

A clinical study about Oral lesions and normal variants of the Oral Mucosa

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Abstract

Background: The epithelial layer of the oral mucosa represents the first line of the immune system against the invasion of the microorganisms and the carcinogenic agents. Most of the lesions that affect the epithelial layer of the oral mucosa are benign and don't have a serious complication.

Objectives: The aims of this clinical study was to facilitate the clinical examination of the oral lesions and distinguish them from the normal variations of the oral mucosa, to determine the popular distribution of the oral lesion and what are the possible treatment for each lesion.

Method: The study was performed in the department of oral medicine in the dental teaching hospital of College of Dentistry, University of Al-Mustansiriya in Baghdad, Iraq. Case sheet have been filled for each patient participated in the study and according to the WHO guidelines the clinical examination was performed and the data analysis was performed by using Microsoft Excel 2010.

Results: 431 subjects participated in this study. Form the total number there were 105 patients with oral lesion 49 male (46%) and 56 females (53.3%) so there was no significant difference between the male and female. The oral lesions were less common in the patient with age \leq 22 years. the prevalence of the oral lesions in the this study was as the following; Linea alba 12 (2.7%) Fordyce granules 6 (1.39%) Frictional keratosis 4 (0.92%) Nicotine stomatitis 1(0.23%) Geographic tongue 11 (2.55%) Mucosal burn 1 (0.23%) Generalized pigmentation 12 (2.7%) Hairy tongue 9 (2.78%) Tabaco pigmentation 2 (0.46%) Melanotic macule 1(0.23%) Traumatic ulcer 15 (3.63%) Recurrent Aphthous ulcer 13 (3.01%) Irritation fibroma 6 (1.39%) Torus exostoses 6(1.39%) Frenal tag 10 (2.32%) Mucocoele 2 (0.46%) Epulis fissuratum 1 (0.23%)

Conclusion: Most of the oral lesions observed in this study was a normal variation and not need treatment. The oral cancer is rare however any doubtful lesion should not neglect.

Keywords: Oral mucosa; Oral lesions; normal variants; Prevalence; treatment.

INTRODUCTION

The epithelial layer of the oral mucosa represents the first line of the immune system against the invasion of the microorganisms and the carcinogenic agents. Most of the lesions that affect the epithelial layer of the oral mucosa are benign and don't have a serious complication [1]

Most common oral lesions in the oral cavity appear in the epithelial layer of the oral mucosa, clinically the candida infection, viral infection, oral ulceration, pigmented lesions, and mucocele are the most common complains of the patient in the dental clinic [2].

The clinical examination, diagnosis, and treatment of such lesions may be difficult for the dental practitioners and may be misdiagnosis with other conditions that consider as normal variations, for example, leukoedema, Fordyce granules, and tori.

Other types of the oral lesions are infectious, traumatic or idiopathic such as herpes simplex infection, epulis fissuratum, fractional keratosis and recurrent aphthous ulcer. The biopsy and the microscopic test in such cases are rarely indicated [3,4].

The aims of this clinical study were to facilitate the clinical examination of the oral lesions and distinguish them from the normal variations of the oral mucosa, to determine the popular distribution of the oral lesion and what are the possible treatment of each lesion.

PATIENTS AND METHODS

The study was performed in the Department of Oral Medicine in the Dental Teaching Hospital of College of Dentistry, the University of Al-Mustansiriya in Baghdad, Iraq, from October 2015 to September 2017.

Case sheet has been filled for each patient participated in the study and the informed consent was obtained. The case sheet contains a personal information; age, gender, educational level, address, chief complaint, history of present illness, medical history, and dental history.

According to the WHO guidelines the clinical examination was performed by two specialists in oral medicine, it includes

extraoral examination of the temporomandibular joint, muscles of mastication, head and neck with full intraoral examination of the oral mucosa and dental examination by using artificial light, dental mirror, and gauze; the patient was seated on the dental chair. In a few cases, a laboratory examination was needed.

Data analysis

Statistical analysis of the data was performed by using IBM SPSS Statistic software (Statistical Package for the Social Sciences). Z-test has been used to compare the distribution of the lesions with other characteristics of the age, gender, tobacco using ...etc.

RESULTS

431 subjects participated in this study. Form the total number there were 105 patients with oral lesion 49 male (46%) and 56 females (53.3%) so there was no significant difference between the male and female.

The prevalence of the oral lesion increase with aging, we can see that in table 1 the oral lesions were less common in the patient with age \leq 22 years, and we have a significant prevalence of lesion in the patient with age 22–45 years and with age group \geq 45 years. Oral pigmentation was the highest prevalent condition in this study and it was not a significant difference between males and females.

It was significantly more frequent in older patients (22–45 years) than in patients less than 22 years.

The traumatic ulcer the second prevalent condition in this study and it was significantly prevalent in female more than in male and It was significantly more frequent in patients group (22–45 years) than in patients less than 22 years.

Recurrent Aphthous ulcer was also prevalent in this study and it was prevalent in female more than in the male in patients group (22–45 years) than in patients less than 22 years.

The other lesions were seen in many patients with a different number but also in the age group of 22–45 years.

Table 1 distribution of the mucosal lesions according to sex, age and smoking status and the frequency of each lesion.

| The lesion | n (% of total) | Male | Female | ≤22 years | 22-45 years | ≥45 years | Non-smoker | Smoker |
|--------------------------|----------------|------|--------|-----------|-------------|-----------|------------|--------|
| White | | | | | | | | |
| Linea alba | 12 (2.7) | 6 | 6 | 0 | 11 | 1 | 12 | 0 |
| Fordyce granules | 6 (1.39) | 4 | 2 | 0 | 4 | 2 | 6 | 0 |
| Frictional keratosis | 4 (0.920) | 1 | 3 | | 3 | 1 | 4 | |
| Nicotine stomatitis | 1(0.23) | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Red | | | | | | | | |
| Geographic tongue | 11(2.55) | 4 | 7 | 0 | 10 | 1 | 11 | 0 |
| Mucosal burn | 1(0.23) | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Pigmented | | | | | | | | |
| Generalized pigmentation | 12(2.7) | 5 | 7 | 0 | 10 | 2 | 12 | 0 |
| Hairy tongue | 9(2.78) | 6 | 3 | | 5 | 4 | 9 | 0 |
| Tabaco pigmentation | 2(0.46) | 1 | 1 | 0 | 0 | 2 | | 2 |
| Melanotic macule | 1(0.23) | 1 | 0 | 0 | | 1 | 1 | 0 |
| Ulcerative | | | | | | | | |
| Traumatic ulcer | 15(3.630) | 4 | 11 | 0 | 15 | 0 | 15 | 0 |
| Recurrent Aphthous ulcer | 13(3.01) | 5 | 8 | 0 | 13 | | | 1 |
| Exophytic | | | | | | | | |
| Irritation fibroma | 6(1.39) | 1 | 5 | 1 | | 1 | 0 | 1 |
| Torus/exostoses | 6(1.39) | 4 | 2 | 0 | 6 | 0 | 5 | 1 |
| Frenal tag | 10(2.32) | 3 | 6 | 0 | 10 | 0 | 6 | 4 |
| Mucocoele | 2(0.46) | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| Epulis fissuratum | 1(0.23) | 1 | 0 | 0 | 0 | 1 | 0 | 1 |

* p<0.05. ** p <0.01. *** p< 0.001.

DISCUSSION

The clinical popularity of the mucosal lesions in this study was 58.1% which was corresponding with results of other studies [5,6]. The mucosal lesions tend to be more prevalent in older patients and tobacco users [7,8]. Linea alba and Fordyce granules are benign white lesion and not need any treatment. Frictional keratosis treated by the remove any frictional irritant such broken teeth or any Sharpe object in contact with the oral mucosa and reevaluate the patient after 2-3 weeks a biopsy may be needed when the lesion not resolve, after the cause elimination [9,10]. Nicotine stomatitis a white lesion of the palatal mucosa the cause of this lesion is not the nicotine but the heat of smoke; it is asymptomatic and was significantly prevalent in smokers in this study. The treatment of nicotine stomatitis is smoking cessation [11].

The prevalence of geographic tongue in this study was 3% and was less than in a similar study performed on the Brazilian population in which the prevalence was 7% [12]. Geographic tongue is a benign condition and treatment is needed. Mucosal burn, denture stomatitis, and allergic contact stomatitis were seen in only 2 patients (0.2%) the treatment of such lesions is by the eliminating of the causative agent. Generalized pigmentation result from excessive production of melanin pigment by the melanocyte cell although the pigmentation is significantly related to smoking the exact mechanism by which the melanocyte stimulated to produce more melanin by smoking is not clear [13]. Hairy tongue is an elongation of filiform papilla on the dorsum surface of the tongue it is significantly related to smoking in this study [14] it benign condition and treated by gentle brushing of the surface of the tongue with a soft brush.

Pigment lesions of the oral mucosa in the majority of cases are benign such as amalgam tattoo and melanotic macules with excluding of malignant melanoma which is a rare lesion [15] the treatment of amalgam tattoo by surgery. melanotic macules can be removed by a laser or cryotherapy. The traumatic ulcer was common more than Recurrent Aphthous ulcer which was very common in young females but there is no significant relationship the exact etiology is not clear and the treatment is symptomatic [16]. Irritation fibroma is a benign tumor most common on buccal mucosa where the trauma from the teeth may occur and result in such lesion but it may occur in other sites as in gingiva, lip and lateral border of the tongue but these are not common sites. In this

study it was common and the prevalence of it was increased with the age. The treatment of Irritation fibroma is by surgical removal and elimination of the underlying cause of it [17]. Irritation fibroma was the most prevalent lesion among the exophytic lesions this was in agreement with many studies [18].

Although the prevalence of the oral cancer is rare any doubtful lesion such as non-traumatic leukoplakia, leukoplakia with erythroplakia, ulcer that not heal after removing the cause and indurated ulcer or lesion (hard or firm lesion) should be not neglected and the exact diagnosis should be obtained here in the laboratory and microscopic examination is very helpful especially when the lesion detected in the critical site such as the floor of the mouth, lateral border ventral surface of the tongue [19].

CONCLUSION

Most of the oral lesions observed in this study were normal variation and not need treatment. The traumatic lesions such as traumatic ulceration, irritation fibroma Epulis fissuratum and mucosal burn can be easily diagnosed by careful history taking and clinical examination. The prevalence of the oral lesions increases with aging and was more prevalent in the smoker individual. The oral cancer is rare however any doubtful lesion should not neglect.

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