Case Report

Successful treatment of Oral Lichen Planus (OLP) with 0.1% topical Tacrolimus in a patient with impaired liver enzymes: A Case report

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Abstract
In the present case report, a case of a patient with blisters in oral cavity which indicate erosive Oral Lichen Planus (OLP) lesions associated with elevated serum SGOT, SGPT levels along positive Tri Dot for Hepatitis C Virus is reported. Outcome of the present case report suggests that extensive clinical, laboratory and microscopic evaluation is necessary to identify the probable etiology of the condition and to choose the most appropriate treatment regimen.

Keywords: Oral Lichen Planus, Tacrolimus
**Introduction**

Oral lichen planus (OLP) is a chronic inflammatory mucocutaneous disorder, affecting stratified squamous epithelia, with a prevalence of 0.02% - 1.2% among the various populations and most commonly affects the individuals in 5th to 6th decade of life with a more female preponderance [1]. Intra oral presentation of the lesions is divided into three forms namely reticular, atrophic (erythematous), erosive (ulcerative and bullous) with posterior buccal mucosa most frequently affected site [2]. Etiological factors associated shows the role of psychological stress (high levels of anxiety & depression), contact hypersensitivity to dental materials especially to amalgam herpes viruses (HSV1, EBV, and HHV6), HIV, HPV, Hepatitis B virus, most recently role of hepatitis C virus is also stressed on as an etiological factor in Oral Lichen Planus [3]. In recent years, an association between OLP and HCV has been described in populations from Japan and some Mediterranean countries. It has been postulated that the association may be related to a genetic variability; however no comprehensive explanation has been provided regarding this association [4].

**Figure-1: Presence of extensive erosive lesions involving left buccal mucosa**

**Figure-2: Large bullous lesion present on floor of the mouth**

The pathogenesis of oral lichen planus although chiefly unknown, a large body of evidence supports a role of immune dysregulation. As per the current state multiple topical and systemic treatments for the oral lichen planus have been reported to be effective and includes corticosteroids, both topical and systemic, retinoids, ultraviolet phototherapy (PUVA), steroid sparing agents (hydroxychlorquione, azathioprine, mycophenolate mofetil) and pimecrolimus. Although above mentioned drugs showed positive results in the treatment of oral lichen planus but a resistant to treatment and a high risk of toxicities limit their use [5]. Although these drugs showed positive results in the treatment of oral lichen planus but a resistant to treatment and a high risk of toxicities limit their use [6]. Tacrolimus is a novel immunosuppressant which has recently been shown to be effective and safe in the treatment of symptomatic oral lichen planus. Tacrolimus is 10-100 times more
potent than cyclosporine in its ability to inhibit IL-2 mRNA synthesis and inhibits mediator release from basophils and mast cells. It inhibits enzyme calcineurin phosphatase activity resulting in decrease in IL-2 synthesis and secretion, hence inhibiting T-cell multiplication.

In this case report use of 0.1% tacrolimus as a topical therapy in treating oral lichen planus lesions in a patient with raised SGOT, SGPT levels along with positive Tri Dot for Hepatitis C virus has been portrayed.

Case report
A twenty-eight years female patient reported with a complaint of blisters throughout the mouth with associated difficulty in eating salty and spicy food for past two weeks. Patient didn’t give history of any systemic disease or any previous episodes of similar blisters in past. On intra oral examination of the patient ulcerations were present throughout the oral cavity involving the buccal mucosa, labial mucosa, dorsal and ventral portions of the tongue mucosa and mucosa of the floor of the mouth. (Figure-1, figure-2) A provisional diagnosis of ulcerative oral lichen planus was made and patient was sent for routine blood examination along with SGOT, SGPT and Tridot test for Hepatitis C virus. The blood examination report revealed higher values of SGOT and SGPT along with a positive Tridot test for Hepatitis C virus infection.

Histopathologically, the lesions were confirmed to be of bullous oral lichen planus. (figure-3). Tacrolimus powder (Courtesy Ranbaxy, Gurgaon, India) was mixed keeping Oraguard-B (purchased from Colgate Palmolive, U.S.A) as base in such a way as to get a concentration of 0.1% tacrolimus powder with base. Patient was given the medication to be applied topically three times daily for a period of 15 days. The patient was instructed not to eat or rinse the mouth after application of the ointment for half an hour. Recalled appointments were kept at an interval of 15 days to assess the response to the treatment and to reinforce the instructions.

At first recall assessment, marked improvement of the signs and symptoms were observed and patient reported a marked decrease in pain and burning on eating. Within two months of the treatment a complete response to treatment in the form of completely healed lesions were observed along with complete resolution of pain and
burning. (figure-4). he medication was discontinued and patient was kept under observation, after one month of stopping the medication lesions recurred but were very mild in intensity. Patient remained totally asymptomatic during the period of one month post therapy and even after the recurrence; patient didn’t give any history of discomfort as previously reported.

**Discussion**

Lichen planus is a mucocutaneous disease characterized by a cellular inflammatory infiltrate enriched in CD4+ cells, by the presence of acidophilic bodies that may represent apoptotic epithelial cells, and by vacuolating degeneration of the basal epithelial layer. Recently, positive and negative HCV RNA strands were detected in epithelial cells of the normal oral mucosa and in lesional tissue of oral lichen planus from anti-HCV positive patients by both strand-specific reverse-transcription polymerase chain reaction (RT-PCR) and in situ hybridization [7]. Association of HCV infection with different extra-hepatic manifestations has been described but the pathogenetic role of HCV in the development of these extra-hepatic manifestations is undefined. HCV specific CD4+ and CD8+ cells are present within intralesional infiltrates in oral lichen planus associated with chronic HCV infection [8]. These cells are specifically recruited into the oral lesions because there frequency has always been higher than in peripheral blood [9,10]. In our case patient presented with elevated SGOT, SGPT and positive Tridot test for Hepatitis C virus. Due to these hepatic manifestations, the use of systemic agents was contraindicated, so topical agent proven to be effective, safe and with no reported side effect was chosen.

**Conclusion**

A variety of systemic conditions may be associated with lesions of Oral Lichen Planus and at times oral manifestations are the only signs and symptoms present in lieu for the underlying condition as seen in our patient. Hence, an extensive clinical, laboratory and microscopic evaluation is mandatory to identify the probable etiology of the condition and to choose the most appropriate treatment regimen.

**Reference**
