Correlation of Oral Lichen Planuswith Hepatitis CVirus

(prospective study)

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المقدمة :

الحزاز المسطح الفموي مرض مزمن يستهدف الجهاز المناعي ويصيب طبقة الخلايا الحرشفية المبطنة للفم. تهدف الدراسة إلى أثبات علاقة بين وجود التهاب الكبد الفايروسي نوع سي مع ظهور مرض الحزاز المسطح الفموي . شملت الدراسة ستين شخصا،المجموعة الأولى شملت ثلاثين مريضا مصابين بالمرض والمجموعة الثانية ثلاثين شخصا غير مصابين وهي مجموعة السيطرة. تم فحص المرضى في كلا المجموعتين للكشف عن وجود التهاب الكبد الفايروسي نوع سي بواسطة جهاز تفاعل البلمرة المتسلسل. كانت النتائج وجود شخصين في المجموعة الأولى وشخص واحد في المجموعة الثانية مصابين بالفايروس سي. بعد أجراء التحليل الإحصائي تبين عدم وجود علاقة بين الفايروس وظهور المرض.

Background and aims

Oral Lichen planus is a chronic disease of immune trigger the oral stratified squamous cell epithelium with an unknown cause. Hepatitis C virus (HCV) have been associated with lichen planus in different geographic locations. The present study was undertaken to evaluate the prevalence of HCV antibody in patients with lichen planus in Maysan city south of Iraq.

Materials and methods

This descriptive analytical study included 60individuals; 30 patients with Oral Lichen Planus, and 30 healthy individuals as controls. Anti-HCV test was run for all the

subjects. Descriptive statistics as well as chi-square test to compare the means in the studiedgroups were applied to the data using SPSS 22 computer software.

Results

Buccal mucosawas the more involvement site (77%), reticular form was the most frequently clinical form of oral Lichen Planus (47%).No statistically significant difference was observed in anti-HCV test results between the two groups (P = 0.092).The association of Oral Lichen Planus and Hepatitis C virus remains amatter of controversy.

Conclusion

No statistically significant relationships were observed between lichen planus and HCV antibody in the studied samples.

Keywords: HCV, Oral Lichen Planus, PCR

Introduction

Oral lichen planus is a chronic inflammatory disease, typically affecting adults with a female to male ratio of 3:2. The disease is rarely seen in children. Mucosal involvement is very common. Approximately, 30-70% of patients with LP have mucosal lesions (1).

Oral involvement can occur alone even without skin symptoms. In the mouth, the most common site is buccal mucosa and tongue (1,2). Oral lichen planus (OLP) is condition of unknown etiology characterized by T-cell-mediated chronic immune response with abnormal epithelial keratinization. The OLP lesions are consistently more persistent than the dermal lesions and have been reported to carry a risk of malignant transformation to oral squamous cell carcinoma (OSCC) of 1-2% (3).

Clinically, OLP include; reticular, papular, plaque-like, atrophic, ulcerative and bullousform. It presents bilaterally in the posterior buccal mucosa (about 90% of the cases), or on the tongue (about 30%), or alveolar ridge or gingiva (about 13%), but

rarely on the labial mucosa, palate, floor of the mouth or lip vermilion(4). Prevalence of OLP in the community is 1-4%. It is a disease of middle aged people (between 30 to 70 years). Different etiologies for it include autoimmune disease, hypertension, kidney stones,drugs reaction, diabetes mellitus, psychological factors, and bacterial infections, and several viruses, including;papillomavirus, herpes viruses, the hepatitis viruses B and C have also been implicated as etiological agents (5).

The pathogenesis of OLP is very complex due to either of an exogenous or an endogenous antigens (6). This antigenic stimulation is accompanied by a mixed inflammatory response composed mainly T-cells,mast cells and macrophages, as well as the associated cytokines and cytotoxic molecules. Moreover,the human leukocyte antigens (HLA), especially HLA-DR3 which is associated with autoimmune diseases, are shown to increase in OLP lesions, suggesting an autoimmune component of the pathogenesis of OLP. Officially, the World Health Organization (WHO) classifies OLP as a "potentially malignant disorder" with unspecified malignant transformation risk (7).The possible premalignant nature of OLP has been the subject of numerous studies and great controversies (8).

The first association between oral lichen planus and HCV was reported in 1991 (9) and since then many studies have suggested thathepatitis C virus (HCV), which affects approximately170 million people worldwide, may play an important role in thepathogenesis of LP. Several articles about the relationship between HCV in OLP have been published (10, 11, 12). Overall, the relationship between OLP with HCV infection still remains disputed.

Aims of the Study

Many studies try to confirm the associations between HCV infection and OLP have been conducted. Differences of geographical locations could be a major factor influencing the prevalence of HCV. Therefore, this allowed us to carry out this study

for detection HCV genotyping by PCR and to define whether there was a relationship between the OLP and HCV infection; In addition the study aimed to determine the
most popular form of OLP.

Subjects, Materials and Methods:

A total of 30 Iraqi patients with OLP will be enrolled in this case control study. There will be special case sheet to require information about name, age, gender, and family history of disease.Control group will be consisted of 30 healthy individuals from blood bank of Maysan health directorate, their age and genderwere matched with patients group.

Oral mucosal tissue samples from patients to confirm the diagnosis of OLP.Four ml of venous blood will be collected from the patients and controls then kept at−20 °C until use for HCV genotyping.

Diagnosis of oral lichen planus in all patients was confirmed byhistopathologicalexamination.Extraction of DNA from peripheral blood will be doneaccording to a modified Miller method (5), by using the Genomic DNA extraction kits for viral genotyping.To assess the statistical significance association of HVC and existence OLP, the Chi square test will apply. P values were considered statistically significant if $P<0.05$.

Results:

The study groups consisted of 60patients 30with OLP and 30 individuals were control group. 60% of these patients were males and 40% were females in affected group. The mean age and HCV infection were 43y, 6.7% of affected(Table 1).Of thirty volunteers of control group 50% of each males and females mean age 45y only 3.3% was with HCV infection.

	Lichen planus		Control group	
Gender	Males	Females	Males	Females
	18(60%)	12 (40%)	15 (50%)	15 (50%)
Mean age	43 Y		45 Y	
HCV infection	2 (6.7 %)		1 (3.3 %)	

*Chi-square=1.623 P=0.092 P<0.05 Non significant

The site of involvement showed the buccal mucosa was predominant site of disease (23case) while the gingiva and tongue showed (5, 2 cases) respectively (Figure1).

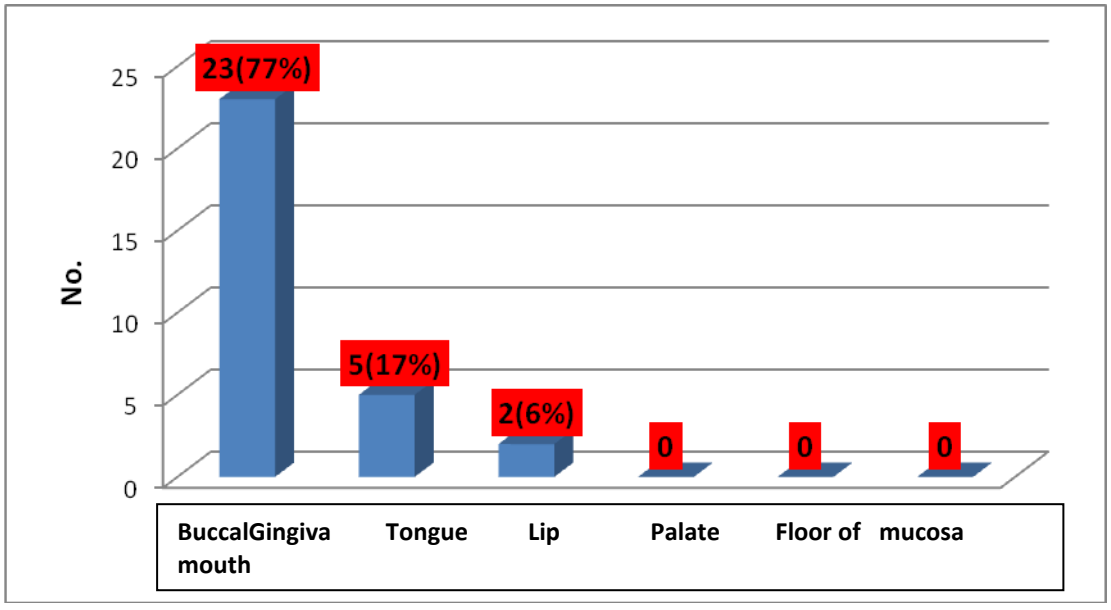

Figure (1).Distribution of the patients according to the localization of the OLP.

Five clinical forms of lichen planus were identified: reticular, erosive, atrophic, papular and plaque forms. The reticularform of OLP was predominant (14 case), atrophic(9) cases, erosive (5) cases and popular, plaque form were one case each(Figure 2).

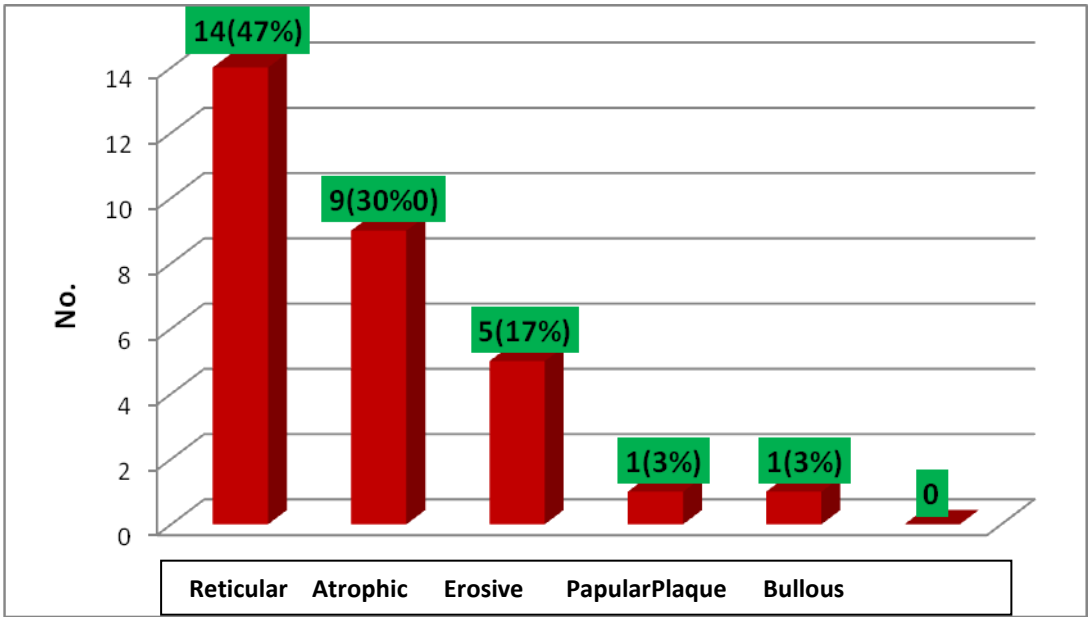

Figure (2). Distribution of the patients according to the type of the OLP.

Discussion:

OLP is one of the most common oral mucosal diseases in the adult patientsworldwide and represents the majority of the non-infectious lesions(13).Clinically, the reticular form is almost the common form of OLP lesions. It usually appears as bilateral and interlacing white hyperkeratotic lines (Wickham's striae) with an erythematosusborder (14, 15).Santosh (2012), showed reticular form oflichen planus (43.07%) was the most common clinical form followed by erosive type (38.46%) with the buccal mucosa being themost commonly involved site.The finding consistent withour study the reticular form withbilateral posterior buccal mucosawas predominant siteand account (47%),(77%) respectively. Others

previous studies conflicts our results; Basmaet al (2015) in Egyptian samples of patients found (59.37%) of patients had atrophic OLPsimilar results were also observed in studydone by Carrozzoet al.(18).

An association between OLP and the hepatitis C virus (HCV) infection has been widely studied (19; 20). Epidemiological data suggest that OLP may be significantly associated with HCV infection, mainly in Southern Europe and Japan (21; 22). While, in Northern European countries or the United States, such association has not been reported. Also in Egypt and Nigeria, where the prevalence of HCV infections is high, no increase in OLP lesions have been found (23); Akramet al(2011)proved by study done in iran there is no association between HCV and oral lichen planus. Conversely in southern of Taiwan each patient with OLP should be routinely testing for HCV infection because of strong positive association between HCV infection and OLP.These finding confirm our results as there is no significant relationship between HCV and OLP. It has been postulated that HCV infected patients may have an increased risk of developing OLP, or alternatively, patients with OLP have an enhanced risk of HCV infection (9).

However, it is likely that the patients are first infected with HCV and only later develop OLP,the differences in geneticsusceptibility to HCV induced OLP, and differences inthe genotypes of HCV (25),several medications used in treatment of viral infection including IFN-a and ribavirincan trigger mucocutaneouslichenoid reactions and misdiagnosed as LP (26).The exact relationship that exists between the association of HCV and OLP still remains unclear and our results rejects the hypothesisthat established association between OLP and HCV infection.

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