

# ***Research Progress on the Combined Treatment of Vulvar Lichen Sclerosus with Traditional Chinese and Western Medicine***

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**Abstract:** Vulvar lichen sclerosus (VLS) is a chronic, progressive dermatological condition characterized by recurrent episodes that often lead to persistent vulvar itching, pain, burning sensations, and in some cases, atrophy and scarring of the vulvar skin. These symptoms severely impact the patient's quality of life. Various treatments are used in clinical practice both domestically and internationally; however, due to the unknown etiology, prolonged disease course, difficulty in achieving a cure, and high recurrence rates, there is still a lack of effective therapies. The combined use of Traditional Chinese and Western medicine has shown certain advantages in alleviating symptoms, improving the disease course, and enhancing patients' quality of life. This article reviews the progress in research on the combined treatment of vulvar lichen sclerosus with Traditional Chinese and Western medicine, discusses the advantages of this integrative approach, and aims to provide new perspectives and methods for the treatment of VLS.

## **1. Introduction**

Vulvar lichen sclerosus (VLS) is a common vulvar disease with an unclear etiology, potentially related to factors such as autoimmunity, genetics, infections, and local irritants. Conventional Western medicine primarily uses topical corticosteroids for treatment; however, long-term use may result in side effects. Traditional Chinese medicine (TCM) offers unique advantages in regulating the body and alleviating symptoms. Therefore, the integration of Traditional Chinese and Western medicine has emerged as a new research direction for the treatment of VLS.

## **2. Advances in Western Medicine Treatment**

### **2.1. Pharmacological Treatment in Western Medicine**

Topical application of corticosteroids is the first-line treatment for VLS, effectively alleviating pruritus and inflammatory responses. Commonly recommended options include 0.05% clobetasol

propionate ointment and mometasone furoate cream. Studies have shown that approximately 70-90% of patients experience symptom improvement after using corticosteroids[1]. However, prolonged use is required to achieve therapeutic effects, necessitating long-term follow-up, and recurrences are common, leading to poor patient compliance. Long-term use of corticosteroids can cause side effects such as localized skin atrophy and folliculitis[2]. Sex hormones, such as estrogen and progesterone, can be applied topically and absorbed through the skin and mucous membranes. They help relieve spasms of the small dermal blood vessels at the lesion site, enhance blood circulation, and restore normal tissue nutrition and metabolism [3]. Calcineurin inhibitors, considered second-line therapy, can alleviate symptoms, and some patients may show histological reversal. Low-dose, short-term use can control symptoms, though its effect on relieving pruritus is relatively weak. The long-term safety of these agents remains uncertain [4]. For patients who do not respond to conventional treatment, or when there are concerns about potential adverse effects due to prolonged use of topical medications, local physical therapy may also be considered.

## 2.2. Physical therapy

Physical therapy has advantages such as safety, efficacy, and minimally invasive nature, making it a current focus in the treatment of VLS. High-intensity focused ultrasound (HIFU) is a new, safe, and effective therapeutic approach that is currently favored in clinical practice. It is widely believed that the occurrence of VLS is related to an imbalance in neurovascular nutrition within the deep connective tissue of the vulva. Ultrasound, with its excellent tissue penetration and energy-focusing properties, serves as a non-invasive physical therapy. By controlling the focal point and focal length, it can target lesions at any depth and location, exerting its unique thermal and cavitation effects. Focused ultrasound can cause degeneration of small blood vessels and nerve endings in the affected dermal tissue, promoting self-repair and neovascularization of microvasculature. This improves the nutritional status of the microvasculature and nerve endings in the affected area, alters the growth microenvironment, effectively relieves pruritus, and promotes tissue repair and regeneration, allowing the skin in the affected area to return to normal without affecting the surrounding tissues[5]. VLS is often accompanied by severe and persistent pruritus, leading patients to enter a vicious cycle of itching, scratching, and skin damage, which significantly affects their daily lives and sleep. Focused ultrasound has shown good efficacy in alleviating pruritus. After treatment with focused ultrasound, localized tissues may experience transient hyperemia and edema, but recovery is quick, with no other adverse reactions, making it a safe and reliable treatment with high efficacy. Studies have confirmed that the overall effectiveness rate of focused ultrasound therapy ranges from 84.4% to 96.1%, with a low short-term recurrence rate[2]. Fractional CO<sub>2</sub> laser therapy works by using localized photothermal effects to destroy abnormal epithelial tissue and nerve endings within the dermis. This process leads to the realignment of collagen and elastic fibers, collagen production, and cellular remodeling, restoring skin elasticity and breaking the vicious cycle caused by scratching and itching[6]. Currently, there is a lack of large-scale randomized controlled trials and long-term follow-up data. Other physical therapies include photodynamic therapy[7], platelet-rich plasma (PRP) therapy[8], and infrared bioeffect technology[9]. Surgical treatment is indicated for patients with localized lesions, those who do not respond to conservative therapy, or when there is a risk of atypical hyperplasia or malignancy. Postoperative scarring may occur, and there is a high risk of long-term recurrence, necessitating prolonged follow-up. Currently, conservative medical treatment is more highly recommended.

### 3. Advances in Traditional Chinese Medicine Therapy

#### 3.1. Traditional Chinese Medicine Theory

In Traditional Chinese Medicine (TCM), it is believed that the primary causes of VLS are liver and kidney yin deficiency, damp-heat descending, and qi and blood stasis. The pathogenesis is characterized by an underlying deficiency with superficial excess, where the root lies in liver and kidney deficiency, and the symptoms manifest due to blood stasis and damp-heat. The treatment approach focuses on both the root and the symptoms by nourishing the liver and kidneys, promoting blood circulation, removing blood stasis, and clearing damp-heat, thereby harmonizing qi and blood to nourish the skin and aiming for a fundamental resolution of the condition. TCM emphasizes a combined internal and external treatment approach. Internally, the focus is on nourishing the liver and kidneys, tonifying qi to relieve itching, nourishing the blood to moisten dryness, and strengthening the spleen to remove dampness. Externally, methods include decoction fumigation and washing, application of ointments, and acupuncture, among other techniques [10]. According to the TCM theory of syndrome differentiation and treatment, the therapeutic approach may vary for different patients, emphasizing individualized treatment. In recent years, with the deepening research on the use of TCM in the treatment of non-neoplastic epithelial disorders of the vulva, the holistic perspective of TCM and the combination of syndrome differentiation and treatment have demonstrated unique advantages. Internal administration of herbal medicine can regulate the organs and treat the root cause of the disease, while topical application of medication can address the symptoms.

#### 3.2. Chinese Herbal Medicine Treatment

Topical application of Chinese herbal medicine primarily includes two methods: herbal fumigation and washing, and the application of self-made herbal ointments. The herbal fumigation and washing method involves boiling a herbal formula and using the hot medicinal liquid to steam the vulvar area first, followed by washing once the temperature is appropriate. This method improves local blood circulation and nutritional status, promoting the repair and regeneration of the affected area. Clinical observations by Yang Shenghong and colleagues have found that herbal ointments can improve microcirculation by dilating blood vessels, promote skin pigmentation, and function as phytoestrogens. They can inhibit and reverse the progression of the disease at the molecular level[11]. Internal treatment with TCM should primarily focus on nourishing the liver and kidneys and enriching yin and blood. Based on the ancient formula Zuo Gui Yin, the modified formula Gui Shao Zuo Gui Yin has the effects of nourishing the liver and kidneys, enriching the blood, moistening dryness, dispelling wind, and relieving itching. Clinical studies by Liu Yi and colleagues have shown that this formula can improve cellular immune function in patients and has a significant clinical effect in treating the liver and kidney yin deficiency type of VLS[12]. Through clinical observation, Liu Wensheng found that comprehensive treatment based on the TCM principle of syndrome differentiation and treatment showed promising results. The self-formulated Quban Decoction, modified for individual patients and administered both orally and as an external wash, effectively cured or improved symptoms such as vulvar itching, leukoplakia, vulvar ulceration and erosion, atrophy, and vaginal introitus stenosis[13]. The combination of internal and external use of Chinese herbal medicine has shown good efficacy in the treatment of VLS.

#### 3.3. Acupuncture Therapy and Others

Acupuncture has therapeutic effects of strengthening the body's resistance, eliminating pathogenic

factors, unblocking meridians, and regulating qi and blood flow. Local acupuncture at areas with severe itching, marked keratinization, and significant pigment loss can increase local blood circulation, promote blood circulation, relieve itching, and improve symptoms of vulvar pigment loss. Studies have shown that acupuncture combined with Chinese herbal medicine has a significantly better clinical effect in treating VLS compared to herbal medicine alone. Commonly used acupoints include Guanyuan (CV4), Qihai (CV6), and Sanyinjiao (SP6). Acupuncture at these points can regulate the overall function of the body and promote the recovery of local lesions[14]. Other Traditional Chinese Medicine (TCM) treatment methods include Tuina (Chinese massage) [15], auricular acupressure[16] , and moxibustion [17] .These methods regulate body functions through different mechanisms, promote local blood circulation, and serve as adjunctive therapies.

## **4. Advances in Integrative Traditional Chinese and Western Medicine Therapy**

### **4.1. Mechanism Research**

Mechanism research on integrative Traditional Chinese and Western medicine therapy primarily focuses on anti-inflammatory effects, immune regulation, and improving microcirculation. Chinese herbal medicine works through multiple targets and pathways, and when used in combination with Western medicine, it can enhance therapeutic efficacy and reduce side effects.

### **4.2. Clinical Effectiveness**

Integrative Traditional Chinese and Western medicine therapy for VLS demonstrates significant advantages, combining internal regulation with external treatment. This approach not only reduces the toxicity, side effects, and recurrence rate associated with the sole use of Western medicine but also compensates for the slower onset of action associated with the exclusive use of Chinese medicine, resulting in higher efficacy. Multiple studies have shown that integrative therapy can not only significantly alleviate symptoms and improve skin lesions but also reduce recurrence rates and enhance the quality of life for patients [18]. Qin Shuhong and colleagues used a combination of moxibustion, Baiban ointment, and Baum light therapy to treat VLS. After the drug is absorbed into the body, it regulates liver, spleen, and kidney dysfunction and improves qi and blood circulation from a holistic perspective. Acupoint stimulation enhances the body's immunity, accelerates blood circulation, and strengthens kidney function. The thermal effect of Baum light accelerates drug absorption, promotes blood circulation in the affected local tissues, and facilitates the metabolism of harmful substances. Clinical comparative studies have found that the combination of these three methods is superior to using either Chinese herbal medicine or Baum light therapy alone[17]. Mali and colleagues found through clinical comparative studies that, compared to focused ultrasound therapy alone, Chinese herbal medicine combined with focused ultrasound therapy for VLS effectively improves the remission rate and overall efficacy[19].Through clinical research, Huang Yanxiao and colleagues found that the combination of modified Shechuangzi Powder fumigation and focused ultrasound therapy is more effective in improving the clinical symptoms of VLS compared to focused ultrasound therapy alone. This combined treatment also reduces the occurrence of adverse reactions and lowers the recurrence rate of the disease[20].Through clinical comparative studies, Qu Hong and colleagues found that the combination of focused ultrasound and Shenju lotion therapy, which leverages the different etiologies, pathogenesis, and treatment principles of TCM and Western medicine for VLS, utilizes the advantages of both to fundamentally alter the pathological state of the vulvar skin in VLS patients. This combined treatment is more effective than focused ultrasound therapy alone in relieving itching symptoms, restoring skin color and elasticity, achieving a higher cure rate, reducing the recurrence rate, and improving overall efficacy. Additionally, the long-term

therapeutic effects are better with time [21]. Through clinical comparative studies, Zeng Lijuan and colleagues found that the combination of focused ultrasound and Baiban Decoction fumigation for the treatment of VLS has significant efficacy. This combined therapy can shorten the treatment duration, has a lower recurrence rate, and is associated with fewer adverse reactions [22]. Based on years of clinical experience and observation, Wei Qinglin concluded that the treatment of VLS should consider focusing on eliminating dampness while also dispelling wind, emphasizing a holistic approach. When combined with local treatments, this strategy can shorten the treatment duration [23]. Based on clinical comparative studies, Wang Jing and colleagues found that, in addition to conventional Western medicine treatment, the use of Chinese herbal decoctions and herbal washes, or the addition of acupoint injections with herbal injections, leads to better efficacy and high safety. This approach is worth promoting and applying in clinical practice [24-26].

## 5. Prospects and Challenges

Although integrative Traditional Chinese and Western medicine therapy for VLS has made some progress, there are still several challenges. Firstly, clinical studies often have small sample sizes and lack large-scale, multi-center randomized controlled trials. Secondly, the standardization and quality control of Chinese herbal medicine need further improvement. Additionally, the mechanism of action of integrative therapy requires more in-depth exploration. Future research should focus on large-sample clinical trials and mechanism studies to provide more scientific and standardized treatment protocols. Additionally, efforts should be made to enhance the standardization and regulation of integrative Traditional Chinese and Western medicine therapy, and to develop unified clinical guidelines to improve clinical practice. Patient education and follow-up management should also be emphasized to improve treatment adherence and outcomes.

## 6. Conclusions

Integrative Traditional Chinese and Western medicine therapy for VLS shows promising potential in relieving symptoms, improving disease progression, and enhancing patients' quality of life. Future research should focus on large-scale clinical trials and mechanism studies to provide more scientific and standardized treatment options. The advantage of integrative therapy lies in its comprehensiveness and diversity, utilizing multi-pathway and multi-target treatment methods to more effectively alleviate symptoms and disease conditions, reduce side effects, and lower recurrence rates, thereby offering better treatment options for patients with VLS.

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