniques

include counselling, biofeedback, relaxation techniques, and psychology treatment.¹⁴ In our case, the patient asked to do coping mechanisms such as breathing exercises and playful activities to help reduce anxiety. We also recommend that the patient get help from a psychologist to get a better result. Psychotherapies have seen the most tremendous success in treating repetitive behaviour and have been studied the most.¹⁵

The pharmacological treatment of this case is mouthwash containing aloe vera and hyaluronic acid to cover the loss of integrity lesion of the mucosa¹⁶ caused by morsicatio buccarum and labiorum. Both aloe vera and hyaluronic acid have mechanisms that contribute to the healing process and the overall health of the oral mucosa. Aloe vera is a well-known medicinal plant with a wide range of therapeutic properties, including anti-inflammatory, antimicrobial, and wound-healing effects. Its fundamental mechanisms include reducing inflammation through compounds like glycoproteins and polysaccharides, providing antimicrobial agents to prevent secondary infections, stimulating fibroblast activity and collagen synthesis for tissue repair, and offering soothing and moisturizing effects to maintain the moisture balance of the oral

mucosa.¹⁶ Hyaluronic acid is a non-sulphated glycosaminoglycan. It is a linear polysaccharide of the extracellular matrix of connective tissue and many other body organs and tissues. The mechanism known as scar-free wound healing promotes the remission of symptoms, and if the source is eliminated, the lesion will progress well. Hyaluronic acid mechanisms include its hydrophilic nature that retains significant amounts of water for hydration and lubrication, promoting cell proliferation and migration for tissue regeneration, supporting scar-free wound healing by modulating the inflammatory response and reducing fibrosis, and reducing inflammation by inhibiting pro-inflammatory cytokines.¹⁷ The topical administration of aloe vera and hyaluronic acid as a mouthwash offers several advantages over systemic administration. The topical application ensures high concentrations of active ingredients directly at the lesion site, maximizing therapeutic effects and reducing systemic side effects. This targeted action allows for more efficient and quicker healing of the affected area. This topical drug administration emphasized its effectiveness in delivering high concentrations of a pharmacological agent to the site, compared to systemic administration.^{13,17}

However, the primary treatment of the case is behavioural modification and anxiety management.^{1,2,3,7,13,14} The case highlights the importance of addressing the psychological aspects of morsicatio buccarum and labiorum. Severe anxiety played a significant role in the patient's condition, and managing this anxiety through behavioural and psychological approaches was crucial. Pharmacological treatments can aid in symptom relief, but the primary focus should be on eliminating the habitual behaviour causing the trauma.¹⁴ Regular follow-ups and a multidisciplinary approach, including psychological support, are advised to ensure comprehensive management and prevent recurrence.⁷

CONCLUSION

Morsicatio buccarum and labiorum were caused by chronic/ repetitive mechanical trauma. In this case, unconscious repetitive chewing of buccal and labial mucosa was admitted to the patient. This self-inflicted case was mainly associated with psychological problems, so the primary management therapy should involve a psychologist.

CONFLICT OF INTEREST

The authors reported no potential conflict of interest.

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REFERENCES

1. Ossa, et al. Anxiety Induce Morsicatio Oris in Young Patient: a case report. *Journal of Community Dentistry & Dental Research*. 2023; 1(1):5-8.
2. Bhatia, et al. Morsicatio Buccarum and Labiorum with Depression. *International Journal of Dental and Health Sciences*. 2015;2(6): 1639-1642.
3. Artika, et al. Morsicatio buccarum dan labiorum kronis terkait kondisi depresi, kecemasan dan stress: laporan kasus. *Jurnal Kedokteran Gigi Universitas Padjadjaran*. 2023;25(1): 79-86.
4. Mortazavi H, Safi Y, Baharvand M, Jafari S, Anbari F, Rahmani S. Oral white lesions : an updated clinical diagnostic. *Dent J*. 2019;7(15):1–24
5. Glick M. *Burket's oral medicine*. 12th edition. People's medical publishing house. 2015 ; page 100-102.
6. Fatima R, et al. Association of cheek-biting and depression. *J Prak Med Assoc*. 2019;69;49-52.

7. Almutairi AF, et al. Association of parafunctional habits with anxiety and the big-five personality traits in the Saudi adult population. *Saudi Dental Journal*. 2021; 33:90-98.
8. Yarar H, et al. Effect of Using Mouth Guard on Anaerobic and Aerobic Performance of Combat Sport Athletes. *International Journal of Sport Studies*. 2013;3(7). 719-725.
9. Kang HS, Lee HE, Ro YS, Lee CW. Three cases of morsicatio labiorum. *Ann. Dermatol*. 2021;24:455-458
10. Arjanto P. Uji reliabilitas dan validitas Depression Anxiety Stress Scales 21 (DASS-21) pada Mahasiswa. *Jurnal psikologi perseptual* .2022 ; (Vol.7, no 1).
11. Baklouti M, et al. Whitish patches on the buccal mucosa : Role of dermoscopy. *Clinical case report*. 2023;11;e6946.
12. Sulaksana SD, et al. Oral mucosal burn caused by the topical application of a clove oil concentrate. *Medali Journal*. 2022. 4(1):65-70.
13. Chang M, et al. Treatment of morsicatio buccarum by oral appliance; case report. *Journal Oral Medicine Pain*. 2021;46(3):84-87.
14. Anura A. Traumatic oral mucosal lesions: a mini review and clinical update. *Oral Health Dent Manag*. 2014 Jun;13(2):254-9. PMID: 24984629.
15. Skurya, J., Jafferany, M., & Everett, G. J. (2020). Habit reversal therapy in the management of body focused repetitive behavior disorders. In *Dermatologic Therapy* (Vol. 33, Issue 6). Blackwell Publishing Inc.
16. Primasari A., et al. Effect of aloe vera on the proliferation phase of oral mucosal wound healing in rats. *Majalah Kedokteran Gigi Indonesia*. 2023; 9(1):42.
17. Casale M, Moffa A, Vella P, Sabatino L, Capuano F, Salvinelli B, et al. Hyaluronic acid: Perspectives in dentistry. A systematic review. *Int J Immunopathol Pharmacol*. 2016;29(4):572–82.

