

# A Single Case Study of Hypertrophic Lichen Planus and its Ayurvedic Management

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## Case Study

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## ABSTRACT

Hypertrophic Lichen Planus (HLP) is a subacute or chronic variant of Lichen Planus (LP) of unknown etiology. It is an inflammatory disorder in which T-lymphocytes attack the basal epidermis, producing characteristic clinical and histological lesions. It occurs in middle age, and women are commonly affected than men. It is characterized by epidermal hyperplasia in response to persistent itch and gets intense by stress. Squamous cell carcinoma, keratoacanthomas developing on the HLP of lower limbs has been reported. Most recent conventional treatment of the HLP and LP disorders consists the use of topical and systemic corticosteroid, psoralen and ultraviolet A therapy, immunosuppressant, systemic retinoid, cyclosporine, and acitretin. All these drugs are proved to reduce the symptoms temporarily. In Ayurveda, this condition may be considered under Charma Kushtha, a type of Kshudra Kushtha (minor skin diseases), due to the similarity in signs and symptoms with HLP. Charma Kushtha is dominant of Vata Dosha and Kapha Dosha. In this condition, the skin over the patch becomes thick like the skin of an elephant (lichenification).

## INTRODUCTION

Lichen planus is a non-contagious, autoimmune disease that may affect any age group. It is an inflammatory skin condition presents with rashes that usually affects wrists, elbows, ankles and groin region. This condition will also affect the inner mucosa layer hence the plaques may also present in the oral cavity or in the vagina. In Lichen

planus the rash is characterized by small and polygonal eruptions present with scaly lesions or plaques. Moreover, Lichen planus can occur in various forms like–atrophic, annular, popular, linear, hypertrophic, bullous, pigmented, follicular, actinic, ulcerative or inverse. According to Ayurveda it is one among Kushtha which is a pitta pradhan tridoshaj vydhi [1].

### CASE REPORT

#### Presenting cocern

A 63-year-old male diagnosed with HLP by a dermatologist presented in the Outpatient Department (OPD) of National Research Institute of Ayurvedic Drug Development, Kolkata, West Bengal, India (OPD Regn. No. 3306/2014-15), with complaints of itchy, large verrucous lesions on medial malleolus of both legs for a long time. These symptoms were occurring off and on for the past 2 years and 5 months including a recurrence 2 months ago. He also had a history of hypertension and bronchial asthma and was on regular medication for it [2].

### CLINICAL FINDINGS

#### General examination

The general condition of the patient was good and without alterations in vital signs. He had a normal appetite, bowel and bladder habit, and regular sleep pattern. His Prakriti was Pitta-Kapha predominant, and he was assessed with mental stress on psychological evaluation [3].

#### Local examination

Cutaneous examination revealed solitary, well-circumscribed, slightly moist skin lesion measuring 9 cm × 6 cm, 6 cm × 4 cm seen over medial malleolus of the right and left leg, respectively. Few keratotic crusts appeared on the lesion of the left leg. The surrounding skin showed thickening and hyperpigmentation [4-6].

The surface consisted of the slough and papillated excrescences closely grouped, aroused from the surrounding surface. No local tenderness or bleeding on manipulation was elicited, and no inguinal lymph nodes were involved. The mucous membranes were unaffected. No sign of varicose vein was observed on any of the legs. No such lesions of LP were found elsewhere on the body. However, hypopigmented lesions of vitiligo were seen on legs (Figures 1 and 2).

**Figure 1.** Skin lesion (left leg) before treatment.



**Figure 2.** Skin lesion (right leg) before treatment.



### INVESTIGATION

Previously done biopsy report of the lesions from dermato pathologist revealed the presence of hyperkeratosis, acanthosis, hypergranulosis, irregular downward elongation of the rete ridges, and foci of damage (liquefaction) to basal cell layer. The dermis was densely infiltrated by chronic inflammatory cells without any evidence of malignancy. The report was compatible with LP hypertrophicus [7-8].

#### **Case conception and selection of Ayurveda treatment**

Since the patient was told by the dermatologist about the prognosis of his condition and also became aware of the disadvantages of corticosteroid from some other sources, he had chosen Ayurvedic intervention for his condition. As there was no established Ayurvedic treatment available particularly for HLP, he was also explained about the uncertainty of the treatment. Charma Kushtha is a clinical condition described in Ayurveda which resembles HLP. Ayurvedic perspective of this particular case presenting with pruritus and verrucous lesion can be established with clinical presentation. Itching, hyperkeratosis, sliminess, and thickness, all are the features of Kapha dominancy. Acanthosis (Karshnya) is the feature of aggravated Vata. On the basis of symptomatology, the disease can be equated with Kapha-Vata Kushtha. The etiology (Nidanam) of Kushtha is Visha (autoimmune), usually results from exposure to certain environmental factors or due to consumption of incompatible foods. Stress also plays a significant role in the case as excessive mental stress vitiates the Rasa Dhatu and Rasavaha Srotas, which is responsible for Kapha Dushti. The autoimmune nature of disease along with Kapha Dushti initially started as itchy lesion (Kandu) on both malleolus, which is Kapha predominant. Hence, the primary Dosha is Kapha when it involves the Rasa Dhatu and causes Kandu (Kapha Dushti), moist skin (Kapha Dushti), keratotic crust (Kapha-Vata), and thickening of skin (Shopha of hard form due to Vata-Kapha Dushti). Association of Rakta Dhatu leads to hyperpigmentation and acanthosis, and finally, moist skin (Srava) results from connection of Lasika. Varicosity of veins of lower limbs was not found in this case; however, medial malleolus affection is common due to poor vascularity. This all finally resulted into verrucous lesion (Vranam) which is also been told as complication of Kushtha. The principle of management in the different stages of the Kushtha (skin diseases) includes eliminative procedures (therapeutic emesis, purgation, etc), vein puncture, local applications, and internal administration of drugs [9,10]. Considering the involvement of Dosha.

Dushya (pathognomonic factors) and analysis of causative factors (Hetu) of the disease, the patient was recommended comprehensive Ayurvedic modalities, consisting of Aushadha (compound Ayurvedic formulations), Ahara (dietary modification), and Vihara (lifestyle modification) at OPD level. The drugs with Kapha Vataghna (Doshahara) properties, along with Vishaharam, Kandughna, Kushthaghna, and Vranashodhanaropanam (Vyadhihara) properties, were chosen and prescribed at different stages in the case [9].

The patient was advised to report at an interval of 15 days or report as and when required for assessment. He was also advised to taper off the corticosteroid (prednisolone) dose over a period of 1 month in consultation with an allopathic doctor and also directed to continue the medications for hypertension and bronchial asthma as such

### Follow-up and outcomes

Picture of the affected skin was taken at the time of initiation of the treatment and subsequently on every visit as per the methods used by Rastogi and Chaudhari. The subsequent observations were also noted the patient was assessed clinically on every fortnight visit. The consecutive photographs were taken after each follow-up visit when compared with the before treatment status were able to exhibit the changes in the skin lesions. This shows a considerable improvement in the skin lesions following the therapy to the before treatment status. No adverse effect pertaining to the prescribed drug was also reported. On follow-up for 6 months, there was no recurrence of the lesions.

## DISCUSSION

Charma Kushtha is a type of skin disease mentioned in Ayurveda under the classification of Kshudra Kushtha. The classical sign of Charma Kushtha is thickening of the skin like the skin of an elephant. It is verrucous lichenification of skin and usually develops in patients with psoriasis, dry eczema, and LP. Treatment of Kushtha including all type Kushtha consists of purification therapy (Samshodhana) internal and external administration of the drug (Samshamana). Dietary and lifestyle modification also play an important role in the management of Kushtha. The patient was suffering from a Kapha-Vata dominant Kushtha complicated with a Vranam (verrucous lesion). The association of HLP with vitiligo in the case may be due to a common autoimmune etiology. Coexistence of lesions of Becker's nevus along with vitiligo and LP was also reported.

LP has a strong association with anxiety, stress, and diabetes. In the presenting case, though the onset of disease can be linked with stress, the connotation of bronchial asthma in the case may be due to common immunological linkage. HLP and few varieties of long-standing, erosive LP develop into Bowen's disease, a premalignant condition, and squamous cell carcinoma. Although the disease is diagnosed from its clinical features, biopsy is often recommended to make the diagnosis and to look for cancer. The current conventional treatment involves topical and a long course of oral steroids, calcineurin inhibitors, retinoid, acitretin, hydroxychloroquine, methotrexate, azathioprine, and phototherapy. Various studies had shown the use of indigenous medicines in oral LP. There are also limitations for the use and drawbacks of topical steroids and systemic glucocorticoids because of suppression of hypothalamic-pituitary-adrenal axis and other systemic side effects. Ayurvedic principles have shown potential to be used in noncommunicable and lifestyle disorders. These are convenient, safe, and least expensive in compare to the conventional method of treatment. Herein, the drugs, dietary, and lifestyle modifications were chosen on the basis of Nidanam (causative factors of disease), involvement of dominant Dosha (Kapha-Vata) and nature of the disease (Vyadhi). Formulations having Kaphavataharam, Vishaharam, Kandughna, Kushthaghna and

Vranashodhanaropanam properties were used. Blood-letting (Rakta-Mokshana) is also one of the effective treatments.

Aragwadhadi Kashayam used in the case is Kushthaghna, Vishaghna, and having Shamanam (pacificatory) properties. It is effective in Kandu, Prameha and acts as Dushta Vranavishodhaka. Patolamuladi Kashayam is also Kaphahara, Kushthahara, and Vishahara. It is used for Shodhana (purification and bowel cleansing). Triphala is Shotha-Kleda-Vranahara and Vishahara. Jatyadi Ghrita used in the case, intend for Vranashodhanaropanam (cleansing and healing of wound). Tutha (CuSO<sub>4</sub>) being it's one of the ingredient, it has cleansing action on slough. Major ingredients of Arogyavardhini Vati are Gandhaka (Sulfur), Katuki (Picrorhiza Kurroa), Nimba (Aristolochia indica), which are the versatile drugs for all type of skin diseases. It also contains Tamra (Copper), which has scrapping (Lekhana and Vranashodhana action) and acts on Lasika. Further, Arogyavardhini Vati is a panacea by its name and a good medicine for liver. It is helpful in Pachana (metabolism) of Ama Visha and corrects the production of vitiated Rasa Dhatu in the body.

The modalities adopted in the case may be applied to the similar case too. However, a trial with one or two formulations may be proposed to assess further role of Ayurveda. The post treatment biopsy could not be done to compare with the baseline data is the limitation of the study. Further to validate the therapy for HLP, the trial may be performed in an adequate number of patients along with a comparison of biopsy at the baseline level and after completion of therapy

### CONCLUSION

HLP is a rare and difficult skin condition to cure. It is notorious for its recurrence and has also the possibility to develop into squamous cell carcinoma. The conventional treatment options available are also not satisfactory and are not free from systemic side effects. This observation endorses a step toward the practice of Ayurvedic intervention in HLP.

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