

Geographic Tongue

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1. Introduction

Geographic tongue is a condition referred to a variety of terms such as: benign migratory glossitis, erythema migrans, annulus migrant or wandering rash of the tongue. (Ref: 1). It was first described in 1955 and occurs in approximately 3% of the population. It occurs in all age groups but is more common in adults; the incidence in females is approximately twice that of males. It is a benign condition commonly occurring on the tip, lateral borders, and dorsum of the tongue; lesions sometimes extend to the ventral portion as well. The appearance is of multifocal, circinate, irregular erythematous patches bounded by a slightly elevated, white or cream colored keratotic band or line. The central erythematous patch represents atrophy of the filiform papillae. The white border is composed of regenerating filiform papillae and a mixture of keratin and neutrophil. (Ref: 2)

2. Etiology

The etiology of geographic tongue remains unknown. Some investigators have classified this condition as a congenital anomaly; other researchers have discussed the role of heredity in its development. (Ref: 3). Psychosomatic factors appear to play a significant role in the etiology of geographic tongue. It has been reported lesions arise in connection with pronounced emotional stress. (Ref: 4)

Geographic tongue is more common in people with allergic diseases such as atopy, asthma, eczema and contact allergy but a clear pathogenic link with allergy has not been actually demonstrated. Hypersensitivity to dental materials may contribute to the etiology or the exacerbations of the condition, but no definitive evidences are available. Precipitating factors that stimulate lesion formation and/or subjective complaints include stress, gastric diseases, alcoholic beverages, salty, spicy and acidic foods, and other local irritants such as some ingredients of toothpastes. The observed effect of oral contraceptives in young women on the lesions of geographic tongue suggested a role for hormone levels in the expression of the condition. (Ref: 5)

3. Clinical Features

The top layer of the 'skin' of the tongue is unevenly shed leading to the classic manifestation of an area of erythema, with atrophy of the filiform papillae of the tongue, surrounded by a serpiginous, white hyperkeratotic border and degeneration of the overlying mucosa. The tongue exhibits a well demarcated area of erythema, primarily affecting the dorsum, and often extending to involve the lateral borders of the tongue. Similar lesions may be present concurrently on other aspects of the tongue or other mucosal sites, e.g. geographic lip. There is no loss of the sense of

taste, or dexterity of the tongue. There is, however, a measurable decrease in the tongue's sense of touch. Importantly, most people with geographic tongue are otherwise healthy. (Ref: 6)

4. Migratory Stomatitis (Ectopic Geographic Tongue)

Migratory stomatitis (or geographic stomatitis) is an atypical presentation of a condition which normally presents on the tongue, termed geographic tongue. Geographic tongue is so named because there are atrophic, erythematous areas of depapillation that migrate over time, giving a map-like appearance (Ref: 8). The common migratory glossitis (geographic tongue) affects the anterior two thirds of the dorsal and lateral tongue mucosa of 1% to 2.5% of the population, with one report of up to 12.7% of the population. (Ref: 9)

In migratory stomatitis, other mucosal sites in the mouth, such as the ventral surface (undersurface) of the tongue, buccal mucosa, labial mucosa, soft palate, or floor of mouth may be afflicted with identical lesions, usually in addition to the tongue. Apart from not being restricted to the tongue, migratory stomatitis is an identical condition in every regard to geographic tongue. Another synonym for geographic tongue which uses the term stomatitis is "stomatitis areata migrans (Ref: 8)

5. Investigations

A biopsy of the tongue was performed and revealed Acanthosis and epithelial Phoriasiform Hyperplasia, with intraepidermic spongiform pustules, Parakeratosis foci and Microabscesses in the corneal layer. A mild perivascular lymphocytic infiltrate of the superficial corion was seen. Periodic acid Schiff colouration was negative for fungal agents. These features are compatible of geographic tongue and the diagnosis was established. (Ref: 11)

6. Diagnosis

Diagnosis of geographic tongue is based on the clinical aspect of lesions and patient history and seldom requires histologic confirmation. Geographic tongue should be differentiated from candidiasis, leukoplakia, contact allergy, lichen planus, lupus erythematosus and trauma. Once the diagnosis is made, the patient should be informed about causative factors, the course of the condition and its benign nature (Ref: 7)

7. Treatment

When asymptomatic, geographic tongue requires no treatment. Anxious and cancerophobic patients should be

treated with reassurance and local measures. Several treatments have been suggested in symptomatic patients. Oral hygiene and mild mouthrinses should help in cleaning the mucosal surfaces and reducing the discomfort. Topical retinoids are the most successful but have transient effect. Topical anaesthetics, topical corticosteroids, antihistamines and antifungals may be used to alleviate burning symptoms. A very few patients with geographic tongue are zinc deficient; if low zinc levels are demonstrated, zinc supplementation should help. (Ref: 10)

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