

Misdiagnosed Geographic Tongue – a Case Report

Predijagnosticiran geografski jezik – prikaz slučaja

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Abstract. Aim: This case report presents unnecessary diagnostic procedures performed on a patient with a morphological variation of the tongue called geographic tongue. **Case report:** In this case, patient presented with discomfort on the left side of the tongue, dry mouth and lesions on the dorsal side of the tongue that lasted 3-4 months. After clinical examination by specialists in otorhinolaryngology and dermatology department, the patient was referred to the Department of Oral Medicine, where he was given a final diagnosis of geographic tongue. **Conclusion:** Geographic tongue is a benign condition that does not require any special treatment, only follow-ups.

Keywords: Burning Mouth Syndrome; Glossitis, Benign Migratory; Oral Health

Sažetak. Cilj: Ovaj prikaz slučaja prikazuje nepotrebne dijagnostičke postupke provedene kod pacijenta s morfološkom varijacijom jezika koja se naziva geografski jezik. **Prikaz slučaja:** Pacijent se javio s nelagodom na lijevoj strani jezika, suhim ustima i lezijama na dorzalnoj strani jezika koje su trajale 3-4 mjeseca. Nakon kliničkog pregleda specijalista otorinolaringologije i dermatologije pacijent je upućen na Odjel oralne medicine gdje mu je postavljena konačna dijagnoza geografskog jezika. **Zaključak:** Geografski jezik je benigno stanje koje ne zahtijeva nikakav poseban tretman, već samo praćenje.

Ključne riječi: benigni migrirajući glossitis; oralno zdravlje; sindrom pekućih usta

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INTRODUCTION

Geographic tongue (GT) is an idiopathic tongue condition which is considered to be morphological variation of the tongue mucosa that does not represent a pathology. The diagnosis of GT is based on the clinical manifestations, which means characteristic irregular erythematous areas representing atrophy of the filiform papillae surrounded by whitish borders are seen. GT most often affects the front two thirds of the tongue dorsum. Lesions tend to migrate and are often associated with fissured tongue¹. GT is mostly asymptomatic, but patients sometimes report sensitivity to a certain type of food. Despite its benign nature, it can cause diagnostic dilemma for therapists inexperienced in oral pathology and concern for patients^{1,2}. The aetiology of geographic tongue remains unclear; however, there are several theories that can shed light on potential causes. In addition to psychosomatic and genetics factors, research shows a higher incidence in people with mental disorders. Apart from the latter potential factors, stress represents an indispensable component in the etiology of geographic tongue. Most of the patients affected by this condition report a history of stressful situations, and it has also been shown that reducing stress leads to faster resolution of typical lesions on the tongue³. One of the diagnoses that can be problematic in distinguishing between geographic tongue and other conditions is BMS, short for burning mouth syndrome. BMS is an idiopathic painful condition, characterised by the burning sensation of clinically normal oral mucosa. The aetiology of BMS is unknown, with the majority of studies indicating its neuropathic origin⁴. BMS most commonly affects anterior two thirds of the tongue, although patients can experience sensations throughout the whole oral mucosa. This syndrome affects women 7 times more than men, particularly women in the menopause⁵. Treatment of GT is not necessary. Patients are usually recommended to avoid alcohol, spicy food, consumption of citrus fruits and acidic drinks^{6,7}. In case of deviation from the characteristic clinical presentation, erythroplakia, leukoplakia, oral lichen planus, candidiasis, contact stomatitis, aphthous ulcerations, traumatic inju-

ries, squamous cell carcinoma, secondary syphilis may be considered in the differential diagnosis⁵.

CASE REPORT

A patient (62) was referred to the Department of Oral Medicine because of burning sensation of the tongue, discomfort on the left side of the tongue, dry mouth and lesions on the dorsal side of the tongue that lasted 3-4 months. Tongue burning and discomfort occurred after the meal

Geographic tongue (GT), morphological variation of the tongue mucosa, is an idiopathic tongue condition, benign by nature. The diagnosis of GT is based on the clinical presentation. Characteristically, irregular erythematous areas represent atrophy of the filiform papillae surrounded by whitish borders, which tend to migrate along the tongue.

and in the evening. The patient was previously treated by an otolaryngologist for “confluent erythematous circles with white borders on the ventral side of the tongue”. A biopsy of the lesion was performed and the patient was referred for an immunological testing (ANA/ENA profile), which was negative. The pathology report described “psoriasiform hyperplasia with an abundant infiltrate of neutrophil granulocytes throughout the entire thickness of the epithelium with microabscesses in the surface parts”. The pathologist recommended dermatological evaluation due to suspicion of psoriasis. Dermatological examination ruled out psoriasis, and the patient was referred for a test to rule out syphilis (anti-TP(IgM+IgG)). Anti-treponemal test was also negative as well as patient’s complete blood count and blood biochemistry.

At the initial examination at the Department of Oral Medicine, the patient presented with discrete erythematous lesions surrounded by a whitish border on the ventrum and dorsum of the tongue, while the rest of the mucous membrane was normal (Figure 1). Unstimulated salivary flow was reduced (0.1 ml/5 min), reaching normal values after the stimulation (9 ml/5 min). The patient reported a reduction in burning sensation during the salivary flow stimulation with



Figure 1. Patient diagnosed with geographic tongue.

This case report highlights the importance of an early diagnosis of benign oral conditions like GT in order to avoid unnecessary diagnostic tests and unsuccessful treatment attempts that can lead to increased anxiety and frustration, unnecessary financial costs and the development of a more complex oral condition such as BMS.

sugarless candy. This phenomenon is also known to occur in burning mouth syndrome (BMS), mentioned in the introduction section, even though it is not universally accepted as a diagnostic feature⁸. Due to the normal clinical appearance of oral mucosa (GT is a morphological variation, not a pathological entity), normal haematology and biochemistry as well as characteristic decrease in burning intensity upon masticatory stimulus, it was concluded that the patient had two coexisting entities – GT and BMS. The patient received verbal and written information on both conditions which provided a reassurance that his condition was not serious. Furthermore, he was instructed to use sugarless candies for salivary stimulation in order to control his burning symptoms. On a 12 month follow

up patient reported improvement, saying that his symptoms occur sporadically and are significantly less intensive than before.

DISCUSSION

GT is a benign condition with different intervals of duration, from several months to several years⁹. Due to the similarity in the clinical and pathohistological presentation¹⁰, geographic tongue was considered an oral manifestation of psoriasis^{11,12}. Oral manifestation of psoriasis is relatively rare and occurs more often in people with a pustular form of psoriasis. The clinical presentation of oral psoriasis also includes red lesions with a white or yellow border, but it can also include desquamative gingivitis, inflammation and ulceration of the mucous membrane, and pustules (in the pustular form of psoriasis). The diagnosis of oral psoriasis is made based on the clinical appearance of patients who have already been diagnosed with cutaneous psoriasis. A biopsy can help confirm the diagnosis¹³. Secondary syphilis is often called the “great imitator” because of its numerous similarities with other mucocutaneous diseases. The oral manifestations of secondary syphilis include irregular lesions with whitish edges, multiple painless ulcers, erosions and a circular rash¹⁴. While in secondary syphilis lesions most often affect the labial mucosa, tongue border, hard and soft palate, ventral part of the tongue, uvula and tonsils, in geographic tongue the lesions are almost exclusively localized on the dorsum of the tongue. In rare cases, the typical clinical lesions of geographic tongue can be seen on the buccal and labial mucosa, which is then referred to as the geographic stomatitis. Because of the non-specific localization, geographic stomatitis can cause suspicion of other oral diseases, but, like GT, it is completely benign^{15,16}. BMS is an idiopathic condition most likely of neuropathic aetiology with a characteristic reduction in discomfort during chewing. It can be precipitated or perpetuated by stressful situations, such as in this case excessive concern about oral lesions and unnecessary diagnostic work-up^{17,18}. This case report highlights the importance of an early diagnosis of benign oral conditions like GT in order to avoid unneces-

sary diagnostic tests and unsuccessful treatment attempts that can lead to increased anxiety and frustration, unnecessary financial costs and the development of a more complex oral condition such as BMS.

CONCLUSION

Geographic tongue is a benign condition but due to its clinical presentation, sometimes can be misdiagnosed to some other oral similarities. It does not require any specific treatment. Burning mouth syndrome is an idiopathic disease, most likely not connected to any other systematic diseases. Detailed patient history is essential for setting the correct diagnosis in both cases.

Conflicts of Interest: Authors declare no conflicts of interest.

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