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Wandering rash of tongue: Case report with review

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Abstract
Functions like swallowing, speech, mastication and speaking are performed by the most sensitive part of oral cavity-tongue. Wandering rash is also known as geographic tongue, erythema migrans, annulus migrans and benign migratory glossitis. Though geographic tongue is common oral lesion of dorsal tongue but sometimes it may be left undiagnosed. It is an asymptomatic condition which presents as a map like red and white lesions with raised white borders. This paper present case of geographic tongue in an adult and discuss about the need of treatment and various modalities available for treatment.

Keywords: Wandering rash, geographic tongue, erythema migrans, benign migratory glossitis

Introduction
Wandering rash (Geographic tongue, Benign migratory glossitis, erythema migrans, Annulus migrans) is an asymptomatic inflammatory disorder of tongue with controversial etiology. The prevalence of clinical presentation of geographic tongue is important and it varies from region to region. It is transient form of tongue lesion with recurrent in nature and associated localized de-pappilation of filiform papillae on the dorsal tongue. Most of the geographic tongue lesions manifested with typical clinical pattern showing multiple central atrophic area surrounded by a raised white circinate line/border. The most common locations were at the lateral margins and tip of the tongue and in rare cases it can be seen on ventral surface of tongue also. Though the lesions are usually asymptomatic but burning sensation or sensitivity to hot or spicy foods has been also reported in some cases. The lesions show periods of remission and exacerbation with variable duration followed by resolving without residual scar formation [1-4]

Even with its common presentation most of the times this lesion remains undiagnosed, either due to improper examination of the tongue or asymptomatic nature of the lesion. The exact and etiology is still not clear and thought to be due to and associated with various predisposing factors. The treatment includes reassurance of patient and is symptomatic including Topical steroids, Vitamin A therapy, rinse with a topical anaesthetic agents, antihistamines, analytics, steroids and sodium bicarbonate in water and diphenhydramine to reduce the symptoms [1, 2, 5, 6]

Case Report:
A 34 year old female patient presented to department of Oral medicine & radiology with chief complaint of pain in the lower left back side of teeth in mouth since one week. Pain was severe and continuous in nature, radiated towards head and which was aggravated on eating food and relieved by taking medication only. During intraoral examination, both right and left mandibular first permanent molars were found carious. A provisional working diagnosis of irreversible pulpitis was given and a periapical radiographs were taken; she was advised to have root canal therapy followed by porcelain fused to metal crown.On further oral examination, an asymptomatic lesion was seen on dorsal tongue and patient was unaware of it. On examination of tongue multiple smooth atrophic or depapillated areas on dorsal and lateral tongue with raised circinate whitish-yellow borders were found (Figure-1). It was diagnosed that she has geographic tongue for which she was not having any related medical history. Patient did not report any history of allergy, recent antibiotic useand difficulty in chewing food.

General clinical examination demonstrated no significant findings and extra-oral examination revealed normal facial morphology without any evident skin lesions. She also gave a negative history in relation to any similar lesions in the immediate family members.As similar lesions are observed in other oral lesions such as psoriasis, Reiter syndrome, glossitis, lichen planus and lupus erythematosus from which patient's lesions need to be differentiated. For this, the examination of scalp, hair, palms, nails, soles and eye, but no abnormalities were diagnosed. On routine blood investigation, hemoglobin was found to be 11.5 gm%. The treatment plan includes to maintain good oral hygiene, reassurance as it is self-limiting, plenty of fluid intake, intake of multivitamins and iron syrup, motivated for proper cleaning of tongue with tongue cleaner and recalled after ten days for follow up. On follow up visit good oral hygiene was found with diminished tongue lesion with satisfactory healing or resolving of lesion (Figure-2). Further patient was asked to continue treatment and to report after two weeks, for which patient was lost for follow up.

Discussion

Geographic tongue is an asymptomatic inflammatory condition of the dorsal surface and lateral borders of tongue. It is also known by other names like benign migratory glossitis, erythema migrans, annulus migrans and wandering rash. The term wandering rash for geographic tongue was reported by Rayer in 1831. By definition Geographic tongue is a benign inflammatory condition which is characterized as an erythematous lesion with atrophy of filliform papillae and thinning of the epithelium surrounded by the elevated yellowish-white circinate border around this lesion. This elevated or raised border is suggestive of regenerating filliform papillae. These depapillated patches are of variable sizes and shapes which on remission shows no residual scars. The lesions show periods of remission and exacerbation with variable duration. The lesions are usually asymptomatic with rare complaint of increased salivation and burning sensation while eating hot and spicy food items. The lesion remains for a time period of several days to weeks depending on the individual and disappears only to reappear at a different location, size, shape and pattern. The lesion recurs in the new locations thereby producing the migrating pattern. The most common sites for clinical presentation includes dorsal surface, lateral margins and tip of the tongue with less involvement of ventral surface. If the lesions occur in different sites other than tongue or on other aspects of oral mucosa, such as on commissure of lip, floor of mouth, cheek etc then the term ectopic geographic tongue is employed as first coined by Crooke in 1955 and it is commonly seen in AIDS patients [4-7]

The overall prevalence is taken into account; geographic tongue is approximately 1-2.5% of the population with paediatric prevalence of range of 0.37% to 14.3%. In India, prevalence of geographic tongue is 0.89% with highest incidence in 20-29 years age group (39.4%). It is thought to be more frequentin adults than in children. Females are more commonly affected than males while some studies have reported no sex and with no racial predilection for this lesion [5, 8]

Till date the etiology of the geographic tongue is not clear as some researchers thought it as congenital anomaly while others believed it to be a hereditary disorder as siblings of affected parents shows more prevalence as compared to siblings of unaffected one. Even few investigators aid it to be a chronic inflammatory condition affecting tongue or as oral manifestation of some systemic diseases and some oro-facial syndromes like atopy, allergy, stress, anaemia, psoriasis, gastrointestinal disturbances, hormonal variations, Reiter's syndrome, Down syndrome, Aarskog syndrome, Fetal hydantoin syndrome and Robinow's syndrome. An association between geographic tongue and fissured tongue was reported in 60.1% patients in a study conducted by Jainkittivong *et al*. Women's taking oral contraceptives with deficiency of vitamin B6, B12, folic acid, iron and zinc show more prevalence of lesion. Studies have also reported a prevalence of geographic tongue in Insulin Dependent Diabetes Mellitus (IDDM) and can be used as a clinical biomarker for IDDM. Some researchers found co-existence between emotional stress, mental-illness and geographic tongue They also noted that when under emotional stress the student group with geographic tongue tended to have more severe lesions [1, 4, 5, 9, 10]

Geographic tongue typically does not require any treatment if asymptomatic. Periodic follow up and patient's reassurance is mandatory as the lesion is benign and self-limiting where as in symptomatic cases Topical steroids, Vitamin A therapy, rinse with a topical anaesthetic agent, antihistamines, analytics, steroids and sodium bicarbonate in water and diphenhydramine are helpful in reducing the symptoms. Complete resolution of lesion has been noted after a few weeks of treatment. Even the patients are advised to avoid alcohol intake, tobacco products, hot, spicy and sour foods, acidic fruits and beverages, toothpaste that contains tartar control additives, heavy flavouring or whitening agents, dried, salty nuts which may aggravate the condition. The flow chart for management of geographic tongue is shown in figure-3. [1-6]

Fig 1: Multiple smooth atrophic/depapillated areas on dorsal tongue with raised circinate whitish-yellow borders.

Fig 2: Diminished lesions on dorsal tongue one week post-treatment.

Conclusion

Geographic tongue is an asymptomatic transient lesion of tongue that never changes into danger. The etiology is multifactorial and may perhaps be an oral manifestation of an underlying systemic disorder. A thorough oral examination for each and every patient is must as even with its common presentation most of the times this lesion remains undiagnosed, either due to improper examination of the tongue or asymptomatic nature of the lesion. The treatment includes reassurance of patient and is symptoms based with mandatory proper oral hygiene.

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