

ASSOCIATION OF LICHEN PLANUS AND HEPATITIS C VIRUS

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ABSTRACT

BACKGROUND

Several dermatological manifestations of HCV infection have been described during the past 10 years, which include leukocytoclastic vasculitis, porphyria cutanea tarda, mixed cryoglobulinemia, lichen planus, etc. The association of HCV and LP depends mainly upon the prevalence of HCV infection.

AIM

The aim of the present study is to know the incidence of lichen planus and its association with HCV.

SETTINGS AND DESIGN

A prospective study done from August 2000 to January 2002 at Department of DVL, Kurnool Medical College, Andhra Pradesh.

METHODS AND MATERIAL

Routine urine and blood examination, Liver and Renal function tests, Anti-HCV test, HBsAg detection were done in all patients with lichen planus. Anti HCV antibodies was detected using ELISA-II. PCR and liver biopsy were done among patients positive to anti-HCV antibodies.

STATISTICAL ANALYSIS

Statistical analysis is done by the chi-square test with Yate's correction. Corresponding P values are considered significant at value <0.05.

RESULTS

Anti-HCV antibodies are found in 8 (19.04%) patients with LP and in one control (2.3%) by ELISA-II. Out of 8 patients with HCV antibodies, 6 were positive for HCV-RNA, which was detected by RT-PCR in serum samples. Erosive LP is observed in five out of 8 patients (62.5%) with HCV infection as against six out of 34 patients (17.64%) without HCV infection. A statistically significant association (P=0.019) exists between erosive LP and HCV infection.

CONCLUSION

The present prospective study has shown that HCV is the main correlate of liver disease in patients with LP especially in oral erosive LP. Finally, our results strongly recommend that all patients with LP especially oral erosive lesions should be systemically screened for the presence of HCV infection.

KEYWORDS

Hepatitis Virus, Lichen Planus, Polymerase Chain Reaction, Liver Biopsy.

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INTRODUCTION

Many viruses cause hepatitis as part of their spectrum of illness. But, only those viruses that cause hepatitis as their primary or predominant pathology were only named as hepatitis viruses. To date, seven hepatitis viruses (A-G) are recognised.^[1]

HCV is a single stranded RNA virus responsible for most cases of post transfusional hepatitis. The most common presentation of HCV infection is chronic active hepatitis, which

manifests as wide spectrum of liver damage ranging from mild chronic hepatitis to cirrhosis and even hepatocellular carcinoma.^[2]

Several dermatological manifestations of HCV infection have been described during the past 10 years, which include leukocytoclastic vasculitis, porphyria cutanea tarda, mixed cryoglobulinemia, lichen planus, polyarteritis nodosa, urticaria, erythema nodosum, and erythema multiforme.^[3]

The first case of LP was described in patient with chronic hepatitis and HCV antibodies in 1991 by Makni.^[4] Since then, numerous cases of LP associated with HCV infection have been published. The reported prevalence of HCV infection in patients with LP show wide variations from 3.8% in France.^[5] to 62% in Japan.^[6]

The association of HCV and LP depends mainly upon the prevalence of HCV infection. The aim of the present study is to know the incidence of lichen planus and its association with HCV.

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MATERIALS AND METHODS

The present study was conducted on clinically diagnosed cases of lichen planus in the Outpatient Department of Dermatology, Kurnool Medical College and Hospital, Kurnool, for a period of 18 months (August 2000 to January 2002). Forty-two patients presenting with lichen planus were included in this study. They constitute cases not only from Kurnool town, but also from neighbouring villages. Ethical committee has approved to do this study and informed consent has taken from patients.

A detailed history including the age, sex, occupation, socio-economic status, duration of the disease, present and past illness, family and personal history, blood transfusion history were recorded as per the proforma. The diagnosis is based mainly on clinical examination and confirmed by histopathological findings.

All the patients with lichen planus attending to the department were included in this study. Lichenoid eruptions were excluded. Routine urine and blood examination, Liver and Renal function tests, Anti-HCV test, HBsAg detection were done in all patients with lichen planus.

42 individuals with lichen planus and without any evidence of liver diseases were also included in this study under control group. Control group was investigated for liver function tests, Anti-HCV antibodies.

Anti-HCV antibodies were detected with commercial second generation Enzyme-Linked Immunosorbent Assay (ELISA-II). In positive ELISA-II cases, Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) was performed to detect serum HCV-RNA. In patients with HCV-RNA, a liver scan and percutaneous liver biopsies were done.

Statistical analysis was done by the chi-square test with Yate's correction. Corresponding P values are considered significant at value <0.05.

RESULTS

Sl. No.	Age/ Sex	Clinical Type	Abnormal LFT	HCV-RNA	Liver Scan	Liver Biopsy
1	38/M	Cutaneous LP	+	+	Cirrhosis	Cirrhosis
2	50/M	Buccal erosive	+	+	Normal	Normal
3	48/F	Buccal erosive	+	-	-	-
4	50/M	Cutaneous LP	+	+	Normal	Normal
5	50/M	Erosive and reticulate mucosal LP	+	+	CPH	-
6	25/M	Cutaneous and mucosal reticulate LP	+	-	-	-
7	68/F	Buccal erosive	+	+	Portal Hypertension	CAPH
8	38/F	Cutaneous, buccal and genital erosive LP	+	+	Normal	Normal

Table 2: Clinical and Laboratory Results in Eight Patients with LP and HCV Antibodies

CPH-Chronic persistent hepatitis; CAPH-Chronic active persistent hepatitis.

Mucosal LP (75%) was the most commonly associated clinical entity with HCV infection (Table No.3). Erosive LP was observed in five out of 8 patients (62.5%) with HCV infection as against six out of 34 patients (17.64%) without HCV infection. A statistically significant association (P=0.019) exists between erosive LP and HCV infection.

Data collected from 42 cases clinically diagnosed as lichen planus for a period of 18 months (August 2000 - January 2002) formed the basis of this study.

Most of the cases were observed in the age group of 31-50 years was 42.84% followed by 21-30 years (19.04%). The incidence of LP being slightly higher in males (54.76%) than females (45.24%) and the male and female ratio is 1.2:1.

Out of 42 patients only cutaneous lesions were observed in 17 patients (40.48%), both cutaneous and mucosal lesions in 13 members (30.96%), mucosal involvement alone in 10 cases (23.80%), and nail involvement only in 2 cases (4.76%).

Abnormalities in one or more liver function tests were found frequently in lichen planus patients. Raised liver enzymes among lichen planus patients were depicted in Table No:1. None of the patients has prothrombin abnormalities. No significant difference was seen in relation to raised bilirubin levels in between the two groups.

Characteristic	Lichen Planus No. (%)	Controls No. (%)	P Value
Increased ALT	14 (33.3)	4 (9.5)	0.022
Increased AST	12 (28.57)	3 (7.1)	0.029
Increased Bilirubin	3 (7.14)	3 (7.1)	1.00
Reversed A/G ratio (Hyperglobulinemia)	10 (23.8)	2 (4.7)	0.036
Increased Prothrombin time	0	0	-
HBsAg	1 (2.38)	2 (11.9)	0.61
Anti HCV antibodies	8 (19.04)	1 (2.3)	0.029

Table 1: Liver Screening Protocols of Patients with Lichen Planus and Controls

Anti-HCV antibodies were found in 8 (19.04%) patients with LP and in one control (2.3%) by ELISA-II. Out of 8 patients with HCV antibodies, 6 were positive for HCV-RNA, which was detected by RT-PCR in serum samples (Table No.2).

Clinical Variety	No. of Cases with HCV Antibodies	Percentage
Cutaneous lesions only	2	25%
Cutaneous + Mucosal lesions	2	25%
Mucosal only	4	50%
Total	8	100%

Table 3: Showing Percentage of Hepatitis C Virus Infection in Relation to Site of Involvement

DISCUSSION

HCV, ever since it was discovered in 1989, has gained importance not only because it is the principal cause of post

transfusion chronic hepatitis, but also because of its association with innumerable number of extrahepatic disorders.

As indicated in Table No.2, lichen planus associated with HCV infection occurs chiefly in the fifth to seventh decades (50%) and men (62.5%) were frequently affected. All patients with LP and HCV infection had abnormal liver function tests. Clinically, the lesions of HCV-related LP are similar to those of classical LP.

In this study, a statistically significant association ($P=0.019$) exists between erosive LP and HCV infection. Conversely, Cribier B et al^[5] Ingafou M et al^[7] Nicolas Dupin MD et al^[8] found no significant association between LP and HCV infection. These discrepancies maybe due to overall prevalence of HCV infection in the general population or other unknown epidemiological factors.

In the present study, serum HCV-RNA is detected by RT-PCR in 75% of the LP patients with anti-HCV antibodies indicating an infective status, which is comparable 79% and 94% reported by Santander et al^[9] and Carrozzo M et al^[10] respectively.

On liver scan, 33.33% of the patients with LP and HCV-RNA showed indirect signs of cirrhosis and portal hypertension in this study, which is slightly less than that of 54% reported by Sanchez Perez et al^[11] This is due to fact that LP without liver dysfunction either histological and on scan may have HCV-RNA positivity occasionally as reported by Nagao Y et al.^[6] Similar findings are observed in 3 patients in the present study.

The histological evidence of chronic active hepatitis, persistent hepatitis, and cirrhosis is seen in 50% of patients with HCV-RNA in the present study. This is in accordance with the study of Lodi G et al^[12] where the observed histological evidence was 60%. In contrast, a lower incidence was reported by Reborra A^[13] 11.3% and Sanchez Perez et al^[11] 23%.

In this study, raised transaminase levels and reversed A/G ratio is frequently observed in LP patients than in controls with significant P value of <0.05 . All patients with HCV-RNA had raised transaminase levels. These results are in line with Carrozzo et al^[10] study. In contrast, Sanchez Perez et al^[11] showed no significant difference in liver function test between LP patients and controls.

Carrozzo M et al^[10] and Sanchez Perez et al^[11] documented that females constitute 74% and 70% of patients with HCV infection and LP respectively. In contrast in this study, 62.5% of the patients were men. This difference is mainly dependent on incidence of sex ratio of LP in general population and may also due to the fact that females do not seek medical advice in India.

As per this study, the prevalence of HCV antibodies in LP is 19.04%, which is significantly higher than in control group (2.5%) with P value 0.016. Sanchez Perez et al^[11], Bell man et al^[14], Michele M et al^[15], Santander et al^[9] reported 20%, 23%, 28.8%, 38%. Nagao Y et al^[6] reported 62%.

The present prospective study has shown that HCV is the main correlate of liver disease in patients with LP especially in oral erosive LP. Further studies are required to elucidate the

mechanism of association. Finally, our results strongly recommend that all patients with LP especially oral erosive lesions should be systemically screened for the presence of HCV infection. Early detection of HCV helps to reduce the incidence of HCV related disorders in the population and also gives more favourable response to treatment. Awareness of LP with HCV for effective management. HCV detection by HCV RNA PCR test is more useful and confirmatory.

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