

# Benign Migratory Glossitis: Report of a Rare Case with Review of Literature

## Abstract

Benign migratory glossitis or geographic tongue is an inflammatory lesion of unknown etiology and is characterized by loss of filiform papillae. Asymptomatic cases are more commonly seen, but symptomatic cases in children are rarely found. The aim of this paper is to report an uncommon case of symptomatic geographic tongue in a 3-year old male with a history of asthma and allergy and emphasize the importance of thorough intraoral examination to identify the condition and also to briefly review the literature.

**Keywords:** Benign migratory glossitis; geographic tongue; Pediatric patient

## Case Report

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## Introduction

Benign migratory glossitis or geographic tongue is a psoriasiform mucositis of the dorsum of the tongue. [1] It is a benign inflammatory disorder and was first reported by Rayer [2]. It is more common in adults as compared to children. It is characterized by constantly changing patterns of serpiginous white lines surrounding areas of smooth, depapillated mucosa [1]. Erythematous patches, devoid of filiform papillae, appear on the dorsum of tongue. White border is present which represents regenerating filiform papillae, keratin and neutrophils. The surface is non-ulcerated. The lesions have slightly raised, well developed white margins which could not be scraped off. Change in the location and pattern of lesion is observed after every few days, thereby giving it name "migratory". Histologically the process is superficial and shows desquamation of the keratin layers of papillae along with inflammation of corium. A lot of factors have been suggested to explain the presence of benign migratory glossitis but the exact etiology remains unknown. It is correlated with increased frequency in conditions of psychological stress and psoriasis of skin [1-3]. This paper reports a symptomatic case of benign migratory glossitis in a child patient with history of asthma and allergy.

## Case Report

A 3-year-old boy reported to the Department of Pediatric and Preventive Dentistry for routine dental checkup. Medical history revealed that he was suffering from asthma since last two years. The patient also had oral discomfort and was allergic to hot and spicy food. The family history of the child patient was insignificant. Thorough intraoral examination revealed that the dorsum of tongue had erythematous lesions with absence of filiform papilla (Figure 1 & 2). The dental history of the patient was non-contributory. No other abnormality was observed in other parts of the oral cavity and facial region. A systematic general examination was carried to rule out the presence of any

associated syndrome. Benign migratory glossitis was diagnosed on the basis of history and clinical findings and the child patient was prescribed 0.1% topical tacrolimus ointment. Patient's recovery was uneventful after topical application of tacrolimus ointment. He was instructed to maintain good oral hygiene. On follow-up visit after a period of 2 weeks, no sign of any tongue lesion was observed (Figure 3).



**Figure 1**



Figure 2



Figure 3

as geographic tongue, erythema migrans, glossitis migrans or wandering rash of tongue. The lesion appears map-like, thereby giving it name “geographic” and may change their pattern over a period of time, hence given the name “migratory”. The prevalence in the general population ranges between 1.0 and 2.5% and is more prominent in adults as compared to children [4]. Its prevalence in schoolchildren is 1% and there is no definitive gender predilection as reported by Redman [5]. The reason for low prevalence of geographic tongue in pediatric age-group is because it is ignored by the parents due to its asymptomatic nature. Although various predisposing factors have been proposed, the exact etiology remains obscure. Predisposing factors include history of psoriasis of skin [3], asthma or rhinitis [6], psychological stress [7], gastrointestinal disturbances associated with anemia [8], allergy [9], hormonal disturbances or zinc deficiency. It has been associated with HLA-B15, suggesting the role of heredity as one of the etiological factors [10]. In a recent study it has been concluded that immunologic and psychologic parameters appear associated with geographic tongue and may constitute as risk factors. [11-13]. Benign migratory glossitis may occur with Down’s syndrome, diabetes mellitus or fissured tongue. It may present as an oral manifestation of psoriasis [14], or as a marker of psoriasis severity [15]. A diagnosis of benign migratory glossitis was attained on the basis of history and clinical findings. The clinical presentation usually includes constantly changing migratory pattern and chronic nature of the lesion. This case report is also unique since it presents a symptomatic geographic tongue in a child patient, as most of the cases of benign migratory glossitis are asymptomatic and never formally diagnosed. The differential diagnosis of benign migratory glossitis in children should include candidiasis, leukoplakia, psoriasis, neutropenia, local trauma and drug reaction. Biopsy could not be performed in the present case as benign migratory glossitis was diagnosed based on clinical features i.e. erythematous patches, white borders, migratory pattern of the lesion. In the present case the etiology of geographic tongue can be related with allergic reaction to intake of spicy food. The findings are consistent with a study done by Barton et al which concluded with about 95% surety that patients with geographic tongue have reported some type of allergy [9]. Asymptomatic cases of geographic tongue do not necessitate treatment other than reassurance about the benign nature of the lesion, but symptomatic cases do require medical intervention. Use of diphenhydramine, lidocaine rinse and sodium bicarbonate rinse has shown successful results in symptomatic cases of mild intensity. [16] If significant pain persists then use of topical and systemic antihistamines [17], Vitamin A acid therapy and systemic acitretin [17] systemic cyclosporine [18], topical corticosteroids [19], topical tacrolimus ointment [20] has been reported in the literature. In the present case medical intervention was planned as the tongue was symptomatic and use of 0.1% topical application of tacrolimus ointment was preferred and proved to be beneficial in relieving symptoms. Along with medication child’s mother was advised to reduce the intake of spicy food.

## Discussion

Benign migratory glossitis is a benign inflammatory disorder affecting tongue epithelium. This disorder of tongue is also known

## Conclusion

Benign migratory glossitis is rarely detected during routine intraoral examination of pediatric patients. It is a benign

condition and often requires only reassurance in asymptomatic cases as it usually resolves by itself. This case demonstrates the beneficial effect of topical tacrolimus on symptomatic cases of benign migratory glossitis associated with allergy and asthma in children. However follow-up studies are required to confirm the use of topical tacrolimus ointment in such pediatric patients.

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