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RESEARCH ARTICLE

THE PREVALENCE OF TONGUE LESIONS IN KASHMIR POPULATION: A STUDY OF 865 INDIVIDUALS

***,[1]Dr. Mohammad Shafi Dar and [2]Dr. Shazya Gul**

[1]Oral and Maxillofacial Pathologist, Government Dental College Srinagar, Jammu and Kashmir
[2]MD Anatomy, Government Medical College Jammu

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ABSTRACT

This is the first ever-detailed study of tongue diseases in Kashmir population, where the tongue conditions found in 80 patients (9.2%) of 865 consecutive patients screened. Both sexes were affected almost equally and only 6 patients were aware of their tongue disease. 10 patients had one or more systemic illness, 8 of them was on regular medications. Fissured tongue was the most prevalent condition, as it has been found in 38 (47.5%) patients, depapillated tongue in 19(23.75%) patients and geographic tongue in 13 (16.25%) patients, other disease conditions were found in a lesser number of patients. Fourteen patients had painful tongue conditions; other complaints included halitosis, speech interferences or swallowing difficulties. Fortunately, most tongue conditions can easily be diagnosed on clinical grounds by any experienced clinician, hence, the histopathological examination and other investigations are needed in only few cases. There is a wide variation in the prevalence of most of tongue diseases worldwide due to the lack of uniformity in criteria of the studies. Thus, more studies are needed in this regard.

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INTRODUCTION

In the oral cavity, tongue is the most accessible organ. Tongue lesions have been considered disorders of primary concern regarding general and oral health (Avcu and Kanli, 2003). Tongue is essentially muscular complex organ covered by epithelium and performs many functions like sucking, swallowing, phonation and perception of sensations including taste characteristics, thermal changes, pain stimuli and general sensations and helps in jaw development (du Toit, 2003). Such functions can be affected by the changes in oral environment and the extreme alterations in thermal, mechanical and microbial factors. The occurrence of different tongue lesions has been abundantly studied previously where it has been noticed that tongue can be targeted by a wide range of pathological conditions, such changes can be confined to the tongue only or the tongue may be a part of widespread oral involvement. As the clinical appearance of tongue conditions varies greatly, the vast majority of tongue lesions are of local etiology. The recognition of tongue lesions may be helpful in the early diagnosis of some systemic diseases.3This study is designed to provide information on the prevalence of the most frequently encountered tongue lesions in general dental practice;

Corresponding author:* **Dr. Mohammad Shafi Dar,
Oral and Maxillofacial Pathologist, Government Dental College Srinagar, Jammu and Kashmir

MATERIALS AND METHODS

This study describes the clinical characteristics of tongue diseases found in 80 patients of 865 routine consecutive patients screened for tongue changes in the period between July 2015 and December 2016. The clinical examination of the oral mucosa and tongue of all the patients was performed according to World Health Organization (WHO) guidelines. At the patient interview, a record was done for demographic data, general health, medication intake and allergies. Oral health-care practices at home as well as the smoking and alcohol drinking habits of the patient were also recorded to determine their effects on the tongue. Every patient was subjected to a through clinical examination by standard methods of examination of the oral cavity and particularly the tongue. Examination of the tongue included surface changes, its size and movements, and the presence of specific mucosal lesions. Ninety two percent of the patients with tongue conditions came for symptoms unrelated to the tongue. These included dental pain, decayed teeth, bleeding gums or tooth mobility. About 6 patients (8%) have complaints related to the tongue such as painful lingual swelling, ulceration, taste alteration or burning sensation. The diagnosis was based up on clinical findings alone in 73 patients, while in 7 cases, further histopathological and laboratory investigations were carried out to confirm the clinical diagnosis.

RESULTS

The study group comprised 80 patients with tongue disease constituting 9.2% of the examined population, (females =43; males = 37). Their age ranged from 15 to 75 years (median age was 45 years). Seventeen males were smokers and ten patients suffered from one or more systemic diseases (mainly diabetes mellitus and hypertension or both). Eight patients were on regular medication for various reasons at the time of interview (Table 1).

Table 1. General Demographic data of the study group

Total number of patients	80
Males	37 (46%)
Females	43 (54%)
Age range	15-75 years
Median age	45 years
Number of pts with tongue complaints	06
Number of smokers	17 (all males)
Patients with systemic diseases	10

Fissured tongue was the most common condition as it has been found in 38 (47.50%) patients while tongue depapillation (focal and generalized) was seen in 19 (23.75%) patients, geographic tongue in 13 (16.25%) patients, bifid tongue in 4 (5%) patients and hairy tongue in 3 (3.75%) patients. Miscellaneous tongue conditions were seen in only few patients and more than one tongue condition co-existed in several patients as shown in Table 2.

Table 2. The frequency of tongue conditions in the study group

Condition	No of patients	Percentage (%)
Fissured tongue	38	47.50%
Depapillated tongue	19	23.75%
Geographic tongue	13	16.25%
Clefted tongue (bifid)	4	5%
Hairy tongue	3	3.75%
Aphthous ulceration	1	1.25%
Traumatic ulcer	1	1.25%
Hemangioma	1	1.25%
Total	80	100%

DISCUSSION

Epidemiological studies have shown high frequency of tongue diseases among mucosal lesions of the oral cavity with variable prevalence in different parts of the world (Axéll, 1976; Glenert *et al*., 1986; Bouquot and Gundlach, 1986; Salem *et al*., 1987; Sedano *et al*., 1989). Such variations are due to the differences in ethnic groups, sex and age of the studied samples and the use of different diagnostic criteria, methodology and procedures (Darwazeh and Pillai, 1993). Consequently, the prevalence found for each lesion varies widely among research groups (Banoczy *et al*., 1993). Tongue lesions estimated to occur in up to 9.2% of the examined individuals in present study and 18.5% in different populations (Rioboo-Crespo *et al*., 2005; Darwazeh and Pillai, 1993). Fissured tongue occurs as normal variant in less than 10% of population and probably genetically determined. Salivary hypofunction, possibly vitamin B deficiency, candidiasis and lichenoid lesions may be contributory in the development of tongue fissuring (Kullaa-Mikkonen and Järvinen, 1988). Fissured tongue has been reported to be frequently associated with diabetes mellitus (Benevides dos Santos *et al*., 2004). It was found in 20% of Turkish dental out patients and was more in men than in women (Avcu and Kanli, 2003). In our study fssured tongue was the most prevalent condition, than the above mentioned studies. Geographic tongue is among the most frequently reported tongue disease in most worldwide studies (Benevides dos Santos *et al*., 2004; Redman, 1970; Chosak *et al*., 1974). There is a wide variation in the prevalence of geographic tongue among different populations (especially children population) as it was 0.6% in USA, 1.6% in South Africa and 21% in Brazil (Kleiman *et al*., 1987; Bezerra and Costa Isabel, 2000; Arendorf and Van der Ross, 1996). This variation in prevalence among populations is due to different clinical criteria used. The onset of geographic tongue starts in early childhood and occasionally at puberty with a predominant presence in females (Rioboo-Crespo Mdel *et al*., 2005). However, it can be diagnosed in individuals older than 40 years (Banoczy *et al*., 1993). This difference in prevalence among different age groups might indicate that genetic factors do not participate in the multifactorial etiology of geographic tongue. Thirteen (16.25%) of such cases of geographic stomatitis were detected in this group of patients. Clefted or lobed tongue is sometimes used to describe a midline fissure, which is sometimes associated with pain due to accumulation of food debris and bacteria (Grushka *et al*., 2002). In this study, 04 cases have clefted tongue; only 1 patients have pain symptoms. On the other hand, numerous authors have observed a relationship between fissured tongue and geographic tongue (Voros Balog *et al*., 2003; Shulman and Carpenter, 2006). Tongue depapillation is characterized by localized or extensive loss of papillae from the anterior two thirds of the dorsum of the tongue and associates with chronic trauma, nutritional deficiencies, lichen planus, xerostomia and candidiasis. In some cases, it associated with burning sensation. The depapillated areas are patchy in most of our cases may be due to local trauma mainly, rough margins of restorations, lichenoid lesions, the use of medications and chronic candidiasis. The results obtained were in accordance with other studies (Avcu and Kanli, 2003). Hairy tongue is clinical manifestation of elongation of the filliform papillae, which is located on the dorsum of the tongue, often is a response to infections, fever, xerostomia, and some substances, such as antibiotics and tobacco. In our patients, there were 3 (3.75%) patients with hairy tongue of different colors (white, yellow, black). Such lesions have accounted with a prevalence rate of 11.3 per cent (Avcu and Kanli, 2003; Benevides dos Santos *et al*., 2004).

In conclusion, the prevalence of tongue lesions in Libyan patients is similar to epidemiological data reported in other studies, but the lack of uniformity in the criteria adopted by many epidemiological studies makes it difficult to draw coherent conclusion about the real prevalence of tongue conditions. In general dental practice, it is the responsibility of the dentist be able to identify and differentiate oral mucosal lesions that signal an underlying systemic disease from those frequently appear in benign form. The full knowledge of the clinical presentation of different oral lesions can be life saving in some cases if an early detection and prompt referral of the patient is done in the right time.

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