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Case Study

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A CLOSER LOOK: INVESTIGATING GEOGRAPHIC TONGUE THROUGH A COMPELLING CASE REPORT

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ABSTRACT

Geographic tongue, also known as benign migratory glossitis, erythema migrans and wandering rash of tongue is a benign, usually asymptomatic and recurrent condition of the tongue, of controversial aetiology. It is characterized by map-like areas of erythema representing focal depapillation (Specifically filiform papilla) on the tongue's surface, bounded by serpiginous, slightly elevated white-coloured keratotic lines. The condition is very common in adults and older age groups. It may present in conjunction with superficial fungal infection. The present article describes a case report of geographic tongue in a 57-year-old male patient.

KEYWORDS: Geographic tongue, Benign migratory glossitis, Wandering rash of tongue, Burning sensation, Candida superinfection, Antihistamine, Topical steroid.

INTRODUCTION

Geographic tongue or benign migratory glossitis or erythema migrans or wandering rash of the tongue is an annular[1] lesion affecting the dorsum and margin of the tongue. Its prevalence is 1–2.5%, and a high incidence of about 39.4% occurs in 20–29 years. Females are more commonly affected than males, with a ratio of 1.5:1 or 2:1.[2] It is a transient and recurrent condition characterised by periodic localised loss of epithelium particularly of the filiform papillae on the dorsum of the tongue. Erythematous patches bounded by white serpiginous lines are seen which undergo alternate exacerbation and remission. This leads to change in appearance and shape of the entity over time, hence the term "wandering rash" of tongue. The exact aetiology is unknown. However, the following have been suggested as causative factors.

1. Impaired tissue breakdown creating hyper mature areas [white line] with hypo mature or atrophic areas [red line]. Lymphocyte infiltration in connective tissue increases mitotic activity.[2]
2. Fungi, psoriasis, allergies, psychological stress, diabetes mellitus, genetic predisposition.[2]
3. Pregnant women, oral contraceptives, where hormones increase vascularization and susceptibility to pre‑ established inflammatory responses.[2]

Geographic tongue is usually asymptomatic, but in symptomatic cases burning sensation and soreness maybe present.

CASE REPORT

A 57-year-old male patient presented to the Department of Oral Medicine and Radiology at Tagore Dental College and Hospital with a chief complaint of burning sensation of tongue for the past 2 months. He gave history of burning sensation on the tongue especially on consumption of hot and spicy food. Patient is hypertensive for the past 9 years and is under medication Telmisartan 20mg (angiotensin II receptor blocker). He gave no history of any known drug or food allergies. Patient did not have deleterious habits history such as smoking, alcohol consumption, tobacco chewing etc. He gave no history of any prior dental treatment.

On examination of the tongue, inspection revealed a group of clearly demarcated, irregular areas of erythematous, atrophic or depapillated mucosa on the dorsum of tongue, surrounded by elevated, serpiginous

whitish bands. Presence of creamy white, velvety plaques with curd like appearance was observed over the serpiginous lines, suggesting candida superinfection. On palpation the lesion was soft in consistency and the white plaques were easily scrapable.

The hard tissue findings revealed generalized attrition, multiple dental caries along with moderate stains and calculus.

Taking into consideration the history and characteristic clinical features, the condition was diagnosed as geographic tongue with superinfection of candidiasis. The pathognomonic clinical picture eliminated the need for biopsy. The differential diagnoses included leukoplakia, lichen planus, candidiasis, contact stomatitis, anaemic stomatitis. The patient was assured of the benign nature of the condition, instructed to avoid spicy foods, instructed on proper tongue hygiene, use of tongue scraper and prescribed following medications – candid mouth paint (1% topical clotrimazole) and topical mucopain gel for treating candidal infection and burning sensation. Upon two-week review, burning sensation nearly subsided.

DISCUSSION

Geographic tongue is a benign condition that is usually asymptomatic. It may occur in association with fissured tongue, psoriasis[3] and Reiter's syndrome, and has female predilection with a ratio of 1.5:1 or 2:1. However this is a rarer case where it has presented in a male patient. Due to the high prevalence of anaemia in India, blood investigations may be carried out to eliminate anaemia[1] as a differential diagnosis. The tests done include complete blood count, red cell count, haemoglobin percentage and blood glucose. Other differentials such as leukoplakia, lichen planus, erythroplakia, vitamin deficiency glossitis, systemic lupus erythematosus, drug reaction, recurrent aphthous stomatitis[4] etc. can be ruled out by correlation with history, deleterious habits, blood profile and histopathological features.

The treatment options for geographic tongue include antihistamines, topical corticosteroids, cyclosporin, tetracycline, vitamins and zinc. However, in most cases the only treatment required is reassurance of the patient.[4] Antihistamines used are diphenhydramine maleate syrup (10 mL twice a day) or chlorpheniramine tablet (4 mg twice a day), whereas topical corticosteroid therapy includes triamcinolone acetonide gel 0.1% or betamethasone mouthwash.[2] 0.1% tacrolimus [5] and use of 0.05% retinoic acid[6] in combination with triamcinolone acetonide has also been attempted. Pain relief can be given by acetaminophen. In case of persistent burning sensation, identify and avoid potential triggers such as spicy foods, alcohol, tobacco, caffeine etc. Saliva substitutes may be used in dry mouth. Anaesthetic oral rinses, salt water rinses may be used. Stress management, proper oral hygiene and nutritional supplements should be considered. In rare cases where geographic tongue coincides with burning mouth syndrome,[7] tricyclic antidepressants, anticonvulsants or benzodiazepine[8] may be considered as a last resort.

When corticosteroid therapy is used, the steroid must be tapered rather than stopped abruptly, which may result in withdrawal. The frequency of application of steroids can be reduced, followed by replacement with a lower potency steroid until the regimen can be stopped gradually.

CONCLUSION

Geographic tongue is typically asymptomatic and the only treatment required is reassurance of patient. It is common in adults, predominantly females. Usually, the history and clinical picture are sufficient to establish the diagnosis. If burning sensation or discomfort develops, palliative care[9] can be given, irritants avoided and good oral hygiene practices maintained. Evaluations to rule out anaemia, nutritional deficiencies and diabetes mellitus can be done if these conditions are suspected. Management depends on the clinical presentation and presence and severity of symptoms.

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