Abstract

After the identification of the hepatitis C virus genome in 1989 and after the first medical publication on the association between hepatitis C virus and lichen planus in 1991, medical literature has become controversial on this subject. The present material reviews the literature and the major world point of views reported in the last 20 years. Recent epidemiological studies indicate that hepatitis C virus is more prevalent in patients with lichen planus than in control populations. Screening for anti-hepatitis C virus antibodies is a currently recommended approach in patients with lichen planus.

Keywords: lichen planus, hepatitis C virus

Lichen planus is a chronic mucocutaneous inflammatory disease, with unknown etiology. It was first described clinically by Wilson in 1869 and histologically by Dubreuilh in 1906. So far, numerous theories concerning its etiology have been postulated, with the majority of evidence favoring an immunologic origin. Lichen planus can involve: oral mucosa, skin, genital organs, hair follicles, nails, oesophagus, urinary tract, nasal mucosa, larynx and eyes (1). The oral mucosa in oral lichen planus is highly accessible for an accurate examination. Therefore, oral lichen planus is ideal for the study of human T-cell-mediated inflammation and autoimmunity.

Oral lichen planus affects women more than men and occurs predominantly in adulthood (1,2). Oral lesions can be detected in approximately 50% of patients who initially present skin lesions, however the prevalence of skin lesions in patients who are primarily seen for oral lichen planus is lower, ranging from about 10 to 50% in the reported series. Oral lesions may occur before, at the same time with, or after skin lesions. There are six clinical forms of oral lichen planus: papular (small white papules), reticular (lace-like striae), plaque-like (white plaques resembling leukoplakia), atrophic (diffuse red lesions resembling erythroplakia), erosive (extensive areas of shallow ulceration) and bullous (sub-epithelial bullae) (2). Oral lichen planus is still considered a potentially malignant lesion (3).

A wide range of factors (viruses included) may precipitate the T-cell-mediated inflammatory reaction of the stratified squamous epithelium, resulting in lichen planus lesions. So far, several correlations between viral infections (including the Epstein-Barr virus, cytomegalovirus, varicella zoster virus, human herpes virus, human papilloma virus, human immunodeficiency virus, hepatitis viruses) and oral lichen planus were reported. The most frequent correlation seems to be highlighted between hepatitis C virus infection and oral lichen planus (4). If this would be a true association, oral lichen planus may be viewed as a sign of hepatitis C virus infection in asymptomatic patients, allowing early diagnosis and treatment and possibly their better prognosis (4-6).

The first description of the association between hepatitis C virus and oral lichen planus was published in 1991 (7), but several controversies still exist on this relationship. Studies reported in the last 10 years conclude a statistically significant correlation between the presence of lichen planus and hepatitis C virus infection (8-12). However, there are researchers who established no correlations between chronic hepatitis C virus and lichen planus (13-17). A recent meta-analysis revealed an important association between hepatitis C virus and lichen planus (18).

Although the liver represents the major site of viral replication, a broad spectrum of extrapopatic manifestations is associated with chronic hepatitis C virus infection (mixed...
cryoglobulinemia, membranoproliferative glomerulonephritis, autoimmune thyroiditis, non-Hodgkin’s lymphoma, neuropathy, lymphoproliferative disorders, porphyria cutanea tarda, lichen planus, sicca syndrome (19,20).

Infection with hepatitis C virus is characterized by an extremely high propensity of progression to persistent infection, leading to chronic liver diseases, such as liver cirrhosis or hepatocellular carcinoma. Acute infection is usually asymptomatic, with persistent chronic infection developing in 43-86% of cases. Due to the lack of symptoms, the vast majority of chronically-infected individuals remain undiagnosed for several years, until overt complications, secondary to decompensated liver disease, eventually develop. From this point of view, many researchers believe that evaluating the potential clinical role of lichen planus in diagnosing hepatitis C virus infection appears as very important. The skin and oral cavity are easy to observe. The presence of cutaneous lichen planus or oral lichen planus can be potentially used as a marker of hepatitis C virus infection in asymptomatic patients, leading to a proper diagnosis and early treatment and, possibly, to a better prognosis of chronic hepatitis C (21, 22).

From the meta-analysis data of Shengyuan (18, 23) one can conclude that hepatitis C virus exposure is more prevalent in patients with lichen planus than in control populations. This association seems to be present in all regions of the world (table I). However, epidemiological studies do not and cannot prove that hepatitis C virus and lichen planus are causally-related (23).

If one accepts the conclusion that the prevalence of hepatitis C virus is higher in patients with lichen planus than in the normal population, patients with lichen planus should be screened for hepatitis C virus. Potential forms of screening include taking a history of the risk factors for hepatitis C virus (iv drug use, sex with iv drug users, history of blood transfusion), determination of serum liver enzymes (alanine-aminotransferase, aspartate-aminotransferase), serologic tests. Lapane (24), cited by Bigby (23), demonstrated that determining a patient’s risk based on answers to identified risk factors (iv drug use, sex with iv drug users, history of blood transfusion, male sex, age of 30-49 years) and testing of those with a risk over 7% (based on a logistic regression model) with ELISA tests for anti-hepatitis C virus antibodies is an optimal strategy.

Early diagnosis and treatment may save lives and may be useful in reducing health care costs. Therefore, patients diagnosed with (oral or cutaneous) lichen planus should be checked about major or minor risk factors for hepatitis C virus, after which those with clinically significant risk should be screened for hepatitis C virus antibodies.

**TABLE I**  
**ESTIMATED PREVALENCE OF HEPATITIS C VIRUS IN PATIENTS WITH LICHEN PLANUS IN DIFFERENT GEOGRAPHICAL REGIONS**  
Bigby, 2009

<table>
<thead>
<tr>
<th>REGION</th>
<th>PREVALENCE OF HEPATITIS C VIRUS IN POPULATION (%)</th>
<th>RELATIVE RISK OF HEPATITIS C VIRUS IN PATIENTS WITH LICHEN PLANUS VERSUS CONTROLS</th>
<th>ESTIMATED PREVALENCE OF HEPATITIS C VIRUS IN PATIENTS WITH LICHEN PLANUS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAST AND SOUTH ASIA</td>
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<td>9.5</td>
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<tr>
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<td>5.8</td>
<td>9.9</td>
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<tr>
<td>SOUTH AMERICA</td>
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<td>8.4</td>
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<td>4.8</td>
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**References**


