

## Prevalence Of Benign Migratory Glossitis In Patients Visiting A Private Dental College In Chennai

Research Article

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### Abstract

Benign migratory glossitis also known as geographic tongue is a recurrent condition of unknown etiology characterised by loss of epithelium particularly of the filiform papillae on the dorsum of the tongue. The aim of the study is to evaluate the prevalence of benign migratory glossitis in patients visiting a private dental college in Chennai. A retrospective study was done using the case records of patients visiting University hospital from June 2019 - December 2019. Case sheets containing information on Benign Migratory Glossitis were retrieved and analysed. In total, 38 cases were confirmed. Prevalence was found to be 0.09% and was found to be more common in males than in females. In males, geographic tongue is prevalent among the age group 19-28 yrs whereas in females it is prevalent in the age group 29-38 yrs. However, there was no statistically significant correlation between age, gender, and the presence of disease. Within the limits of the study, it can be concluded that benign migratory glossitis has a prevalence rate of 0.09% and is more common in males at a much younger age than females.

**Keywords:** Benign Migratory Glossitis; Geographic Tongue; Prevalence Studies; Tongue.

### Introduction

Tongue is one of the most important part of the oral cavity. It is quite impossible to imagine an oral cavity without the tongue. It is responsible for numerous functions like Speech, Chewing, tasting, swallowing and in fact breathing. Thus, any lesions occurring on the tongue needs to be treated with importance and investigated thoroughly as mouth is the mirror of the body [4, 10, 52, 49]. Diagnosis of a wide variety of developmental anomalies of the tongue is an essential part of a daily dental practice [22, 25, 48, 53]. One such lesion, most commonly occurring on the tongue is Benign migratory glossitis. Benign migratory glossitis can be defined as benign Inflammatory disorder occurring on the dorsum of the tongue and can probably extend into the lateral borders. [13]. As it is asymptomatic, not much focus is thrown on this lesion when other lesions of the tongue are taken very seriously.

This study is an effort to learn more about the demographics and the Clinical features of the disorder and management Strategies. [32, 50].

Benign migratory glossitis is a recurrent condition of unknown etiology characterized by loss of epithelium, particularly the filiform papillae on the dorsum of the tongue [16, 21]. The loss of filiform papillae leads to mouth ulcer - like changes in the tongue which can vary in colour and size. The lesion commonly occur on the lip, lateral borders, dorsum of the tongue and sometimes even extend to the ventral portion of the tongue [2]. The location and the pattern however can change over the time, thus accounting for the name 'migratory'. The apparent migration is due to the concurrent epithelial desquamation at one location and proliferation at another site [13]. However the etiology of geographic tongue is not clear. It is found to be associated with allergies and

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Psoriasis and also associated to occur along with fissured tongue.

**Clinical Features**

A classical geographic tongue lesion is characterised by multifocal, circinate, irregular erythematous patches bounded by slightly elevated white keratotic bands [21]. The white margin is usually 1-2 mm wide and is composed of regenerating filiform papillae mixed with keratin and neutrophils [13]. The erythematous patch represents the loss of filiform papillae and the subsequent thinning of epithelium in that region. The size of each of these lesions can vary from few millimeters to centimeters [13].

**Clinical Presentation**

This disorder was first reported by Rayer in 1831 [34]. This disorder is also known by different names such as Erythema migrans[9], geographic Stomatitis [17], stomatitis areata migrans [45] and migratory stomatitis [56]. The majority of the patients are asymptomatic, but some Patients complain of pain and burning sensation and decreased taste Sensation [21]. This Sensation affects the functioning of the tongue, in some cases. In a few cases, even these lesions are accompanied by oral discomfort, burning Sensation, however in the majority of the patients it is asymptomatic, which is the reason why it goes unnoticed most of the time.

**Demographics**

The global prevalence Rate is between 1.0% and 2.5% [20]. In India, its prevalence is 0.89% and overall Prevalence is 1% - 2.5% in the general population. [40] Females were more commonly affected [18]. Previous studies report that incidence of geographic tongue is more in the 20-29 years age group [23].

**Treatment**

Patients do not usually require treatment apart from reassurance [21]. Patient needs to be made aware of their diet which includes hot spicy, acidic foods [51]. which can exacerbate the symptoms Patient needs to be advised to prevent including these in their diet but also it is important to make sure the patients follow good oral hygiene practices[28]and maintain good oral health [5]. Patients needs to be made aware of existence of such conditions.

Geographic tongue seems to be a friendly condition that never

changes into danger. There are no previous studies that report the complications that have originated from geographic tongue. However, it is important to know the existence and clinical features of the disease among dental professionals [27, 42] in order to educate and reassure the patients with fear regarding these lesions [8, 26]. Previously our team has a rich experience in working on various research projects across multiple disciplines[12, 30, 38, 15, 55, 31, 29, 44, 28, 14, 7, 36, 46, 35, 3]. Now the growing trend in this area motivated us to pursue this project.

Thus the aim of the study was to evaluate the prevalence of benign migratory glossitis in patients visiting Saveetha dental college.

**Materials and Methods**

The study was carried out in an institutional setting with the advantage being a large data availability and the disadvantage being assessment of patients belonging to a similar geographic location. A retrospective study was done using the case records of patients visiting University hospital from June 2019 - February 2020. Prior permission to use the data for the study was obtained from the Institutional Review Board of the University (SDC/SIHEC/2020/DIASDATA/0619-0320).

A total of 38 case sheets containing information on benign migratory syndrome were retrieved and the demographics of the data analysed. The collected data was subjected to photographic cross verification. The data collected was statistically analysed using SPSS Version 20.0. Descriptive statistics and chi square tests were performed. A p value of less than 0.05% was considered to be statistically significant.

**Results & Discussion**

Out of the total 40,000 patients who visited a private dental college from June 2019- December 2020, 38 Patients were found to have geographic tongue, the prevalence was found to be 0.09%. The results also indicated that the males (73.7%) were more commonly affected than females (26.3%) as shown in table 1. The mean age of the affected population was found to be 36.5 yrs as shown in table 2.

In females, geographic tongue is prevalent in the age group 29-

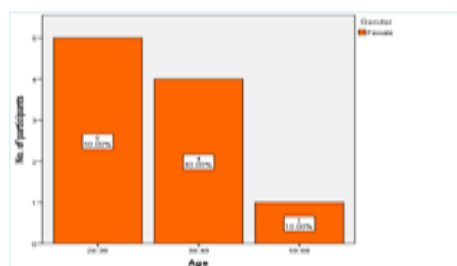
**Table 1. Represents the frequency distribution of males and females. Out of the 38 patients who had Benign Migratory Glossitis, 26.3% were females and 73.7% were males.**

	Frequency	Percent	Valid percent	Cumulative percent
Females	10	26.3	26.3	26.3
Males	28	73.7	73.7	73.7
	38	100	100	100

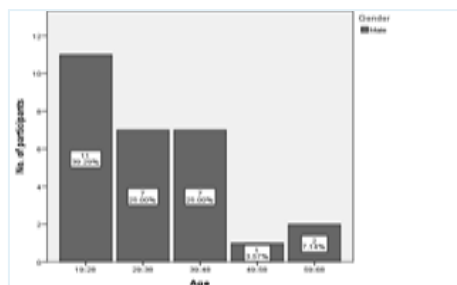
**Table 2. Represents the mean age of patients with minimum and maximum age. The mean age of the participants was found to be 36.5 years with the maximum age being 67 years and the minimum age being 21 years.**

N (valid)	Mean (age)	Standard deviation	Minimum (age)	Maximum (age)
38	36.5	11.3	21	67

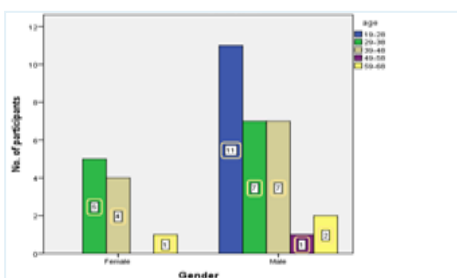
**Graph 1:** The proportional bar chart represents the different age groups among females. The X axis represents the different age groups and the Y axis represents the number of participants in each category. Majority of females (orange) with Benign Migratory Glossitis fall in the age group of 29-38 years(50%).



**Graph 2:** The proportional bar chart represents the different age groups among males. The X axis represents the different age groups and the Y axis represents the number of participants in each category. Majority of males with Benign Migratory Glossitis fall in the age group of 19-28 yrs. (39.2%).



**Graph 3:** The proportional bar chart represents the distribution of different age groups among males and females having benign migratory glossitis. The X axis represents the gender and the Y axis represents the number of participants in each category;19-28(blue);29-38(green);39-48(beige)49-58(grape vine)and 59-68(yellow). Pearson's chi square association was done. [Pearson's chi square value-6.3; p value:0.17(>0.05)]. Though benign Migratory Glossitis is more likely to occur in males (19-28 years) and in females (29-38 years) no statistically significant association was seen between age, gender and the occurrence of the lesion.



38 (50%) years as shown in graph 1, whereas in males it is more prevalent in the age group 19-28 years (39.2%) as shown in graph 2. Graph 3 represents the distribution of different age groups among males and females who have benign migratory glossitis. It can be reported that the disease more commonly occurs in males in 19-28 years, however there was no statistically significant ( $p > 0.05$ ) association between presence of benign migratory glossitis and age or gender as determined by Pearson's chi square test. Benign migratory also known as geographic tongue is a benign asymptomatic condition of unknown etiology which is usually being missed during diagnosis or misdiagnosed as some other more serious lesion. Thus, the knowledge about this disease will prevent such happenings. There are however quite a few studies which report the demographics of this disease, but only very few studies about the demographics of this disease have been made in India.

Assimakopoulos D et al., [2] in 2002, seaport global prevalence of 0.28-14.4% which is quite high when compared to the results of our study. Similarly, Mathew AL [23] reported a prevalence of 0.84% prevalence in south Indian population. Even though, this study has similar geographic region where the study has been conducted, the prevalence reported seems to be higher than that

in our study. This may be due to numerous reasons such as the subjective error during clinical examination as most of the data collected were done by intern trainees in the college.

Ishibashi et al., [18] reported that females were more commonly affected whereas which is in contradiction to our study where males were more commonly affected. Dhakal A et al., [1] reported that it occurred more in males and the prevalence was highest in the age group up to 21-40 yrs which was similar to the results of our study.

Jainkittirong et al., [19] reported that incidence of geographic tongue is more in the 20-29 yrs age group which is also similar to the results of our study.

This study also had its fair share of limitations. No information regarding other lesions associated with this were collected so no association studies could be done. There was no definitive diagnostic framework on which cases could be classified. Further studies must be done with a larger sample size, association between local and systemic disorders as a next step towards understanding the disease better. Our institution is passionate about high quality evidence based research and has excelled in various

fields [33, 35, 39, 11, 37, 46, 54, 6, 24, 41, 43]. We hope this study adds to this rich legacy.

## Conclusion

Geographic tongue or benign migratory glossitis due to its asymptomatic nature has more often been ignored and not given any importance. However, clear understanding about the demographics and clinical features of the disease is of utmost importance to properly diagnose and differentiate lesions of the tongue and to provide appropriate and early treatment intervention for the respective lesions. The results show that geographic tongue has a prevalence rate of 0.09% and is more common in males at a much younger age than females.

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