

# Treatment of One Case of Pediatric Hand-Foot-Mouth Disease with Spleen Dampness-Heat Syndrome Using Acupoint Application Therapy to Disperse Dampness, Expel Heat, and Unblock the Fu Organs

Wangsen Zhao<sup>1\*</sup>, Ziqing Wu<sup>2</sup>

<sup>1</sup>Heze Medical College, Heze 274009, Shandong, China

<sup>2</sup>Shandong Provincial Hospital Heze Hospital, Heze 274009, Shandong, China

*\*Author to whom correspondence should be addressed.*

**Copyright:** © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** The high incidence of hand, foot, and mouth disease (HFMD) in children, coupled with improper management, can lead to complications, causing significant distress to both patients and their parents. This article reports on the successful treatment of a case of HFMD with dampness-heat accumulation in the spleen type using a therapeutic approach of applying herbal patches to acupoints to disperse dampness, promote heat dissipation, and unblock the fu organs. The herbs selected primarily include honeysuckle, *Forsythia*, and mint to relieve the exterior and promote heat dissipation; *Agastache* and magnolia bark to transform and dry dampness; *Scutellaria*, blackberry lily, and licorice to clear heat, detoxify, and benefit the throat; and magnolia bark and bitter orange to unblock the fu organs and purge heat. The flexible combination of these herbs with acupoints such as Shenque, Zhongwan, Tiantu, and Feishu fully leverages the synergistic effects of both the herbs and acupoints, resulting in a significant therapeutic effect. This approach provides valuable insights and methodologies for the prevention and treatment of HFMD in children.

**Keywords:** Pediatric hand-foot-mouth disease, Spleen dampness-heat syndrome, Acupoint application therapy, Disperse dampness and expel heat to unblock the fu organs

**Online publication:** April 28, 2025

## 1. Introduction

Hand, Foot, and Mouth Disease (HFMD) is an acute infectious disease caused by enteroviruses (such as Coxsackievirus A16 and EV71) that primarily affects children under the age of 5. It is characterized by fever, oral

ulcers, and skin rashes on the hands, feet, and buttocks<sup>[1]</sup>. Western medicine mainly focuses on symptomatic and supportive treatment, and there is no specific antiviral drug available. In Chinese medicine, this disease falls under the category of “warm diseases” and the core pathogenesis is the accumulation of damp-heat and epidemic toxins in the spleen and stomach. Clinically, the damp-heat accumulating in the spleen syndrome is commonly seen, and treatment should focus on eliminating dampness, promoting heat dissipation, and detoxifying the bowels.

In recent years, external therapies in Chinese medicine have become a research hotspot in pediatrics due to their simple operation and high compliance. Acupoint application therapy, which combines transdermal drug absorption with meridian conduction, can directly target the diseased area and avoid the limitations of oral medications<sup>[2]</sup>. This article reports a case of damp-heat accumulating in the spleen syndrome of HFMD in a child treated with acupoint application therapy to dissipate dampness, promote heat dissipation, and detoxify the bowels. The mechanism of action is analyzed to provide a reference for clinical practice.

## 2. Case report

Patient Lee, male, 3 years old, presented in June 2022 with “fever and oral, hand, and foot herpes for 2 days.” His temperature fluctuated between 37.8°C and 38.8°C, with scattered herpes in the oral cavity and red papules on the hands, feet, and buttocks. He also experienced loss of appetite, drooling, and mild nausea. Physical cooling measures taken by the parents were ineffective. Current symptoms include fever, oral herpes with significant red halo, red and rashy hands and feet, poor appetite and drooling, yellow and turbid urine, sticky and foul-smelling stool, red tongue with yellow and greasy coating, and slippery and rapid pulse. The diagnosis in Chinese medicine was HFMD (damp-heat accumulating in the spleen syndrome), while the diagnosis in Western medicine was HFMD (common type).

The treatment plan includes: Single-herb powders were combined and mixed with *Artemisia desertorum* spreading liquid to form a paste for application at corresponding acupoints. Specifically, 0.5g/acupoint of *Forsythia*, 0.5g/acupoint of *Agastache*, 0.3g/acupoint of magnolia bark, 0.3g/acupoint of bitter orange, and 0.3g/acupoint of *Scutellaria* were applied to the Zhongwan and Shenque acupoints. Additionally, 0.5g/acupoint of *Forsythia*, 0.5g/acupoint of honeysuckle, 0.3g/acupoint of mint, 0.3g/acupoint of blackberry lily, and 0.3g/acupoint of licorice were applied to the Tiantu and Feishu acupoints. The applications were performed once a day, with each application lasting for 6–8 hours.

On the first day of treatment, the patient’s temperature maintained between 37.5°C and 38.2°C, and the nausea symptoms were reduced. However, he still had a poor appetite, and there was no significant change in oral pain, herpes, or skin rashes. On the third day of treatment, the temperature returned to normal, oral pain was relieved, herpes and ulcers began to gradually heal, drooling decreased, appetite improved, and the color of the skin rashes on the hands, feet, and buttocks became lighter. By the fifth day of treatment, oral herpes and ulcers were basically healed, skin rashes on the hands, feet, and buttocks had subsided with only minor pigmentation remaining. The patient’s mental state was good, appetite had returned to normal, and bowel and bladder functions had also normalized. Treatment was continued for another 2 days for consolidation, and no recurrence was observed during a 1-week follow-up.

## 3. Discussion and analysis

In the prescription of acupoint application therapy for this disease, *Agastache* has a fragrant aroma that can

eliminate dampness, awaken the spleen, dispel filth, and harmonize the middle, thus relieving the syndrome of dampness stagnating the spleen. Magnolia bark, with its bitter and warm properties, can dry dampness, disperse and eliminate accumulation, and promote Qi circulation to eliminate fullness. The combination of *Agastache* and magnolia bark can aromatically transform dampness and warmly penetrate the exterior. Honeysuckle, with its cold and sweet properties, has the effect of clearing heat and detoxifying, dispersing wind-heat, and is effective in treating heat-toxin induced bloody dysentery and wind-heat induced common cold. *Forsythia*, with its cool and bitter taste, can clear heat, detoxify, reduce swelling, and disperse nodules, earning it the reputation of being a “sacred medicine for sores.” When combined, these two herbs can effectively clear and penetrate heat toxin, providing an outlet for heat pathogen and reducing symptoms such as fever and skin rashes. Magnolia bark transforms dampness and promotes qi circulation, while bitter orange regulates Qi, widens the middle, promotes Qi circulation, and eliminates distension. The combination of these two herbs promotes the excretion of waste, allowing damp-heat pathogen in the body to be expelled through defecation, thereby reducing symptoms of damp-heat accumulation. Blackberry lily, with its bitter and cold properties, can clear heat, detoxify, resolve phlegm, and soothe the throat, while licorice, with its sweet taste and neutral properties, can clear heat, detoxify, eliminate phlegm, and relieve coughing. When combined, these two herbs can detoxify and soothe the throat, effectively relieving oral pain and promoting the healing of oral herpes and ulcers. *Scutellaria*, with its bitter and cold properties, is skilled in clearing damp-heat from the upper jiao, purging fire, and detoxifying. It targets the pathogenesis of damp-heat accumulation in damp-heat accumulating in the spleen syndrome of HFMD. When combined with herbs that transform dampness, promote heat dissipation, such as *Agastache*, magnolia bark, honeysuckle, and *Forsythia*, it facilitates the clearance and penetration of accumulated damp-heat<sup>[3]</sup>.

In the selection of acupoints for application, the Zhongwan acupoint is the front-Mu point of the stomach and the converging point of the Fu organs. It can dredge the Qi mechanism of the middle Jiao, harmonize the stomach, and transform dampness. The Shenque acupoint is located on the abdomen. These two acupoints, when combined with herbs that transform dampness, clear heat, and facilitate bowel function, can promote gastrointestinal function, eliminate dampness and heat, and effectively relieve gastrointestinal symptoms. The Feishu acupoint is the back-Shu point of the lung, which has the effect of facilitating lung Qi, relieving exterior syndromes, and reducing fever. When combined with herbs that penetrate the exterior and expel pathogens such as *Forsythia* and mint, it can regulate lung function, disperse lung Qi, and promote the external penetration of heat toxin and the dissipation of herpes. The Tiantu acupoint is selected locally, where the skin is thin and delicate, and the subcutaneous venous circulation is rich. When combined with herbs that clear heat, soothe the throat, and penetrate the exterior, it can effectively promote the resolution of oral and throat herpes.

## 4. Conclusion

Hand, foot, and mouth disease (HFMD) in children is a common and frequently occurring pediatric disease. Currently, modern medicine does not have specific antiviral drugs and mainly focuses on symptomatic treatment. Traditional Chinese medicine (TCM) has advantages such as syndrome differentiation and flexible medication in treating this disease, but most children have low compliance during oral medication. Acupoint application therapy has unique advantages in the treatment of HFMD in children due to its flexibility, convenience, painlessness, non-invasiveness, minimal impact on daily life, and ability to avoid oral medication<sup>[4]</sup>.

Although acupoint application therapy has opened up a new path for the treatment of HFMD in children,

showing significant advantages and broad prospects, there are still some areas that urgently need to be expanded and improved. Firstly, multi-center, large-sample clinical studies should be continued through collaboration between different regions and medical institutions to continuously optimize the compatibility of medications and the selection of acupoints, as well as the corresponding relationship between medications and acupoints. Secondly, the modern mechanism of acupoint application therapy needs to be further clarified, and the synergistic mechanism between medications and acupoints also needs further exploration. Modern scientific techniques, such as molecular biology, immunology, and other cutting-edge methods, can be used to deeply explore the pathway of medication penetration through acupoints, revealing the interaction between medications and acupoints, thus providing a more solid modern theoretical support for this therapy <sup>[5]</sup>. Furthermore, exploring combined treatment strategies is also a major trend. By organically combining acupoint application therapy with traditional Chinese medicine internal medication, pediatric massage, scraping, and other TCM therapies, the comprehensive treatment advantages of TCM can be leveraged to holistically regulate the child's bodily state. Flexibly selecting relevant therapies for combined treatment based on the child's condition, with each therapy complementing each other, will further enhance the treatment effect of HFMD in children, shorten the course of the disease, and reduce the incidence of complications.

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] National Health Commission of the People's Republic of China, 2022, Guidelines for the Diagnosis and Treatment of Hand, Foot, and Mouth Disease (2022 Edition). *Chinese Journal of Pediatrics*, 60(4): 289–294.
- [2] Zhang XX, Li XX, 2021, Research Progress on Acupoint Application Therapy for Respiratory Diseases in Children. *Journal of Emergency in Traditional Chinese Medicine*, 30(5): 876–879.
- [3] Huang D, 2019, Research Progress on the Treatment of Hand, Foot, and Mouth Disease in Children with Traditional Chinese Medicine. *World Latest Medicine Information*, 19(92): 116–117.
- [4] Liu M, Yang Y, 2019, Research Progress on the Epidemic, Prevention, and Treatment of Hand, Foot, and Mouth Disease. *Journal of Community Medicine*, 17(10): 619–622.
- [5] Zhang W, Han W, Wang M, 2003, Exploration of the Research on the Treatment of Hand, Foot, and Mouth Disease with Traditional Chinese Medicine. *Journal of Traditional Chinese Medicine*, (11): 1868–1869.

### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.