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 systematically screened for the presence of HCV infection.

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

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.[6] 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.
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, socioeconomic 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 evidence of liver diseases were also included in this study. Lichenoid eruptions were 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.

RESULTS

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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Lichen Planus No. (%)</th>
<th>Controls No. (%)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased ALT</td>
<td>14 (33.3)</td>
<td>4 (9.5)</td>
<td>0.022</td>
</tr>
<tr>
<td>Increased AST</td>
<td>12 (28.57)</td>
<td>3 (7.1)</td>
<td>0.029</td>
</tr>
<tr>
<td>Increased Bilirubin</td>
<td>3 (7.14)</td>
<td>3 (7.1)</td>
<td>1.00</td>
</tr>
<tr>
<td>Reversed A/G ratio</td>
<td>10 (23.8)</td>
<td>2 (4.7)</td>
<td>0.036</td>
</tr>
<tr>
<td>Increased Prothrombin time</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HBsAg</td>
<td>1 (2.38)</td>
<td>2 (11.9)</td>
<td>0.61</td>
</tr>
</tbody>
</table>

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. 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).

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

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

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[9] 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[8] 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 Lodii G et al[12] where the observed histological evidence was 60% in contrast, a lower incidence was reported by Rebora 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[6] 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 systematically 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.

ACKNOWLEDGEMENTS
We are thankful to staff of Department of Microbiology and Pathology for their help while doing this research work.

REFERENCES