

Prevalence and Risk Factors associated with Geographic Tongue in Central Southern part of Nepal: A Survey in Chitwan Medical College and Hospital

Arun Dhakal¹, Sushma Pandey², Harender Singh³

1-MS, Assistant Professor, Department of Anatomy, Chitwan Medical College, Bharatpur, Nepal. 2-MDS, Associate Professor, BPKIHS, Dharan, Nepal. 3-MDS, Assistant Professor, Department of Community Dentistry, Chitwan Medical College, Bharatpur, Nepal.

Correspondence to:

Dr. Arun Dhakal, MS, Assistant Professor, Department of Anatomy, Chitwan Medical College, Bharatpur, Nepal.
Contact Us: www.ijohmr.com

ABSTRACT

Background: Benign Migratory Glossitis (BMG) is usually an asymptomatic inflammatory disorder that affects the epithelium of the tongue. Clinically, it is characterized by circinate, erythematous, lesions of the dorsum and lateral borders of the tongue due to loss of filiform papillae. Further, the ulcer-like lesions rapidly change the color and size. **Aims:** Aim of the study is to assess the prevalence and risk factors associated with BMG in patients attending chitwan medical college and hospital. **Methods:** This study was conducted in Department of Oral Medicine and Radiology, chitwan medical college over a period of 3 months. All the patients screened for BMG and data relating to gender, age, smoking habits, medical histories and associated fissured tongue were documented. The variables were statically analyzed using SPSS version 1. **Results:** A total number of 3555 patients (male=2478, female=1077), attended the Department of Oral Medicine and Radiology during the three month period were screened for Geographic tongue by Anatomist. Benign migratory glossitis (BMG) were noted in 0.984% (n=35) of the patients examined. Mostly affected age-group were 21-40 yrs. 54% (n=19) of the patients has associated fissured tongue. Most common associated medical history was an allergy. **Conclusions:** The result demonstrates low prevalence rate of this lesion in the region, which are seen more in male, 21-40 age-group, allergic individuals. Also, more than half of BMG showed fissured tongue revealing the strong association between BMG and Fissure tongue.

KEYWORDS: Geographic tongue, Benign migratory glossitis, Fissured tongue

INTRODUCTION

Benign migratory glossitis (BMG) was first reported as a 'wandering rash of the tongue' in 1831 by Rayer¹, however, its etiopathogenesis still remains an enigma. BMG is usually an asymptomatic inflammatory disorder that affects the epithelium of the tongue. In BMG, tongue mucosa is characterized by circinate, erythematous, ulcer-like lesions of the dorsum and lateral borders of the tongue due to loss of filiform papillae. Further, the ulcer-like lesions rapidly change the color and size. Lesion heals and frequently develops quickly in another area, prompting the name of benign migratory glossitis. The ventral surface and other oral mucosal surface may also be uncommonly affected. The lesions have been referred to as wandering rash, lingua geographica, erythema migrans, exfoliation areata linguae, superficial migratory glossitis, lingual dystrophy, pityriasis linguae, transitory benign plaques of the tongue, marginal exfoliative glossitis, ectopic geographic tongue, and glossitis areata migrans, but the condition is now most commonly called geographic tongue or benign migratory glossitis. Histopathologic findings parallel the clinical appearance and may have a psoriasiform pattern.

The prevalence¹ of the geographic tongue has been reported to vary between 0.28% and 14.4%. Studies have shown that it is about 1.8% in US population², 1.5% in Turkish population³, 0.3% in Japanese population⁴, 8.5% in the Swedish population⁵ and 0.84% in the southern Indian⁶ population. A strong correlation was found between tongue lesions and age, sex, oral hygiene and habits⁷. It appears to occur more commonly in children and its frequency diminish with age. The cause of BMG is unknown, but several medical conditions associated with BMG have been reported. The disorder is characterized by exacerbations and remissions. In most cases, patients do not require treatment other than reassurance about the benign nature of the disorder.

Thus the aim of the study is to assess the frequency, demographics of BMG in patients attending oral medicine clinic at chitwan medical college. The objective of the study is to measure the prevalence of BMG in outpatients and to assess the frequency of different factors like habits, fissured tongue, medical history occurring with BMG.

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MATERIALS AND METHODS

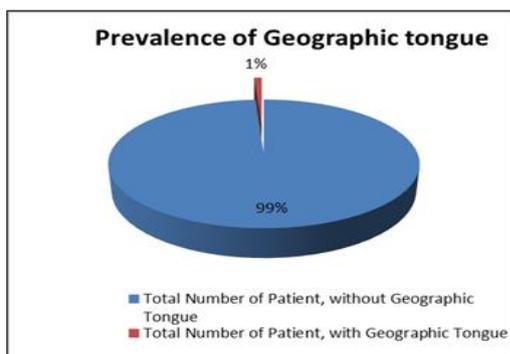
This study was conducted in Chitwan Medical College and Hospital over a period of 3 months, scheduled between June 2016 and July 2016. The protocol was submitted to the Institutional Ethics Committee, Chitwan Medical College and approval obtained. Informed consent was taken from all the patients.

Methods: Patients visiting the department of Oral Medicine and Radiology for various dental and oral complaints were screened for Benign migratory glossitis (BMG) by two observers. The identification of BMG was confirmed by both. Standard intraoral examinations were made by the help of a mouth mirror and a high-intensity light. Data relating to gender, age, smoking habits, medical histories (like allergic diseases, cardiovascular diseases, diabetes mellitus, hematological disorders, connective tissue disorders, respiratory disorders, psoriasis, seborrheic dermatitis, GI disorders, Hepatitis, Genitourinary disturbances) were recorded in a proforma specially designed for the study. Oral examination was performed, and the presence or absence of BMG and associated FT (Fissured tongue) were recorded. The variables were statically analyzed using SPSS version 16.

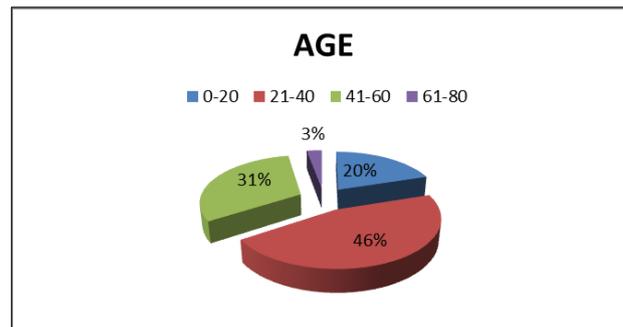
Exclusion criteria: In situations when either examiner failed to reach a decisive opinion, then the particular case was discarded.

RESULTS

Graph 1 reveals a total number of 3555 patients (male=2478, female=1077) attended the Department of Oral Medicine and Radiology during the three-month period. The age of the patient ranged from 2-80 years. Geographic tongue/Benign migratory glossitis (BMG) were noted in 0.984% (n=35) of the patients examined (Graph 1). None of the patients were symptomatic. Out of 35 patients with geographic tongue, there were 11 females and 24 males. Graph 2 reveals, patient with BMG were divided into four sub-groups based on age as 1-20 (n=7), 21-40 (n=16), 41-60 (n=11) and 61-80 (n=1). As shown in Table 1, 26 subjects were smokers, and 9 subjects were nonsmokers/ex-smokers. It also shows fissure tongue was present in 19 (56%) of the subjects.



Graph 1: Prevalence of Geographic Tongue



Graph 2: Age Distribution of patients for the study

Factors	Types	case
Smoker	Non smoker	26
	Smoker	9
Fissure Tongue	Absent	16
	Present	19
Medical history	Absent	21
	Present	14

Table 1: Frequency Of Different Factors Associated With BMG

Table 2 reveals 14 patients had relevant medical history i.e. Diabetes Mellitus (n=2), Hypertension (n=3), Gastrointestinal problem (n=3) and Skin lesion (n=6). It also shows skin lesions were found more prevalent which varied from Allergy (n=3), Psoriasis (n=2) to Lupus Erythematosus (n=1).

Medical Conditions	Frequency
DM	2
GI disorder	3
HTN	4
skin lesion	6
Allergy	3
Psoriasis	2
Lupus erythematosus	1

Table 2: Frequency Of Different Medical Conditions Associated With BMG

DISCUSSION

The study to determine the prevalence of BMG among outpatients attending the oral diagnosis section of Chitwan Medical College, Chitwan, was carried over a period of 3 months (July-Sept 2016).

A total of 3555 (M=2478, F=1077) patients were screened for the presence of Benign migratory glossitis. The overall prevalence of BMG was 0.98% (n=35). Prevalence rate for women (1.2%) was found more than men (0.96%), which was in agreement with the observation made by Banoczy et al.⁸ and Halperin et al.⁹ whereas others reported similar rates by sex.^{10,11,12}

The age of the patient with BMG ranged from 9 to 66. Grosshans et al.¹³ reported that BMG appears to occur more commonly in children and its frequency diminishes with age. However, in our study, the highest prevalence was seen in the age group of 21-40 years (46%) followed by 41-60 age group (31%) and 0-20 age group (20%). The least prevalence was in the over 60 age group.

None of the patient (n=35) reported of burning sensation or any discomfort in the tongue. The following associated factors were found among patient with BMG: i) Smoking ii) Medical condition iii) Presence of fissured tongue. Among the patients with BMG (n=35), 9 (26%) were smokers, and 26 (74%) were nonsmokers. Fissured tongue was noted in 19 (35%) of the patient with BMG. 14 patients (29%) with BMG reported of medical conditions there were Diabetes Mellitus(n=2), GI disorder (n=3), Hypertension (n=4), skin lesion(n=6). Highest frequency found were skin lesions which were the allergy (3), psoriasis (2), lupus erythematosus.

CONCLUSION

The result of the present study gave some information on the prevalence of geographic tongue in the patient attending oral diagnosis department in chitwan medical college. The result demonstrates the low prevalence of this lesion, which is seen more in male, 21-40 age-group, smokers and allergic individuals. This study also demonstrates that more than half of BMG also has fissured tongue revealing the strong association between BMG and Fissure tongue. However, the entire patient reported was asymptomatic. The disease may cause anxiety to the patient. Therefore it should be treated with reassurance, educating individual with its benign, chronic, recurrent nature and local palliative measures if symptomatic.

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