ORIGINAL ARTICLE

The Association Between Oral Lichen Planus and HCV Infection

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ABSTRACT

Objective: The purpose of this study was to investigate the possible epidemiological relationship between Oral Lichen Planus (OLP) and Hepatitis C Virus (HCV) infection in Peshawar.
Methods: This case control study was conducted on three groups of patients who were investigated for HCV infection.
Group I (78 Patients) clinically and histological confirmed OLP were tested for HCV infection.
Group II (78 Patients) control group seeking treatment for other mucosal lesions were screened for HCV infection.
Group III (1809 patients) volunteers control group consisted of healthy persons who came to Khyber college of dentistry, Peshawar for dental treatment were also screened for HCV infection.
Results: In group I, 1(1.28 %) patients were found HCV positive with age range of 30-65 years. In group II, 2(2.86 %) patients were HCV positive while in group III, 56(3.09%) patients were HCV positive.
The weak association between OLP and HCV infection was seen in these patients. The result was not significant in the participants P>0.05.
Conclusion: This study suggested that no clear relationship could be established between OLP and HCV infection in Peshawar.

Key words: Oral Lichen Planus, Chronic hepatitis, Hepatitis C Virus infection.

INTRODUCTION

Lichen Planus is a chronic inflammatory muco cutaneous disease of squamous cell origin. The Oral Lichen Planus (OLP) is more common chronic recalcitrant than cutaneous type which may persist for more than 20 years without spontaneous remission.[1] It appears in 60-70% of the cases and affects 1-2% of the general population.[2]

Six clinical forms of OLP have been described but clinical classification describes three types of lesions; reticular, papular and plaque. They are also described as atrophic and erosive.

OLP may involve any site of oral mucosa. It usually appears bilaterally on the buccal mucosa, gingival and lateral borders of the tongue. It is associated with pre malignant risk and the transformation rate is 0.4-5.6 %.[3]

The exact etiology of OLP is unknown but may be due to a number of etiological factors such as stress, trauma, drugs (NSAID), Angiotensin converting enzymes inhibitors, dental materials such as amalgam and infectious agents (Herpes Virus, Herpes Virus 6, Cytomegalovirus, human papilloma virus, Epstein bar virus, H.pylori and Hepatitis viruses).[1]

Hepatitis C Virus is an RNA virus and is the major cause of acute and chronic hepatitis. It is contracted chiefly through parenteral exposure to the infection with infected needles. The high risk patients of HCV infections are drug users, sharing needles, unsterilized dental instruments and health care workers.

The manner in which HCV infections predispose patients to development of Lichen Planus remains unclear but geographic localization may explain the different association and it is controversial since the incidence of coexistence of OLP and HCV viruses remarkably differ in different geographic regions.[4]

PATIENTS AND METHODS

This study was conducted in the Department of Oral Medicine/Pathology of Khyber College of Dentistry Peshawar from October 2009 to June 2011.

It was approved by College ethics committee. The inclusion criteria were clinically and histo pathologically confirmed cases of OLP. The exclusion criteria were pregnant and lactating mothers and patients suffering from Chronic Hepatitis for the study and control groups.

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The study sample consisted of 78 clinically and histo pathologically confirmed OLP patients (69 women and 9 men), treated in the Department of Oral Medicine, Khyber college of Dentistry, Peshawar who were screened for HCV infection.

Two groups of patients served as control in this study. Group II included 78 patients (65 women and 13 men), the age and gender matched with other oral mucosal diseases treated in the Department of Oral Medicine such as oral Candidiasis, recurrent Aphthous stomatitis, pemphigus vulgaris, benign oral growth and hyperkeratosis.

The control group III consisted of 1809 patients who volunteered for HCV screening infection and were seeking routine dental treatment in this hospital.

Serologic Examination

The sera of all patients were screened for anti HCV antibodies by using ICT (Immunochromato graphic technique) method initially. As this method is not very valid technique so further confirmation was done by ELISA (Enzyme linked immunosorbent assay) and PCR was also done for quantitative result of HCV virus infection.

RESULTS

This study showed only one patient (1.28%) with OLP to have positive antibodies against HCV. This finding was lower than control groups where 2 patients in group II and 56 patients in group III (2.56%, 3.09%) were sero positive. There was no significant difference among the groups. Table 1.

The mean age range of the patients was 30-65 years. The duration of OLP was 7 days to 20 years. The incidence of Erosive Lichen Planus in this study was found to be 70% while Reticular lichen planus was 30%. A weak association between OLP and HCV was seen and results were not significant as $P>0.05$ which indicates that there is no linear relationship between OLP and HCV infection.

Table 1: HCV Sero positivity in different groups

Group	No. of Cases	Sero Positive (Elisa and PCR)	
		No	%
Study Group I	78	1	1.28%
Control Group II	78	2	2.56 %
Control Group III	1809	56	3.09%

DISCUSSION

OLP is a chronic inflammatory muco cutaneous disease of unknown etiology but there are many etiologic factors such as stress, immunologic disorders, genetics, systemic illness and HCV infection may play an important role in the pathogenesis of this disease. Hepatitis C Virus (HCV) infection is a major health problem in Pakistan. It is highly prevalent in subjects with chronic liver disease and strongly associated with hepatocellular carcinoma. It is presently considered the main etiologic agent of both blood borne and sporadic non A and non B hepatitis and one of the major causes of chronic liver disease worldwide. Its prevalence is 5% in general population in Pakistan.[5]

Lichen Planus is one of the extra hepatic manifestations of HCV infection. The association between Lichen Planus and HCV infection is well documented but the mechanism remains perplexing.

The first case associating Lichen Planus and HCV was reported in 1991[6] and then 80 cases were reported worldwide which supported the link between Lichen Planus and HCV infection.[7-10] However this association was still rare and controversial.

The epidemic variations confirm this association and occur in different regions of the World from 8.3% to 60%. However, there are other regions of the World where there is no difference in HCV infection rate between OLP patients and the common population.

In this study, we investigated the prevalence of HCV in 78 OLP patients and no association was found as compared to other studies in which there was an association between OLP and HCV infection.[4,11-12,17]

Similarly, in Mediterranean regions where retrospective and prospective studies of British and Scandinavian OLP patients failed to show any correlation with the disease.

This study supports other studies conducted in Italy, Brazil and Netherlands which found no association between OLP and HCV infection.[13-15]

Similarly the separate studies conducted in Spain, China and Iran proved that HCV had no etiological role for LP[10,16,18] as in accordance with this study.

The prevalence of HCV infection in patients with Lichen Planus varies considerably from one geographic area to another as it was 4% in Northern France to 62% in Japan and had no association in Great Britain.

The geographic variations are mainly due to Human Leukocyte antigen (HLA) which plays a very important role as the expression of particular HLA alleles could be associated with susceptibility or resistance to the HCV infection.

In conclusio, According to the results of our study, HCV infection has no etiologic role in OLP patients in Peshawar. It is recommended that further epidemiological investigations of laboratory tests should be carried out in future studies.

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