

# Successful treatment of isolated oral lichen planus on lower lip with traditional Chinese medicine and topical wet dressing

## A case report

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### Abstract

**Rationale:** Biopsy is very important for the diagnosis of oral lichen planus (OLP) on the lips. Traditional Chinese medicine (TCM) can be used to coordinate the whole body, soften and eliminate swellings and masses, and regulate the functions of qi and blood. Therefore, TCM could be an effective and safe treatment for OLP. Wet dressing is particularly important for the treatment of lip diseases. We report on a rare case of OLP on the lower lip.

**Patient concerns:** A 38-year-old female patient presenting with a history of recurrent erosion, bleeding, and pain on her lower lip for 10 years.

**Diagnoses:** Erosive OLP of the lower lip.

**Interventions:** The patient was treated for 4 months using TCM comprising “Qingwen Jiedu Kouyankang granules,” total Paeonia glucosides, and a combination of hormones and anti-inflammatory agents applied locally using a wet dressing.

**Outcomes:** Lip erosion was improved remarkably after 1 month, and there was no recurrence or aggravation of the condition. The duration of the follow-up period was 5 months.

**Lessons:** The therapeutics used here were effective and safe for the treatment of OLP and could improve the quality of life in patients with lip erosion. The therapeutics provide new insight into the treatment of OLP on the lip.

**Abbreviations:** DLE = discoid lupus erythematosus, OLP = oral lichen planus, TCM = traditional Chinese medicine, TGP = total glucosides of Paeonia.

**Keywords:** oral lichen planus, traditional chinese medicine, wet dressing

## 1. Introduction

Oral lichen planus (OLP) is a relatively common chronic immunologically-mediated mucocutaneous disease. It was first described by Wilson in 1869, and involves the skin and mucous membranes.<sup>[1]</sup> Skin lesions in OLP are characterized by a fine, lacelike network of white lines (Wickham striae). There are essentially 2 forms of oral lesions in OLP: reticular and erosive.<sup>[2]</sup> Reticular lesions are much more common than erosive ones.

However, erosive lesions have a more negative impact on patients because they are usually symptomatic and bordered by fine, white radiating striae in the periphery. It is common for patients to have both reticular and erosive lesions. The lesions are spread throughout the oral mucosa and usually involve the posterior buccal mucosa bilaterally, although isolated lip vermilion involvement is very rare.<sup>[3,4]</sup> Furthermore, OLP on the lips may be misdiagnosed as chronic cheilitis or discoid lupus erythematosus (DLE). Recently, it became widely accepted that OLP constitutes a cell-mediated local immune reaction leading to liquefied degeneration of basal cells of the epithelium and banded infiltration of T lymphocytes at the lamina propria.<sup>[5,6]</sup>

Although there are currently many treatments for OLP involving the use of corticosteroids, antibiotics, vitamins, and immunomodulators, some treatments have failed due to significant side-effects. As widely known, traditional Chinese medicine (TCM) is reported to be safe and highly beneficial when used alone or in combination with conventional Western drug therapy. It is worth mentioning that wet dressing is particularly important for the treatment of lip diseases. Here, we report a rare case of OLP exclusively localized to the lower lip, successfully treated with oral TCM and topical wet dressing.

## 2. Patient information

A 38-year-old female patient visited our department in June 2016 with chief complaints of repeated erosion, bleeding, and pain on

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the lower lip for more than 10 years. The patient was referred from another hospital without a definite diagnosis. She was treated for a long time, although this treatment was not useful, and her symptoms became more serious in nature. The patient had no history of systemic disease, tobacco chewing, smoking, or alcohol intake. There was no related family history or history of drug allergies, although the patient had an irregular schedule and eating habits. The results of our systemic examination were normal.

### 3. Clinical findings and diagnostic assessment

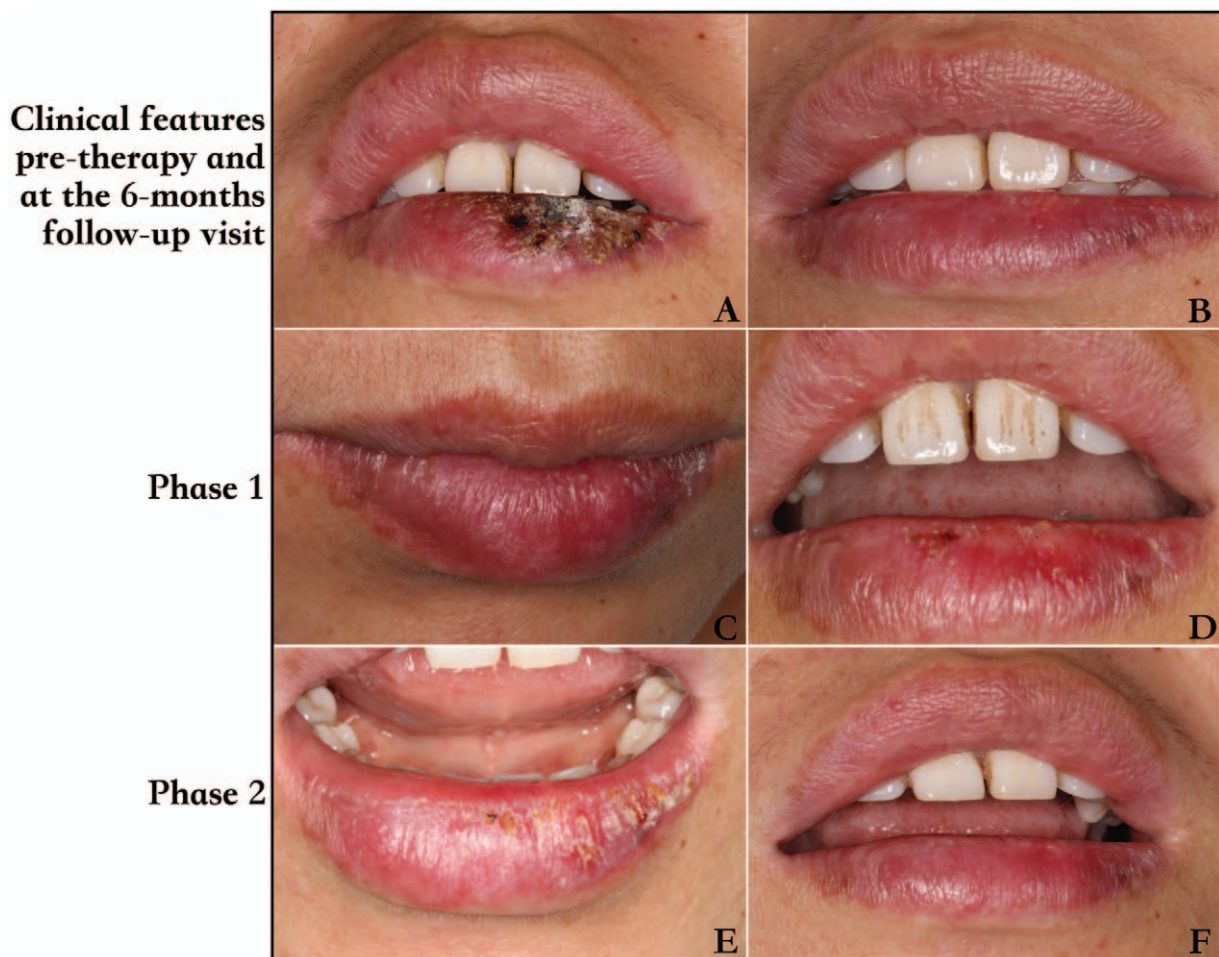
Upon clinical examination, we found a relatively large erosion of  $2.5 \times 1.0$  cm in size on the left side of the lower lip. The lesion was obviously congestive and erosive, and its surface was covered with a blood scab, while its periphery was bordered by fine, white radiating striae that did not cross the margin of the lower lip (Fig. 1A). The hematological examination showed positive results for antinuclear antibodies, an autoimmune indicator related to the lesion. As the blood scab on the lips is challenging when performing invasive biopsy detection, we applied a wet compress before the examination, and the incisional biopsy was performed under local anesthesia. Histopathology indicated degeneration of

the basal cell layer and an intense lymphocytic infiltrate in the superficial lamina propria (Fig. 2). The diagnosis of erosive OLP was made based on the clinical features and was confirmed by routine histological examination.

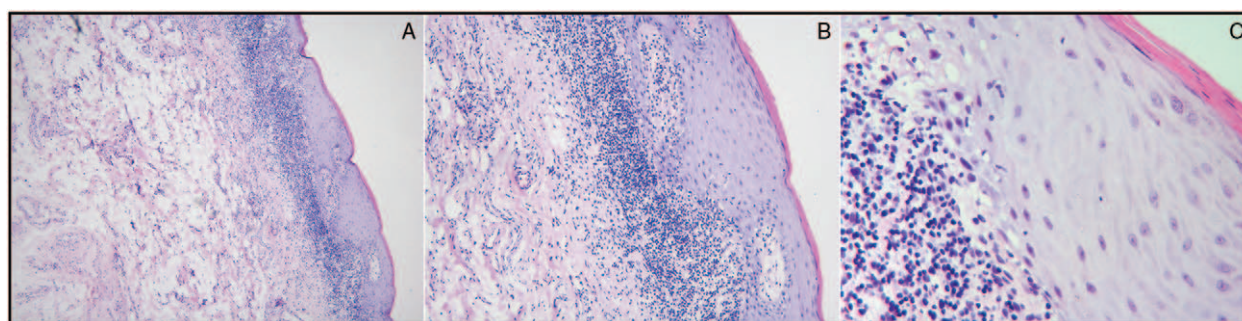
### 4. Therapeutic intervention

Our treatment strategy involved selecting appropriate systemic and topical medications after diagnosis, a strict dietary regimen, and regular follow-ups (for details, see Table 1). Due to the limited nature of the patient's oral lesions and her age, corticosteroids were not recommended. We decided to use 'Qingwen Jiedu Kouyankang' granules and total glucoside of Paeonia (TGP), constituting a class of active compounds extracted from the roots of *Paeonia lactiflora* Pall. In addition, conventional wet dressing was used several times per day to apply hormones and anti-inflammatory agents to the lip lesion. Following the CARE guidelines (<http://www.care-statement.org/>), we constructed a timeline table to provide a framework for a better comprehension of the follow-up of this case report (Table 1).

The treatment process was divided into 3 stages, as shown in Table 2. The general treatment stage mainly involved the use of



**Figure 1.** Clinical images showing the lesion on the left side of the lower lip during the treatment period. (A) An erosive lesion of approximately  $2.0 \times 1.0$  cm in size covered with a scab on the left side of the lower lip is visible. (B) No new lesion was seen at the 5-month follow-up visit. (C) One month after the start of the treatment, no erosion was observed, and only small white short striae were observed on the lower lip. (D) By the end of phase 1, a slight yellow crust was observed. (E) Three months after the start of the treatment, a yellow crust and slight chapping were still observed. (F) By the end of phase 2, there was no erosion or lesion on the lower lip.



**Figure 2.** (A) Photomicrograph showing parakeratosis and a prominent bandlike infiltrate of lymphocytes subjacent to the epithelium (100×). (B) Higher magnification photomicrograph showing parakeratosis of the superficial epithelium and stratum granulosum with an intense lymphocytic infiltrate in the superficial lamina propria (200×). (C) High-power photomicrograph showing degeneration of the basal cell layer (400×).

**Table 1**

**Timeline of the follow-up course.**

Dates	Relevant past medical history and interventions		
27/06/2016	The patient was treated in another hospital for 10 years; previous treatment was not useful. No history of systemic disease, tobacco chewing, smoking, or alcohol intake; no related family history or history of drug allergies.		
Dates	Summaries from initial and follow-up visits	Diagnostic testing (including dates)	Interventions
27/06/2016	Initial visit: erosive lesion of approximately 2.0 × 1.0 cm in size, covered with a scab on the left side of the lower lip (Figure 1A)	Hematological examination: positive for ANA	① Self-care: wet dressing on the lip with sodium chloride (injection grade, 0.9%) 3 times daily for 15 min. ② Make an appointment for a biopsy. ③ Dietary regimen
04/07/2016	Same as above	Incisional biopsy	① Apply wet dressing on the lip with sodium chloride (injection grade, 0.9%) to soften the blood scab and perform a biopsy under local anesthesia. ② Dietary regimen
11/07/2016	Same as above	Incisional biopsy: basal cell layer and an intense lymphocytic infiltrate in the superficial lamina propria (Figure 2)	① Systemic administration (TCM) Qingwen Jiedu Kouyankang granules*: 8 g twice daily TGP†: 0.6 g, 3 times/day ② Self-care: topical wet dressing [Dexamethasone acetate injection (5 g), sodium chloride (injection grade, 0.9%), gentamycin sulfate (injection grade, 2 mL)]: 10 mL twice daily for 15 min Kangfuxin Ye‡: 10 mL twice daily for 15 min ③ Dietary regimen
26/07/2016	The lip erosion was healed completely; only small white short striae were observed (Figure 1C)	—	Same as above
09/09/2016	A slight yellow crust was observed on the lip (Figure 1D)	—	① Systemic administration (TCM) Qingwen Jiedu Kouyankang granules*: 4 g twice daily TGP†: 0.3g, 3 times/day ② Self-care: topical wet dressing Kangfuxin Ye‡: 10 mL twice daily for 15 min Sodium chloride (injection grade, 0.9%): 10 mL twice daily for 15 min ③ Dietary regimen
17/10/2016	A yellow crust and slight chapping were still observed (Figure 1E)	—	Same as above
04/11/2016	No erosion or lesion on the lower lip, only small white short striae (Figure 1F)	Hematological examination: no obvious abnormality	① Drug administration ceased; the patient was asked to follow-up regularly with periodic consultation ② Dietary regimen
05/01/2017	No new lesion	—	Recommendation for a healthy lifestyle
07/04/2017	No new lesion (Figure 1B)	—	Recommendation for a healthy lifestyle

\* Qingwen Jiedu Kouyankang granules: Chinese thorowax root, Baical skullcap root, stir-baked fructus perillae, Tangshen, cassia twig, oyster shell, gypsum, Rhei radix et rhizome, plantain seed, danshen root, lily bulb, combined spicebush root, snakegourd fruit, turmeric root tuber, Chinese magnoliavine fruit, dried tangerine peel, debark peony root, fry cowherb seed, common selfheal fruit-spike, barbed skullcup herb, Hedyotis, honeysuckle bud and flower, pricklyash peel, liquorice root, Chinese date, Szechwan chinaberry fruit, fennel, flying squirrel's droppings, Atrina glass).

† TGP (Liwah Pharmaceutical; Ningbo City, Zhejiang Province).

‡ Kangfuxin Ye (Goooddoctor Pharmaceutical Group; Chengdu City, Sichuan Province).

TCM=traditional Chinese medicine, TGP=total glucosides of Paeonia.

**Table 2****Outline of the treatment process.**

Time	Treatment stage	Interventions
Phase 1 (2 months)	General treatment stage	① Systemic administration (TCM) ② Topical wet dressing (anti-inflammatory and hormone preparation) ③ Dietary regimen
Phase 2 (2 months)	Reduction and consolidation stage	① Reduction of systemic drugs ② Topical wet dressing (anti-inflammatory drugs) ③ Dietary regimen
Phase 3 (5 months)	Follow-up	① Regular follow-up ② Periodic consultation ③ Dietary regimen

TCM=traditional Chinese medicine.

systemic and topical drugs. In addition, a wet dressing was systematically applied several times per day onto the lip lesion. In phase 2, the dosage of systemic drugs was reduced, whereas that of drugs in the topical wet dressing was maintained, and the hormone drugs were discontinued. In phase 3, drug administration was ceased, and the patient was asked to follow-up regularly with periodic consultation. A strict dietary regimen was important. During the whole treatment period, the dietary contraindications is all the spicy food. The entire treatment period and follow-up lasted for 4 and 5 months, respectively.

#### 4.1. Follow-up and outcomes

After 1 month of treatment, the lip erosion healed completely, and only small white short striae were observed (Fig. 1C). There was an obvious improvement in the patient's condition, and no new lip lesions were observed by the end of phases 2 and 3 (Fig. 1C–F). The patient attended follow-up visits every 2 or 3 months. No new lesions or relapse was observed at the 5-month follow-up visit (Fig. 1B).

## 5. Discussion

We report on a case of a patient with OLP, whose lip erosion had not been clearly diagnosed or effectively treated for 10 years. When the patient visited our department, we confirmed OLP diagnosis by routine histological examination. We treated the patient for 4 months with TCM comprising 'Qingwen Jiedu Kouyankang granules' and TGP, as well as a combination of topical hormones and anti-inflammatory agents, applied using a wet dressing. The lip erosion improved remarkably after one month, and there was no recurrence or aggravation of the condition.

The OLP is a relatively common chronic dermatologic and mucosal disease with an unknown etiology. Isolated lip vermilion involvement is very rare. Therefore, discoid lupus erythematosus (DLE) should be ruled out, especially in the case of erosive OLP. Both OLP and DLE are pathologically characterized by hyperkeratosis, degeneration of the basal cell layer, and subepithelial lymphocytic infiltration. However, the 2 conditions can usually be distinguished by the presence of subepithelial edema and a more diffuse deep inflammatory infiltrate, often in a perivascular orientation.<sup>[7]</sup> Therefore, it is important to distinguish the 2 diseases based on biopsy results.

It is widely known that TCM is not only safe but also beneficial. The 'Qingwen Jiedu Kouyankang granules' used in this study are effective in coordinating the whole body, softening and eliminating swellings and masses, cleaning the blood,

regulating qi and relieving qi stagnation, activating collaterals, and relieving pain. These granules, which are produced using 29 Chinese herbs as raw materials (Table 1), are obtained through extraction, concentration, and pelleting using modern pharmaceutical technology, in accordance with strict weight standards. The flavor, efficacy, and meridian tropism of these granules are consistent with those of original Chinese herbs, with the advantage of requiring no decoction, direct administration after mixing with water, and being hygienic and safe, as well as easy to carry and conserve. TGP has long been used in TCM to alleviate various disorders.<sup>[8,9]</sup> Recent studies have demonstrated that TGP may mediate inflammatory responses.<sup>[9,10]</sup> The patient's lip erosion improved remarkably after 1 month of TCM application. Therefore, we propose that TCM is an effective and promising treatment for OLP.

We should also emphasize the importance of wet dressing for the treatment of erosive lip OLP. In addition, psychological counseling and adoption of a healthy lifestyle should be recommended to the patient during the treatment period. In our patient, we observed promising effects of the medication after 4 months of treatment, without any side effects associated with conventional therapeutic drugs used to treat OLP.

In conclusion, the therapy we used was effective and safe for the treatment of OLP and could improve the quality of life in patients with lip erosion. More importantly, our therapeutic approach provides new insight into the treatment of lip OLP and warrants further exploration.

#### 5.1. Patient perspective

When appropriate, the patient can share her perspective on the treatments she received.

#### 5.2. Informed consent

Informed consent was obtained from the patient for publication of the findings.

#### Author contributions

**Conceptualization:** Feiyan Yu, Bin Zhao, XiuYun Ren, Fang Zhang.

**Data curation:** Na Xu, Fang Zhang.

**Methodology:** Feiyan Yu, Fang Zhang.

**Project administration:** Bin Zhao.

**Supervision:** Bin Zhao.

**Writing – original draft:** Feiyan Yu.

**Writing – review & editing:** XiuYun Ren, Fang Zhang.

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