



Prevalence of Superficial Tongue lesions in Iraqi Population

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Abstract

Tongue lesions create a significant proportion of the oral lesions, which afford approximation to oral health and general condition of the patient and may reflect the presence of many systemic diseases of an individual. Oral lesions have long been view as the first signs of many systemic disease and numerous of oral illness. The aim of this study was to determine the prevalence of various superficial tongue lesions in Iraqi population. 2500 patients attending the Department of Oral Medicine, College of Dentistry, Al-Mustansiriyah University in Baghdad, Iraq were examined for the presence of various tongue lesions during the period from October, 2013 to September, 2016. The age of the patients ranged from 9-75years with a mean age of 36.51 years. The prevalence of tongue lesions was 14.64% and the most common lesion diagnosed was fissured tongue affecting 43.7% of the subjects (160 cases). Geographic tongue was seen in 65 patients (17.7%). Coated tongue was diagnosed in 55 patients (17 %) hairy tongue was seen in 21patients (5.7 %) and ulcerations was seen in 1 patients (0.27%). Ankyloglossia was seen in 46 patients (12.5%) and scalloped tongue was seen in 10 patients (2.7 %). Varicosities were seen in 1 of the patients (0.27 %) and thrush in one patient (0.27 %). The number of occurrences of tongue lesions in the present study was not higher of than previous studies, but the high prevalence of tongue lesions in this study (14.64%) specially fissured tongue(43.7%), geographic tongue(17.7%) and coated tongue (15.02%) indicate further investigations are demanded to indicate if genetic and congenital or environmental factors play a critical role.

Introduction:

Tongue lesions create a significant proportion of the oral lesions, which afford approximation to oral health and general condition of the patient and may reflect the presence of many systemic diseases of an individual ⁽¹⁾ and a strong relation was found between tongue lesions

and age, sex, oral hygiene and habits. Although the tongue is primarily composed of muscle tissue, most pathologic damages arise from the cells of the surface epithelium, which covers the tongue, and blood vessels ⁽¹⁾. Distinct epidemiological studies have been done in

different nations reporting the prevalence of tongue lesions in various populations ⁽²⁻⁵⁾. Differences have been mentioned because of variations in the race, topographical differences, design of the study, diagnostic pattern used for the study, and sex variations in the study samples ^(6,7). Prevalent part of the oral lesions are assumed to be developmental anomalies and are occasionally identify by the patient ⁽⁸⁾. The percent study summaries a few of the most common nonmalignant conditions that affect the tongue in the Iraqi people. To date, there has been no study on the type and prevalence of superficial tongue lesions and developmental anomalies in dental patients in the Iraq. This study was aimed to assess the type and distribution of superficial tongue lesions and developmental anomalies in dental patients in the teaching hospital, College of Dentistry, Al-Mustansiriyah University in Baghdad, Iraq.

Materials and methods:

2500 patients attending the Department of Oral Medicine were examined for the presence of various tongue lesions during the period from October, 2013 to September, 2016. The age of the patients ranged from 9-75 years with a mean age of 36.5 years attending for routine dental checkup were examined for various oral lesions. Following the WHO guidelines, the clinical examination of the oral cavity and tongue was done; the examination comprises inspection of the head and neck and an intraoral evaluation of the hard and soft tissues in conjunction with a thorough medical and dental history. The entire mouth was inspected regardless of the patient's chief complaint and reasons for the visit ⁽⁹⁾, under artificial illumination on a dental chair, using a mouth mirror and gauze. The tongue was examined for any epithelial changes, disorders, size and movements. Very few of the patients know about of the lesions present. Most of the patients were asymptomatic. Some of them were complaint of burning sensation of the tongue, none of the patients were under medication for any of the lesions

examined. A detailed family and medical history and history in relation with any habits of tobacco, smoking, alcohol was recorded.

Results:

The study contained 2500 patients, of which 1373 were males and 1127 were females. The age of the patient ranged from 9-75years with a mean age of 31.5 years and a standard deviation of 14.6 years Table (1). Of the total patients examined, 366 patients were diagnosed with various tongue lesions. The statistical distribution of different tongue lesions is presented in Table (2). The prevalence of tongue lesions was 14.64% and the most common lesion diagnosed in the study sample was fissure tongue affecting 43.7% of the subjects (160 cases). Geographic tongue was seen in 65 patients (17.7%). Coated tongue in 55 patients (17 %) hairy tongue was seen in 21patients (5.7 %) and ulcerations was seen in 1 patients (0.27%). Ankyloglossia was seen in 46 patients (12.5%) and scalloped tongue was seen in 10 patients (2.7 %), burning was seen in one patient 0.27%. Varicosities were seen in one of the patients (0.27 %) and thrush in one patient (0.27 %). Most of the patients were symptomless and very few patients were conscious of the lesions. Females were slightly more affected than males Table (3).

Discussion:

Although easily examined, most of oral lesions may be difficult to diagnose clinically for the dental practitioners but an accurate diagnosis can be done by a detailed medical history of the patient and careful history of the lesion, predating symptoms, and related habits of tobacco smoking and alcohol. The prevalence of tongue lesions in this study was 14.64%. This is in accordance with Darwazeh and Rioboo-Crespo et.al to be close to 18.5% ^(7, 10). Fissured tongue was the most prevalent lesion in this study (43.7%) this is in conformity with the previous studies, which showed that fissured tongue was the most common lesion in several

populations ^(1,5,8,10), the lesion effect the female slightly more than the male Table (2) this is disagree with Vörös-Balog et al. ⁽¹¹⁾. Fissured tongue is a painless condition usually there is no associated symptoms and no treatment is required only to restore good oral hygiene. Geographic tongue was accounted in 65 patients with a prevalence of 17.7 %, the geographic tongue is more expected in adolescence, although it has been reported in cases greater than 40 years of age and is believed to be more prevalent in females ^(7, 12). In this study geographic tongue was more common in females than male however male predominance has been described by many studies ⁽¹¹⁾, so that the relationship of geographic tongue to sex is not dependable. But its relationship with fissured tongue has been described in the literature ⁽¹¹⁾. The wide discrepancy in the results can be due to the transient existence of geographic tongue, differences in the race and the different diagnostic criteria used in each study. The coated tongue prevalence was accounted to be 15.02% in this study this was in agreement with Santosh et al. study in which they described the prevalence of coated tongue to be 16.4% ^(13, 10, 14). The prevalence of coated tongue was much lower in similar studies in the Turkish population to be 2.1% ⁽³⁾. In this study coated tongue was to a greater extent common in males to be 70.9 % than in females 29.09 % Table (2) Ankyloglossia it is abnormal shortened frenulum which limit the normal movement of the tongue also it is called as tongue-tie, it is unusual minor congenital developmental anomaly. The prevalence of this lesion in this study was 12.56 % which is in disagreement with Salem G. et.al study in which they described the prevalence of Ankyloglossia to be 3.7% ⁽¹⁵⁾. HAIRY TONGUE: results from excessive production of keratin on the filiform papillae of the dorsal surface of tongue leads to the formation of lengthened filaments that resemble hair. Discoloration of the tongue results from the accumulation of food debris and bacteria in the lengthened filaments giving the dorsal surface of tongue dark appearance. It is common in heavy smokers and in patient with poor oral

hygiene ⁽¹⁶⁻¹⁸⁾. Also hairy tongue has been identifying with the use of many types of antibiotic ^(18, 19). There is no symptoms related to hairy tongue but some patients have malodor or abnormal taste ^(18, 20). No treatment is needed, only maintaining good oral hygiene and gentle daily brushing of dorsal surface of tongue with soft toothbrush can remove the keratinized tissue. In this study the prevalence of hairy tongue was 5.7% (21 patient) and it was more common in male than in female Table(2) this findings was in agreement with other similar studies which reported that the prevalence of hairy tongue was 0%-11.3% (16,21). Scalloped tongue or wavy tongue in this lesion there is wavy wrinkled are present along the lateral borders of the tongue it is not harmful but it considered as a possible clinical oral manifestation of many underlying systemic disease such as in cases of thyroid problems, hypothyroidism, dehydration and specific types of airway problems ^(22,23). In this study the prevalence of scalloped tongue was 2.7 % (10 cases) and it was very common in female more than in male Table (2) this finding was in agreement with Shanaz and Mustafa study ⁽²⁴⁾. Oral mucous membrane pigmentation of is a prevalent lesion in the oral cavity and it has several factors or causes. The majority of the oral pigmentations are physiologic but in certain cases it can be a predecessor of serious diseases. Gums and buccal mucosae are the most common area for oral pigmentations and it is uncommon found on the tongue consequently the prevalence of tongue pigmentation in this study was 0.27% (one case) ⁽²⁵⁾. The prevalence of traumatic ulcerations in this study was 0.27% (one case). They are caused mostly by unusual biting on the tongue during food chewing. This finding was in disagreement with Shanaz and Mustafa study in which they report that the prevalence of traumatic ulcerations 2.43% ⁽²⁴⁾. Burning sensation is the relentless burning sensation of the mouth without presence of objective signs also the patient may complains of oral mucosal pain, altered taste sensation and dryness. This condition affects mainly the middle

aged and elderly woman with hormonal changes or psychological disorders. This condition is depending on several factors or causes and often it is idiopathic and the accurate etiology remains ill-defined. The prevalence of burning sensation in this study was 0.27 this finding was in agreement with John et.al study in which they described the prevalence of burning sensation to be 0.11% (26,27). Oral thrush is an opportunistic infection that may be difficult to diagnose in the early stages. It may be asymptomatic but can give undesirable sensation that may affect the quality of life. Oral thrush is caused by *Candida albicans* is a fungus that live in the mucous membranes lining in the mouth (28). In this study the prevalence of thrush was 0.27% (1patient) Sublingual varicose was found in one patient with age of 75years in this study varicose is one of many ageing related changes but it can be result from smoking and cardiovascular disease (29).

Conclusions

The number of occurrences of tongue lesions in the present study was not higher of than previous studies, however the high prevalence of tongue lesions in this study specially fissured tongue (43.7%), geographic tongue(17.7%) and coated tongue (15.02%) indicate further investigations are demanded to demonstrate if genetic, congenital, environmental, and oral hygiene factors play a critical role. Relationship of tongue lesions with gender may be established with more research. This study will provide more information about the tongue lesions and may give the dental clinician an idea about the association of tongue lesions with underlying systemic conditions, patients with doubtful lesions can be referred to a specialist and thorough knowledge of the clinical features can be lifesaving in some cases by early diagnosis and referral.

Table (1): Distribution of patients according to gender with mean age±standard deviation.

Gender	No. of patients	Mean age ± std. deviation
Male	179	32.8±13.44
Female	187	31.58 ± 14.63
Total	366	31.49±14.65

Table (2): Distribution and prevalence of various tongue lesions.

Lesions	No. of patients	%	Male no.	%	Female no.	%
Fissured tongue	160	43.7%	71	44.3%	89	55.6%
Geographic tongue	65	17.7%	27	41.5 %	38	58.46 %
Coated tongue	55	15.02%	39	70.9 %	16	29.09 %
Ankyloglossia	46	12.56%	23	50 %	23	50 %
Hairy tongue	21	5.7%	14	66.66 %	7	33.33 %
scalloped	10	2.7%	1	10 %	9	90%
pigmentation	1	0.27%	0	0%	1	100%
traumatic ulcer	1	0.27%	1	100 %	0	0 %
burning	1	0.27%	0	0%	1	100%
thrush	1	0.27%	1	100%	0	0%
Varicose	1	0.27%	1	100%	0	0%

Table (3): Distribution of tongue lesions according to gender.

Gender	No. of patients	%
Male	179	48.9%
Female	187	51.0%
Total	366	100%

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