The Risk Factors of Recurrent Aphthous Ulceration among Patients in Misan Governorate

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Abstract

Recurrent aphthous ulceration (RAU) is the most common oral mucosal disease which characterized by recurrent episodes of multiple or solitary painful ulcerations without association with systemic diseases. The objectives of our study were to investigate the relation of RAU to demographical, education level and smoking habit. The study was conducted on 120 patients, personal data (age, sex), site, level of education and smoking habit were taken. The results showed that females were affected more than males, the buccal mucosa and tongue (58 %, 24%) respectively were the most common site of occurrence. There was higher prevalence rate of RAU among patients with higher educational level (60%) and in non-smokers (93.3%).

Keywords: *Risk factors, recurrent aphthous ulceration, patients*

Introduction

Ulceration is one of the most common complaints of patients who attend seeking medical advice with an oral problem and the differential diagnosis is extensive. Ulcers of different causes may have very similar clinical appearance and a few important key questions in the history provide useful diagnostic clues [1]. A mouth ulcer, also termed an oral ulcer, or a mucosal ulcer, is an ulcer that occurs on the mucous membrane of the oral cavity. Mouth ulcers are very common, occurring in association with many diseases and by many different mechanisms, but usually there is no serious underlying cause [2]. The two most common causes of oral ulceration are local trauma (e.g. rubbing from a sharp edge on a filling) and aphthous stomatitis ("canker sores"), a condition characterized by recurrent formation of oral ulcers for largely unknown reasons [3]. Mouth ulcers often cause pain and discomfort, and may alter the person's choice of food while healing occurs (e.g. avoiding acidic or spicy foods and beverages). They may occur singly or multiple ulcers may occur at the same time (a "crop" of ulcers). Once formed, the ulcer may be maintained by inflammation and/or secondary infection. Rarely, a mouth ulcer that does not heal for many weeks may be a sign of oral cancer [4]. Oral ulcerations prevalence is estimated 25% of the global population and thought to be affected by aphthous ulcers which is one of the most common causes of oral ulceration. In the UK, 20% of the population and 4% in USA. are believed to be affected by recurrent aphthous ulceration. Aphthous ulceration is more common in women those under the age of 40 and in non-smokers patients [5].

Aims of Study

The study has been done to investigate the most common risk factors of recurrent oral ulcers in relation to demographical data (Gender, age group), site, education level and smoking habit.

Patients & Method

The source of data is from out patients attending the private clinics and including patients referred from other specialties the study was conducted through the period 2018-2019.The number of cases were 120 of oral ulcers included in the study. The patients data are collected by taking history, detailed clinical examination and relevant investigations. Clinical diagnosis is confirmed by blood tests and biopsy for histopathological examination. The

patients aged between 10-70 years of both the sexes were included. All individuals underwent an interview in which they had to answer specific questions include personal data (age, sex), site of occurrence, smoking habit and family history and level of education [(level 0 (illiterate), level 1 (primary school), level 2 (secondary school), level 3 (university and postgraduate),

Statistical analysis was performed using SPSS program version 20. Associations between categorical variables were tested using chi-square test; Statistical significance was set at $P < 0.05$.

Results

The total number of patients were 120.The study conducted through the period 2018-2019. The age range of the patients was between 10-79 years, with mean age of (34.27). 56 (46.7%) of participants were males and 64 (53.3%) were females, with male/female ratios of 0.8:1. Patients were divided in to 7 age groups (10 years for each interval). Accordingly, more than half of patients 64 (53.3%) were in the 2nd and 3rd age group.

Tab. (1). Distribution by age and sex

Age	Male N(%)	Female N(%)	Total N(%)
10-19	4	7	11
20-29	16	21	37
30-39	12	15	27
40-49	6	9	15
50-59	4	6	10
60-69	6	2	8
70-79	8	4	12
Total	56	64	120

Approximately 60% of patients have positive family history of RAU.

Lips and buccal mucosae were the commonest sites of ulcerations (58.3%), followed by tongue (24%), floor of mouth (10.8%), gingiva and palate (5%).

Prevalence of RAU was increased as the level of education is increased (level 0=5.8%, level 1= 17.5%, level 2=21.6, level 3=55%).

In relation to smoking habit, the incidence of RAU was higher in non-smokers than in smokers. It was (93.3%) in non-smokers while (6.7%) in smokers.

Table (2). Relation of RAU to family history, site of occurrence, Level of education and smoking

Family history	Male No.	Female No.	Total No.(%)
Yes	30	42	72 (60)
No	26	22	48 (40)
Site			
Lip and cheek	33	37	70 (58.3)
tongue	13	16	29 (24)

Cont ... **Table (2). Relation of RAU to family history, site of occurrence, Level of education and smoking**

Floor of mouth	5	8	13 (10.8)
Gingiva and palate	3	3	6 (5)
Level of education			
Level 0	5	2	7 (5.8)
Level 1	11	14	25 (17.8)
Level 2	11	11	22 (21.6)
Level 3	29	37	66 (55)
Smoking habit			
Smoker	8	0	8 (6.7)
Non-smoker	48	64	112 (93.3)

Discussion

Epidemiological studies shown considerable variation in the prevalence of RAU among different regions throughout the world. The prevalence range among different populations has been documented as 5-66% [6]. It was reported (25.2%) in Iran [11], (25.5%) in Turkey [12] and 17.7% in Sweden [7] but lower than the prevalence reported in Jordan (5%) [8]. These variations could be explained due to the fact that different methodologies used (whether it is registered when the lesion is present, or it's done through the clinical history [9] socioeconomic level [10], genetic predisposition, life style of patients and stress [8]. In present study RAU was more common among females than males ($p<0.004$). Several other studies showed higher prevalence of RAU among females [8]. In relation to the female predisposition to RAU, some authors have suggested that this association is related to hormonal rates [11]. As a minority of women with RAU have cyclical oral ulceration related to the luteal phase of the menstrual cycle [12] and also a decrease in its incidence during pregnancy, thus relating the episodes of RAU to progesterone levels [13]. On the contrary, Rivera-Hidalgo et al. [6] found a higher prevalence of RAU among males, although without statistical significance. There is some evidence that the disease has a higher prevalence in younger adults, decreasing in both incidence and severity with age [14]. In this study, the most commonly affected age group was 20-29 years, the prevalence is decreasing as the age is increasing. This result is in accordance with the finding of Davatchi et al. [15] in Iran.

Regarding family history of RAU, a genetic predisposition for the development of aphthous ulcer is strongly suggested, as in one study about 40% of patients have a family history and these individuals develop ulcers earlier and are of more severe nature [16]. Various associations with HLA antigens and RAU have been reported. These associations vary with specific racial and ethnic origins [17]. A number of several other studies have shown a familiar trend in the development of RAU [18] and the correlation is also greater in identical twins [19], demonstrating the existence of a genetic influence in the episodes. Similarly, in this study, 60% of patients reported that other family member suffered previously from RAU.

This study demarcates that lips and buccal mucosa were the commonest sites of RAU which are in accordance with the finding of Safadi [20] in Jordan. This may probably because these 2 sites are thin delicate mucosa and more prone to trauma.

Educational level had great impact on the prevalence of RAU; prevalence of RAU is increasing as the level of education is increasing and the highest prevalence rate was among students. This finding supports the role of

stress and anxiety in occurrence of RAU among educated patients, especially during school exam.

An inverse relationship between tobacco use and the appearance of RAU has been observed in the literature [19]. Some researchers thought that smoking has protective effect and this protective effect is related to the increased keratinization of the oral mucosa in smokers and that this keratin layer acts as a mechanical and chemical barrier against trauma or microbes [21]. Few investigators suggested that smokers may be less psychologically stressed than nonsmokers and that some psychological trigger might affect RAU development [22]. The association found in this study between heavy cigarette smoking and less prevalence of RAU suggests that smoking may play a role in preventing the occurrence of RAU. Although such lower prevalence of RAU in the heavy smokers shouldn't encourage smokers who suffer from RAU to increase their consumption.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Department of Anatomy, faculty of medicine, university of Misan, Misan, Iraq and all experiments were carried out in accordance with approved guidelines.

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