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Case Report

# Median Rhomboid Glossitis in a Patient Undergoing Orthodontic Treatment

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## Abstract:

Several oral lesions have been observed in patients undergoing orthodontic treatment, because of their predisposition to several trauma, including physical, chemical and infectious agents. The purpose of this article is to present a case of a female which wear orthodontic appliances who reported a lesion on the dorsum of the tongue, with 7 days of evolution. This lesion was clinically as symptomatic pink and erithematous linear ulcer, with elevated border, and a slight purulent membranous. After incisional biopsy, the final diagnosis was median rhomboid glossitis. It is believed to be etiologically associated with *Candida albicans*. It is usually asymptomatic and does not require treatment. Patients with median rhomboid glossitis should be reassured about the nature of the lesion.

***Keywords:*** *Rhomboid Glossitis, Orthodontic Treatment, mucosal lesion*

## Introduction

Several oral lesions have been observed in patients undergoing orthodontic treatment, because of their predisposition to several trauma, including physical, chemical and infectious agents. Pedron et al.[1] (2008) presented a case of mucocele in a patient with fixed orthodontic appliance, caused by mechanical trauma on the lower lip.

Median rhomboid glossitis usually occurs in anemic or diabetic patients [Lu]. Previously, it was considered to be a developmental anomaly. However, because of the rare frequency in children, this hypothesis was disregarded. Currently, the etiologic association with *Candida albicans* infection is believed, and it is often classified as a multifocal and mixed form of oral candidiasis[2-7].

Additionally, other predisposing factors related to etiology have been cited such as smoking, denture use, use of corticosteroid sprays or inhalers, and HIV infection [Pili, Pinna]. Median rhomboid glossitis was excluded from the 4th Edition of the World Health Organization of Head and Neck Tumors, in 2017, as it was considered to be a reactive process[8].

The purpose of this article is to present a case of a female which wear orthodontic appliances who reported a lesion on the dorsum of the tongue, with 7 days of evolution, diagnosed as median rhomboid glossitis.

## Case Report

An African-American female, 21-years-old, which wear orthodontic appliances who reported a lesion on the dorsum of the tongue, with 7 days of evolution. This lesion was clinically as symptomatic pink and erithematous linear ulcer, with elevated border, and a slight purulent membranous (Figure 1). No signals or history of trauma were reported. The patient was no smoker and no drinker. Based on these clinical features and the history of the patient, an initial clinical diagnosis of median rhomboid glossitis was suposed. However, an incisional biopsy was made immediately, because there is an ample clinical differential diagnosis, also including squamous cell carcinoma. Under local infiltrative anesthesia at distance, the mucosa was incised in wedge form. The fragment was removed and the mucosa was subsequently sutured. The fragment was fixed using 10% formaldehyde and was sent to the Surgical Pathology Laboratory of the School of Dentistry of the University of São Paulo. The final diagnosis was median rhomboid glossitis.

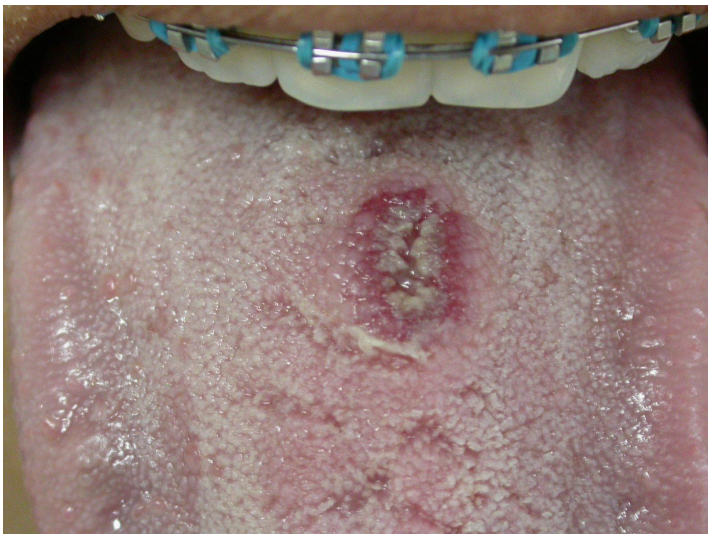

***Figure 1:*** *Median rhomboid glossitis in a patient undergoing orthodontic treatment, caused by Candida albicans infection.*

In this case, we prescribed a 2% miconazole gel, by 15 days to be applied on the dorsum of the tongue, 4 times by day. The patient was observed in a follow-up session, with complete reparation of the lesion and no signals of recurrence. A little scar was observed by incisional biopsy (Figure 2). The continuity of the use was recommended to the patient if the lesion returned

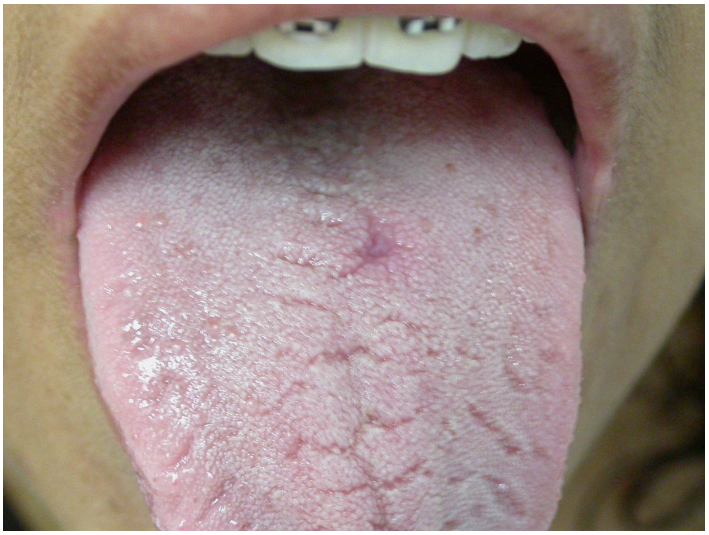

***Figure 2:*** *Complete reparation of the lesion after 15 days of the treatment with miconazole gel.*

## Discussion

Clinically, median rhomboid glossitis is characterized by central papillary atrophy of the lingual mucosa presenting as a central elliptical or rhomboid area, anterior to the circumvallate papillae; well-defined; erythematous; smooth, although occasionally raised, exophytic, lobulated, or fissured surface; most often asymptomatic. However, when symptomatic, sensation of pain, dysgeusia, burning, unpleasant taste, burning, or sensitivity may be reported, particularly to foods and flavoring agents[2-6,9]. It can last for weeks, months or even years[2]. Usually the palatal mucosa - opposite to the lingual lesion - may have an erythematous area, known as the "kissing lesion" (from tongue to the palate)[3-5]. In the present report, this lesion was absent.

It has a greater predilection for the male gender. It occurs in less than 1 to 2.4% of the adult population[3,5,6,9].

In addition to clinical features as a diagnostic modality, both culture and cytology and biopsy demonstrate the frequent presence of fungal hyphae[2]. Additionally, molecular biology techniques such as real-time PCR can also be employed[4].

The clinical differential diagnosis includes hemangioma, pyogenic granuloma, amyloidosis lesions, granular cell tumour, or squamous cell carcinoma when the lesion presents as an exophytic mass[3,6]. In this perspective, we exalt the importance of performing the histopathologicalIn 1990, Mortellaro et al.[10] investigated lingual abnormalities in 600 orthodontic patients and observed no frequency of median rhomboid glossitis. The presence of this lesion in orthodontic patients could be explained probably by difficulty of oral hygiene occasioned by orthodontic appliances favoring high prevalence of fungi.

Median rhomboid glossitis is most often an alteration of normality, presenting with cosmetic discomfort or mild symptomatology. Usually no treatment is needed[3,5,11]. In cases of lingual mucosal sensitivity, topical antifungal agents (nystatin or miconazole) can be used. Administration of systemic antifungal agents (clotrimazole, ketoconazole, fluconazole and itraconazole) has been advised against because of reduced absorption in the gastrointestinal tract, adverse events, toxicity and resistance to antifungal agents[4,11].

Considering median rhomboid glossitis as a variant of erythematous candidiasis, can be confirmed by the complete response to antifungal therapy[2], as presented by us. However, complete regeneration of the papillae in the affected region may not occur in long-term lesions. However, excision of the lesion is usually unnecessary, when the diagnosis is clinical[2]. Patients with median rhomboid glossitis should be reassured about the nature of the lesion[3].

## Conclusion

Median rhomboid glossitis is a rare mucosal lesion on the dorsum of the tongue. Currently, the etiologic association with *Candida albicans* infection is described. It is usually asymptomatic and does not require treatment. However, considering the potential opportunistic infectious agent of *Candida* infection, treatment is suggested, avoiding other oral and systemic complications. The knowledge of the dental surgeon is fundamental and patients with median rhomboid glossitis should be reassured about the nature of the lesion.

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