

# Two Cases of Oral Lichen Planus Associated with Chronic Liver Disease

Kyeong Sik Min, M.D., Hyung Geun Min, M.D.,  
Jong Min Kim, M.D., Eil Soo Lee, M.D.

*Department of Dermatology, School of Medical, Hallym University, Seoul, Korea*

We present two cases of oral lichen planus associated with chronic liver diseases. One patient was a 56-year-old man that had advanced liver cirrhosis with hepatitis B viral infection, and the other, a daughter of patient 1, was identified as chronic active hepatitis with hepatitis B viral infection. Clinical and histopathological features of oral lesions were consistent with lichen planus in both cases. (*Ann Dermatol* 5:(2) 121-124, 1993)

*Key Words:* Chronic active hepatitis, Liver cirrhosis, Oral lichen planus

Lichen planus (LP) is a subacute or chronic inflammatory disease of unknown etiology that can involve skin, mucous membranes, hair and nails, first described by Erasmus Wilson<sup>1</sup> in 1869. Oral LP is a disease of adulthood and develops in any area of oral mucosa, especially in the buccal mucosa, tongue and gingiva. About 50% of the patients with skin lesions have oral lesions, whereas about 25% of all LP patients have only oral lesions<sup>2,3</sup>. LP may be found with various systemic diseases including malignancies, gastrointestinal diseases, autoimmune diseases and others<sup>2,3</sup>. Several articles<sup>5-13</sup> on the association of liver diseases and lichen planus have been reported, and several of them<sup>11-13</sup> described that lichen planus was related with hepatitis B virus. Genetic susceptibility of LP is described by some authors<sup>15-17</sup>. In Korea, several cases of oral LP with or without cutaneous LP have been reported<sup>18-20</sup>, but we could not find a report of oral LP associated with chronic liver diseases among them.

We report here two cases of oral LP associated with advanced liver cirrhosis and chronic active hepatitis in a family.

## REPORT OF CASES

**Case 1.** A 56-year-old man visited our department with painful, erosive, lacelike patches on both buccal mucosa for 22 months (Fig. 1). This patient had treated the oral lesions with topical 0.05% triamcinolone acetonide ointment intermittently under the consultation of a pharmacist. But the oral lesions did not show any improvement, so he visited our hospital for an accurate diagnosis and treatment. In February, 1987, a percutaneous liver biopsy revealed advanced liver cirrhosis and hepatitis B viral markers were identified. The patient received immunotherapy with  $\alpha$ -interferon for chronic viral hepatitis B, in June 1988.

**Case 2.** A 36-year-old woman, a daughter of case 1, had painful, white, erosive, reticular and linear patches in both buccal mucosa for 3 months (Fig. 2). She did not have any treatment for oral lesions before visiting our hospital. She developed hepatitis B viral infection in October, 1990. On liver biopsy, chronic active hepatitis was identified. A total hysterectomy had been performed for uterine myoma in April, 1990. She also received  $\beta$ -interferon therapy in May 1991.

**Physical examination** was unremarkable except for oral mucosal lesions and slight enlargement of the liver in both cases.

**Family History.** Case 2 was the only daughter

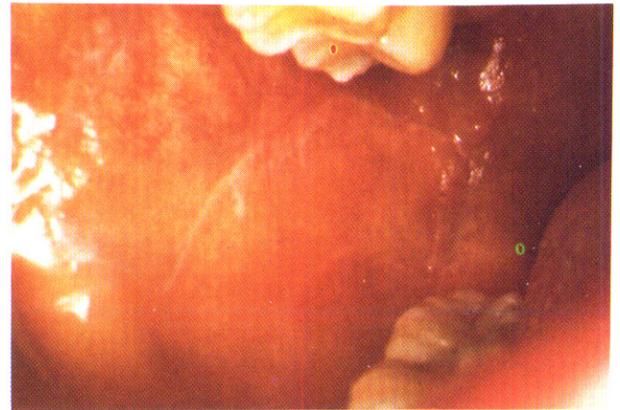
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**Reprint request to:** Kyeong Sik Min, M.D., Department of Dermatology, School of Medicine, Hallym University, Seoul, Korea.



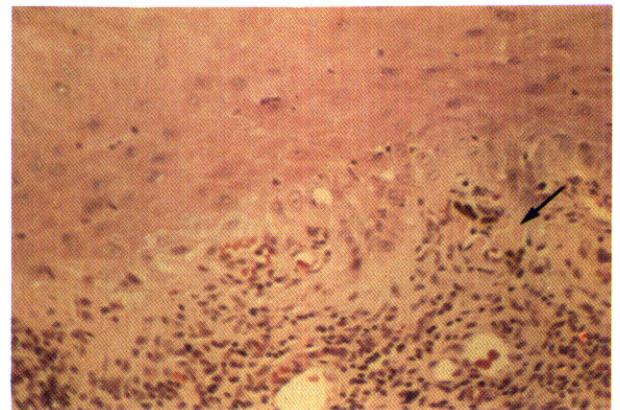
**Fig. 1.** Lacelike, white, erosive patches on the left buccal mucosa (Case 1).



**Fig. 2.** White, erosive, reticular and linear patches on the right buccal mucosa. (Case 2, a daughter of case 1).



**Fig. 3.** Case 1. Histologic features of oral mucosa shows partial erosion, parakeratosis, acanthosis, thickening of the granular layer and band-like infiltration of inflammatory cells in the upper dermis. (H&E stain,  $\times 100$ ).



**Fig. 4.** Case 2. Hydropic degeneration of the basal layer, dense lymphohistiocytic infiltration and occasional Civatte bodies in the papillary dermis (Arrow). (H&E stain,  $\times 200$ )

of case 1. Her mother's family were all healthy, without evidence of hepatitis and/or lichen planus. Except for case 1 and 2, all members of the family were healthy.

**Histopathology.** A biopsy specimen from the buccal mucosa of case 1 revealed partial erosion, parakeratosis, acanthosis, hydropic degeneration of basal cell layer and band-like infiltration of inflammatory cells in the upper dermis (Fig. 3). Dense lymphohistiocytic infiltrations were found in the upper dermis and several Civatte bodies were present in the lower epidermis and papillary dermis (Fig. 4). The Same features, except erosion, were found in the biopsy specimen from the oral lesion of case 2. Direct immunofluoresce for IgG, IgM, IgA, IGA, C3, fibrinogen in the oral lesions of cases 2 was negative.

**Laboratory findings.** Erythrocyte sedimentation rate; complete blood cell count; liver function test; urine analysis; VDRL test; serum immunoelectrophoresis; antinuclear antibody; anti-smooth muscle antibody were all within normal limits or negative. Fungal infection was excluded by KOH examinations and cultures of oral swabs.

**Treatment and Course.** The patients were treated first with oral dapsone, 50 mg/day, without concomitant application of topical therapy. At four weeks of treatment, pain was considerably relieved in both cases. At eight weeks of treatment, clinical improvements were noted with reduced sizes of the reticular patches in both cases and with reduced size and depth of the erosion in case 1. We discontinued dapsone therapy due

to concurrent elevations of SGOT/SGPT in the two cases and serological conversion of hepatitis B viral markers to HBV-DNA (+), HBe Ag (+) in case 2. The patients thereafter received management for liver diseases in the department of internal medicine and they were lost to follow up in our department.

## DISCUSSION

Characteristic skin lesions of LP are small flat-topped polygonal, violaceous papules and plaques, which have a natural history of spontaneous remission within one or a few years, though some may persist for longer periods. Compared with skin lesions, the mucosal affections have a far more chronic nature and appear in various combinations of reticular, papular, bullous, plaque, atrophic, and erosive/ulcerative forms with more female predominance<sup>2,3</sup>. Of these, reticular oral LP is the most common form and predominantly affects the buccal mucosa, appears as a network of white or gray threads (Wickham's striae) interspersed with patches<sup>2,3</sup>. Erosive lesions are usually associated with soreness or severe pain, which are exacerbated by local irritants<sup>3</sup>.

Both case 1 and 2 had reticular white patches on oral mucosa. Case 1 also had erosive lesions of both buccal mucosa.

Oral LP has been connected with some systemic medical disorders such as diabetes mellitus and hypertension and liver diseases. There have been a few reports<sup>5-8</sup> of LP occurring in association with chronic active hepatitis. Rebora et al<sup>7</sup> reported that in their thirty-seven patients with chronic active hepatitis, five (13.5%) had LP. Korkij et al<sup>8</sup> reported that abnormal hepatic enzyme elevations were noted in 52% of patients with LP and 36% of controls. They also reported that 12% of liver biopsies revealed chronic active hepatitis and liver cirrhosis. Ayala et al<sup>6</sup> reported that the prevalence of chronic liver diseases in oral erosive LP patients (13/21) was unambiguously higher (64.2%) than those of an age-matched control group. Ciaccio and Rebora<sup>10</sup> reported a case who developed LP following hepatitis B vaccination.

Our patients had associated with advanced liver cirrhosis and chronic active hepatitis due to hepatitis B virus infection.

Genetic susceptibility suggested that Copenmann et al<sup>14</sup> showed an increase in the frequency of HLA-A<sub>3</sub> and HLA-B<sub>7</sub> in patients with familial LP, while Lowe et al<sup>15</sup> found an increase in HLA-A<sub>3</sub> and HLA-A<sub>5</sub>. Takeuchi et al<sup>16</sup> described that keratinocytes of the mucosal lesions expressed both HLA-ABC and HLA-DR antigens, and activated cytotoxic/suppressor T lymphocytes may play a major role in cytotoxicity to keratinocytes as effector cells in oral LP. Grunnet and Schmidt<sup>17</sup> described a family in which the father, his son, and his daughter were affected. All three patients shared HLA-A<sub>w19</sub>, HLA-B<sub>18</sub>, and HLA-C<sub>w8</sub>, but an unaffected son had none of these alleles.

Our patients, who were father and daughter, might have had similar HLA alleles, but we did not analyze their HLA antigens. We speculate that immune complexes and viral antigens associated with liver cirrhosis and chronic active hepatitis may be involved in the development of LP.

The clinical differential diagnosis of oral LP includes candidiasis, leukoplakia, discoid lupus erythematosus, and secondary syphilis. The lesions in our cases were differentiated by the clinical appearances, fungus cultures, VDRL tests, ANA, ASM-Ab, and histopathologic findings.

Falk et al<sup>30</sup> and Beck et al<sup>31</sup> reported that low-dose dapsone administration was successful in patients with oral erosive LP. In our patients, we tried low-dose dapsone therapy, because they had poor oral intake for pain and their hepatic enzymes were within normal limits at the time of treatment. After two months of treatment, their symptoms and signs were relieved considerably, but we discontinued dapsone administration due to the elevation of hepatic enzymes and seroconversion of viral markers.

Rebora<sup>32</sup> recently described that patients with a history of chronic liver disorder or of acute viral hepatitis, and those who actually have high levels of transaminases or HBs Ag present in their blood have at least double the risk of developing LP than the general population, irrespective of their age, sex, and alcohol consumption.

We suggest that evaluations for liver diseases in

LP patients are necessary, because Korea is an endemic area of hepatitis B virus with a common prevalence of chronic liver diseases, and also further studies of the epidemiology of LP and liver diseases, about the causal relation of chronic liver diseases and hepatitis B viruses in LP are needed.

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