



Case Report

Management of viral oral ulcers in children using Chinese herbal medicine: A report of two cases



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ABSTRACT

Objective: Viral oral ulcers are common presentations in pediatric clinics. Although self-limiting, painful ulcerative lesions and inflamed mucosa can decrease oral intake and lead to dehydration. Despite the widespread use of Chinese herbal medicine (CHM) for pediatric upper respiratory disease in Taiwan, there is little evidence for its effectiveness as an antipyretic or in aiding ulcer healing for children with viral oral ulcers. We report two cases of children who presented with viral oral ulcers to illustrate the potential efficacy of CHM treatment in recovery from herpangina (HA) and herpetic gingivostomatitis (HGS).

Clinical features and outcome: A 10-year-old girl with HA presented with an acute febrile illness associated with small vesicular or ulcerative lesions on the posterior oropharyngeal structures. The family refused western medicine due to a prior anaphylactic skin rash when she had taken sulfa drugs. The other patient was a 4-year-old boy with complaints of painful ulcers and hemorrhagic crusts on the lips. He was diagnosed with HGS and had received ibuprofen and supportive treatments such as hydration and local anesthesia spray for days, characterized by fever, anorexia, and nausea to no effect. Because the patients were suffering from the damp-heat syndrome according to Traditional Chinese Medicine (TCM) differentiation, both were treated using the same herbal formulas powder prescription, named Liang Ge San (LGS) and Gan Lu Xiao Du Dan (GLXDD).

After several days of CHM treatment, the oral ulcers were in regression. Follow-up of the frontal view in both patients showed satisfactory disappearance of the sick furred tongue.

Conclusions: The results of these case reports show that the early prescription of CHM is an effective modality of alternative treatment for viral oral ulcers. To our knowledge, this is the first report of CHM treatment hastening the recovery from febrile disease with viral oral ulcers in Taiwan. Future experimental studies to determine the definitive mechanism and clinical trials are warranted.

1. Introduction

Herpangina (HA) and herpetic gingivostomatitis (HGS), commonly prevalent illnesses in young children, are epidemic in Taiwan in the spring. They are similarly characterized by lesions on the oral mucosa, and they are associated with the herpesvirus and coxsackievirus, respectively.^{1,2} HGS is a febrile viral illness with oral ulceration occurring on the lips, gingiva, oral palate or tongue, while pathological hallmarks of HA are fever and oral ulcers on the posterior oropharyngeal structures.³ Although the illnesses are self-limiting and the lesions heal spontaneously in 7–14 days, persistent fever and painful ulcerative lesions can decrease oral intake, cause dehydration, and even lead to severe life-threatening complications.

Patients often seek management from their physician, who will advise supportive therapies including maintaining fluid intake, analge-

sics and antipyretics to alleviate fever and discomfort, and the early application of an antiviral agent for HGS to shorten the duration of the symptoms.⁴ In Taiwan, a new treatment of Chinese herbal medicine (CHM) was developed to treat the upper respiratory disease because the plant-derived medicine has fewer side effects.⁵ However, few studies have demonstrated the therapeutic effects and the time of CHM intervention for painful infectious mouth conditions. It is not currently common practice to recommend the use of CHM to treat HGS and HA in pediatric patients. The aim of this report is to describe two cases of acute viral oral ulcers that were successfully managed, based on the Traditional Chinese Medicine (TCM) syndrome, by using CHM therapy.

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| Case 1 (BW 32kg) | 2015/06/16 | 2015/06/18 | 2015/06/25 |
|-------------------------------------|--|---|---|
| |  |  |  |
| CHM prescription (daily dose) | <ul style="list-style-type: none"> • Liang Ge San (2.4g) • Gan Lu Xiao Du Dan (3.6 g) • Jin Yin Hua (0.9 g) • Ban Zhi Lian (0.9 g) | <ul style="list-style-type: none"> • Gan Lu Xiao Du Dan (3 g) • Zhi Zi (0.9 g) • Cang Zhu (0.9 g) • Zhi Shi (0.9 g) | Nil |
| Case 2 (BW 22kg) | 2015/06/13 | | 2015/06/18 |
| |  |  |  |
| |  | | |
| CHM prescription (daily dose) | <ul style="list-style-type: none"> • Liang Ge San (4.5 g) • Gan Lu Xiao Du Dan (3g) • Jie Geng (0.6 g) • Licorice (0.6 g) | | Nil |

Fig. 1. Follow-up frontal view after CHM treatment. Tongue manifestation in a 10-year-old girl with herpangina (A–C); Characteristic herpetic lip lesions and tongue manifestation in a 4-year-old boy with herpetic gingivostomatitis (D–G).

2. Case report

2.1. Case 1

A 10-year-old, previously healthy girl presented in the traditional outpatient TCM department of Kaohsiung Chang Gung Memorial Hospital with a 1-day history of fever, malaise, and mouth soreness. Her body temperature was 38.5 °C, her heart rate was 105 beats/minute, and her respiration rate was 18 breaths/minute. There were multiple vesicles over the soft palate and buccal mucosa, but no gingivitis or dental caries. A diagnosis of herpangina was made based on clinical criteria. On physical examination, she exhibited mild abdominal pain due to no defecation for 3 days. Her primary caretaker reported that the girl's classmates in an after-school club had recently been admitted to hospital for enterovirus infection. Initial tongue inspection showed light red spots on the tip region and a coating of yellowish, thick, and slimy fur on the middle-root region (Fig. 1A). The family refused to take synthetic drugs due to a prior anaphylactic skin rash when she had taken sulfa drugs; therefore, we prescribed modified Liang Ge San (LGS) and Gan Lu Xiao Du Dan (GLXDD) plus Jin Yin Hua (*Flos Lonicerae*) and Ban Zhi Lian (*Herba Scutellariae Barbatae*) daily in three separate doses according to the TCM diagnosis. A rapid antipyretic response to the CHM treatment presented within hours. Oral ulcers and constipation were improved after 3 days of treatment. The second tongue body progressed to red with yellowish thin fur (Fig. 1B). We preserved GLXDD, reduced its dose, and added three single herbs, Zhi Zi (*Fructus Gardeniae*), Cang Zhu (*Rhizoma Atractylodis*), and Zhi Shi (*Fructus Aurantii Immaturus*), to clear the remaining damp-heat. One week later, her clinical manifestation and tongue image demonstrated improvement (Fig. 1C), so the CHM treatment was stopped.

2.2. Case 2

A 4-year-old boy presented at the TCM clinic at our institution with complaints of painful ulcers and hemorrhagic crusts on the lips. His mother reported an instance of pharyngitis and fever 1 week previously. The patient had started treatment with ibuprofen in his clinic, after which he developed painful ulcers and a hemorrhagic crust on the lower lip. He also took supportive treatments such as hydration and Comfflam® Spray (Benzylamine hydrochloride 0.15% W/V) under the suspicion of herpetic gingivostomatitis in our pediatric clinic, but to no result; fever, anorexia, and nausea continued. Therefore, he presented in our TCM clinic on June 13, 2015. Mild lymphadenopathy was presented, and his body temperature (BT) was 39.5 °C. An oral examination identified multiple oral ulcers, fetor oris, and reddened, swollen gums. These lesions limited his oral hygiene and intake of food, but signs of dehydration had not yet become apparent. The tongue manifestation revealed a red-colored tongue body with red spots (strawberry tongue) and yellowish, muddy, and slimy fur (Fig. 1D and E). The prescription of CHM formula powders included modified LGS and GLXDD, with two single herbs, Jie Geng (*Radix Platycodi*) and licorice (*Radix Glycyrrhizae preparata*). After 2 days of CHM treatment combined with analgesics (ibuprofen suspension 7 ml po prn if BT > 38 °C and diclofenac 12.5 mg/supp 1 pc if BT > 39 °C), the fever subsided and appetite was restored. The appearance of the tongue, diffuse ulcerations in the oral mucosa, and hemorrhagic crusts on the vermilion zone of the lips recovered after 6 days of treatment (Fig. 1F and G). No further CHM was needed due to his good clinical condition on follow-up visits.

2.3. Treatment and intervention

Both patients had retention of damp-heat, accompanied by pestilent toxin in qi-fen, according to the TCM diagnosis. The conflict of vital qi

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