

Original Article

Survey of relationship between hepatitis C and lichen planus among dermatology outpatients of Imam Hospital of Ardabil city

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Abstract *Background* Lichen planus is classified as a common and chronic papulo – squamous disease. It has been associated with liver disease particularly hepatitis C virus (HCV) infection, in several studies. This study aimed to evaluate the controversial relationship between HCV infection and lichen planus.

Patients and methods This was an analytical case-control study. The study included 60 patients with pathologically confirmed lichen planus and 60 volunteer blood donors as control group. Enzyme-linked immunosorbent assay (ELISA) was employed to detect anti-HCV antibodies and hepatitis B surface antigen (HBsAg). Finally, the gathered data were analyzed by SPSS software and t pair test method.

Results 53.3% of patients were female and 46. 7% were male. The most common observed form of lichen planus was classic one (57.7%). One case of 60 lichen planus patients was HCV antibody-positive (1.7%) and no case with positive HCV Ab was observed in control group ($p= 0.63$). HBS antigen was positive in one case (1. 7%) in control group, whereas none of lichen planus patients was HBS antigen positive ($p= 0.76$). Liver function tests (LFT) were raised twice than normal in one case of 60 LP (1.7%) and normal in all control subjects. There was no significant difference between two groups in profile of HCV Ab and HBsAg and LFT.

Conclusion These findings indicate that investigation for HCV infection should not be necessarily performed in all patients with LP. It is recommended that further studies should be performed with focus on larger population in other regions of Iran particularly in some border regions with high prevalence of HCV infection, to determine whether testing the HCV infection is necessary in patients with lichen planus or not.

Key words

Lichen planus, hepatitis C, hepatitis B.

Introduction

Lichen planus (LP) is a common, pruritic, inflammatory disease of skin, mucous membrane, and hair follicles. It occurs throughout the world in all races.¹ It may be familial in 1% to 2% of cases. Incidence in both sexes is equal. It appears in men at a

constant rate from the early 20s through the 60s, whereas in women the rate of new cases continues to increase with increasing age, reaching a peak in the 60s.²

LP is characterized by an immunologic reaction mediated by T cells. These cells induce keratinocytes to undergo apoptosis by an unknown mechanism.

Epidemiological relationship between LP and hepatitis C virus has been reported. In studies from Italy, Central part of France, Spain, Japan and Pakistan and HCV RNA is isolated

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form skin lesions in patients with chronic hepatitis C and lichen planus.³

The present study aimed to evaluate the association between hepatitis C and lichen planus in our patients.

Patients and methods

This was an analytical case-control study. This study includes 60 patients with pathologically confirmed lichen planus and 60 volunteer blood donors from the blood bank as control group. Patients who had history of consumption of drugs and had LP-like lesions were excluded from the study. For patients group, clinical characteristics of lesions and their location were recorded. For patients and control group liver function tests (AST, ALT and bilirubin) and hepatitis B surface antigen and hepatitis C antibody was performed by ELISA method. Physical examination and history taking were completed by dermatologist. Among the patients with LP who consented for the study and had no exclusion criteria for study were selected.

Data were transferred to SPSS version 16. The Pearson, chi-square, and Fisher's exact test were used for statistical analysis and $p < 0.05$ was accepted as significant.

Results

60 cases and 60 controls were enrolled in the study. Their mean age was 36.3 ± 12.6 years, similar in patients and controls. The youngest participant was 11 years old and the oldest patient was 68 years old. 53.3% were females and 46.7% were males and there was no statistically significant difference between the two groups ($p = 0.15$). Wrist and foot were the most common involvement areas. (31%). The classical form was the most frequent morphological form seen in (57.7%) patients (**Figure 1**).

Table 1 Positive serological markers in patients (n=60) and controls (n=60).

Serological marker	Patients N (%)	Controls N (%)
HBsAg	-	1 (1.7)
HBsAb	3 (5)	1 (1.7)
HCV Ab	1 (1.7)	-

HBsAg=hepatitis B surface antigen, HBsAb=hepatitis B surface antibodies, HCV Ab=HCV antibodies

Table 1 shows the positive results for hepatitis B surface antigen, HBS antibodies and HCV antibodies. HBS antigen was not positive in patients group and was positive in one control and there was no statistically significant difference between the two groups ($p = 0.76$). HBS antibodies was positive in three cases (5%) and one control group (1.7%) and there was no statistically significant difference between the two groups ($p = 0.56$).

HCV antibody was positive in one case (1.7%) and none positive in control group. There was no statistically significant difference between the two groups ($p = 0.63$).

Liver enzymes were abnormal in one case of patient group and all normal in control group and there was no statistically significant difference between the two groups ($p = 0.63$).

Discussion

LP is a mucocutaneous inflammatory dermatosis related with other immune system disease. Recently, contradictory reports have appeared regarding association between LP and hepatitis C. The aim of this study was to evaluate the association between LP and hepatitis C.

In the present study, 60 patients with LP and 60 healthy blood donors as a control group were selected. The most common form of presentation was the classical type of lesions (57.7%) that corresponds with other studies.

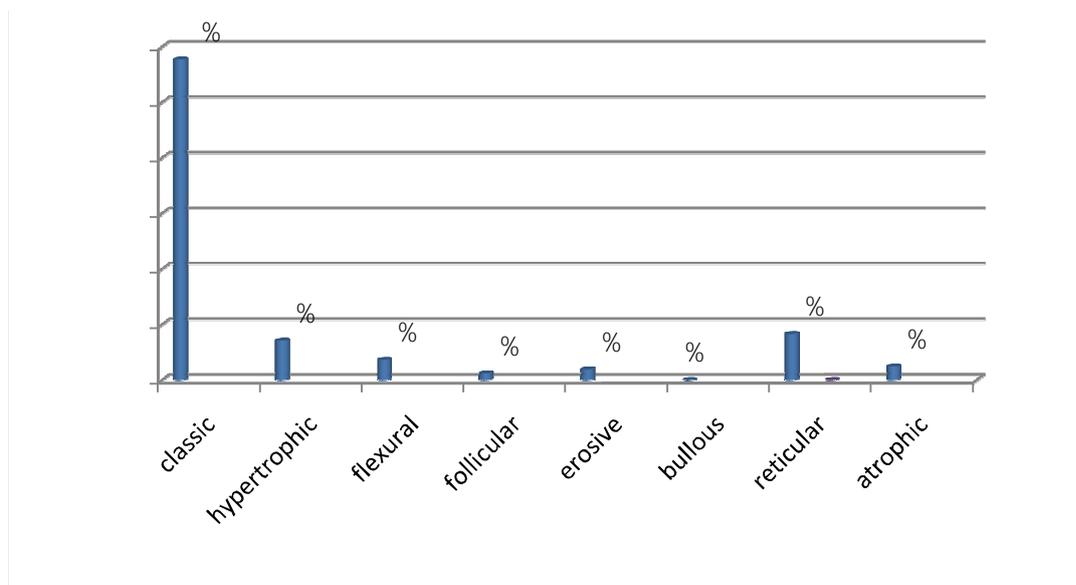


Figure1 Different morphological types of lichen planus.

In our study of HCV antibody, there was no significant difference between LP patients and control group in Ardabil City. In recent years numerous studies about the relationship between LP and hepatitis have appeared round the world. In some studies, association between LP and hepatitis B and C have been confirmed, but others do not support this.

In the study of Rahnama *et al.*⁴ in Kerman including 66 patients with LP and 140 controls, 1.5% of patients and 2.1% of controls were HCVAb positive. In the study of Farshchian *et al.*⁵ in Hamadan comparing 32 patients with LP and 43 controls, 1.3% of LP and 6% of controls were HCVAb positive and there was no significant difference between two groups.

In the study of Khatibi on 150 patients with hepatitis C in Liver ward of Tehran Hospital, 40% of patients had oral LP.⁷

In the study of Nasiri *et al.*⁸ in Lugman hospital of Tehran on 32 patients and 32 controls, there was no HCVAb positive in patients group but one case in control group, and association between HCV and LP was not found.

In the extensive review by Lodi, which included 32 studies, the prevalence of oral LP in HCV-infected patients ranged from zero to 62%. The geographical differences of the prevalence of hepatitis C may explain these statistical differences.⁹

In the study of Das *et al.*¹⁰ in India, comprising of 104 patients with LP and 150 controls, no association was found between HCV Ab and LP. In the study of Dervis *et al.*¹¹ in Turkey, (70 patients with LP and 70 controls), 18.57% patients and 4.28% of control group were HCVAb positive and this study highlights the investigation of liver disease in patients with LP.

In the study of Cunha *et al.*¹² in Brazil, 134 HCV antibody positive patients and 95 healthy individuals were examined for oral LP. 1.5% of patients and 1.1% of control group were positive for oral finding of LP ($p= 0.63$) and there was no association between hepatitis C and Lichen planus.

In the study of Assad and Samadani in Mecca on 114 patients with LP and 65 healthy individuals, 26.3% of patients and 4.6% of the

control group were positive for HCVAb which supports this relationship.¹²

In the study of Luis-Montoya *et al.*¹³ in Mexico on 36 patients with Lichen planus and 60 healthy group, 2.77% of patients and 0% of controls were positive for Cab ($p= 0.365$) and there was no significant relationship between hepatitis C and LP.

In a large study from Italy on 577 patients in different areas, one fifth of patients were positive for HCVAb. In another study in Southern Italy, 28.6% of patients were HCVAb positive. It seems that assessment of liver is important in patients with lichen planus in Southern Europe.¹⁴

These findings indicate that investigation for HCV infection should not be necessarily performed in all patients with LP. It is recommended that further studies should be performed with focus on larger population in other regions of Iran particularly in some border regions with high prevalence of HCV infection, to determine whether testing the HCV infection is necessary in patients with lichen planus or not.

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