



Research Progress in the Treatment of Oral Ulcers with Traditional Chinese Medicine and Pharmacy

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Abstract

Oral ulcer is a common oral mucosal disease with a high incidence rate, which seriously affects the quality of life of patients. Traditional Chinese medicine and pharmacy have unique advantages in the treatment of oral ulcers. This article reviews the relevant research on the treatment of oral ulcers with traditional Chinese medicine and pharmacy in recent years, expounds the understanding of the etiology and pathogenesis of oral ulcers treated by traditional Chinese medicine, and the treatment methods (including oral administration of traditional Chinese medicine, external application, acupuncture and massage, etc.). It also analyzes the clinical efficacy and mechanism of action, aiming to provide a more comprehensive theoretical basis and clinical reference for the treatment of oral ulcers with traditional Chinese medicine and pharmacy.

Keywords

Oral ulcer
Traditional Chinese medicine (TCM)
Bingpeng San
The treatise on the spleen and stomach
Acupuncture and massage

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1. Introduction

Oral ulcer, also known as “oral aphtha”, refers to the painful ulcer points in the shape of a circle or an ellipse that appear on the mucous membranes of the lips, cheeks, upper palate and other parts of the oral cavity. It has the characteristic of periodic recurrence. Although most oral ulcers are self-limiting, the pain is obvious during an attack, bringing a lot of inconvenience to the patient’s daily life, such as eating and speaking ^[1]. Modern medicine believes that the occurrence of oral ulcers is related to many factors such as immune factors, genetic factors, systemic disease factors, infectious factors, and

environmental factors ^[2]. At present, the treatment of oral ulcers in Western medicine mostly uses local medications (such as glucocorticoids, antibiotics, etc.) and systemic medications (such as immunomodulators, etc.). Although it has a certain curative effect, there are problems such as large side effects and easy recurrence. The treatment of oral ulcers with traditional Chinese medicine has a long history, and a wealth of experience has been accumulated, showing unique advantages in relieving pain, promoting healing, and reducing recurrence.

2. Etiology and pathogenesis

Traditional Chinese medicine has a relatively in-depth understanding of the etiology and pathogenesis of oral ulcers, believing that it is mainly related to the following factors.

2.1. External pathogenic factors

External pathogenic factors such as wind, fire, and dryness invade the oral mucosa, leading to stagnation of Qi and blood and blockage of the meridians, resulting in oral aphtha. For example, “Treatise on the Causes and Symptoms of Various Diseases • Oral Aphtha Syndrome” records: “If there is heat in the spleen and stomach, and the Qi rises to the mouth, ulcers will occur.” External pathogenic factors can enter through the mouth and nose, accumulate internally and transform into heat, and burn the oral mucosa^[3].

2.2. Improper diet

Excessive consumption of spicy, greasy and sweet foods, or excessive alcohol consumption can damage the spleen and stomach, leading to the accumulation of heat in the spleen and stomach. The heat follows the meridians and rises upwards, steaming the mouth and tongue and causing the disease. Li proposed in “The Treatise on the Spleen and Stomach”: “If the spleen and stomach are weak, the Yang Qi cannot grow, so the orders of spring and summer cannot be carried out, and the Qi of the five zang-organs cannot be generated.” When the transportation and transformation function of the spleen and stomach is abnormal, internal heat accumulates, and oral ulcers are likely to occur^[4].

2.3. Emotional disorders

Long-term emotional factors such as mental stress, anxiety, and depression can lead to stagnation of liver qi. When Qi stagnation turns into fire, it attacks the mouth and causes oral aphtha. “Huangdi Neijing” states: “Anger makes Qi rise, joy makes Qi slow, sadness makes Qi dissipate, fear makes Qi descend... Fright makes Qi disorder, and thought makes Qi stagnate.” When emotions are not smooth, the Qi mechanism is disordered, internal fire is generated, and the oral mucosa is burned^[5].

2.4. Deficiency of zang-fu organs

Factors such as old age and physical weakness, prolonged illness without recovery, or excessive fatigue can lead to deficiency of zang-fu organs such as the heart, spleen, and kidney. The heart opens into the tongue, the spleen opens into the mouth, and the kidney meridian connects to the root of the tongue. If the functions of the zang-fu organs are disordered and the deficient fire rises upwards, oral ulcers will recur repeatedly. For example, if the kidney Yin is deficient and the deficient fire rises upwards, burning the mouth and tongue, it is often manifested as repeated occurrences of oral ulcers, accompanied by symptoms such as soreness and weakness of the waist and knees and restlessness and heat in the five centers^[6].

3. Treatment methods of traditional Chinese medicine and pharmacy

3.1. Oral administration of traditional Chinese medicine

According to the etiology and pathogenesis of oral ulcers, traditional Chinese medicine often uses the method of syndrome differentiation and treatment for oral administration of traditional Chinese medicine.

3.1.1. Excess fire syndrome

For oral ulcers of the type of heat accumulation in the spleen and stomach, Qingwei San (from “The Treatise on the Spleen and Stomach”) is often used with modifications to clear heat from the stomach, purge fire, cool the blood and detoxify. The drug composition includes *Coptis chinensis* Franch, *Scutellaria baicalensis* Georgi, *Radix Rehmanniae Recens*, *Cortex Moutan Radicis*, *Rhizoma Cimicifugae*, etc. *Coptis chinensis* Franch and *Scutellaria baicalensis* Georgi clear heat and purge fire; *Radix Rehmanniae Recens* and *Cortex Moutan Radicis* cool the blood and nourish yin; *Rhizoma Cimicifugae* clears heat and detoxifies, and guides the medicine upwards to reach the affected area directly. Clinical studies have shown that Qingwei San with modifications in the treatment of oral ulcers of the type of heat accumulation in the spleen and stomach can effectively relieve pain and promote ulcer healing, with a total effective rate of over 90%^[7].

For oral ulcers of the type of upward flaming of heart fire, Daochi San (from “Straight Talk on the Symptoms and

Treatment of Children's Diseases") combined with Xiexin Tang (from "Synopsis of the Golden Chamber") is often used with modifications to clear the heart, purge fire, cool the blood and detoxify. In Daochi San, *Caulis Akebiae*, *Radix Rehmanniae Recens*, *Herba Lophatheri*, and *Radix Glycyrrhizae Uralensis* (Shao) clear heat and promote diuresis, guiding the heat of the heart meridian to be excreted through the urine; in Xiexin Tang, *Radix et Rhizoma Rhei*, *Coptis chinensis Franch*, and *Scutellaria baicalensis Georgi* clear heat, purge fire and detoxify. Research shows that using this formula to treat oral ulcers of the type of upward flaming of heart fire can significantly shorten the ulcer healing time and reduce the degree of pain^[8].

3.1.2. Deficient fire syndrome

For oral ulcers of the type of hyperactivity of fire due to Yin deficiency, Zhibai Dihuang Wan (from "Compendium of Medical Prescriptions") is often used with modifications to nourish Yin, reduce fire, and guide the fire back to its origin. In the formula, *Anemarrhena asphodeloides Bunge* and *Phellodendron amurense Rupr* clear heat and purge fire; *Radix Rehmanniae Preparata*, *Fructus Corni*, *Rhizoma Dioscoreae*, *Rhizoma Alismatis*, *Poria cocos (Schw.) Wolf*, and *Cortex Moutan Radicis* nourish the kidney Yin. Clinical observation has found that Zhibai Dihuang Wan with modifications in the treatment of oral ulcers of the type of hyperactivity of fire due to Yin deficiency can effectively improve the symptoms of patients and reduce the recurrence times^[9].

For oral ulcers of the type of spleen deficiency and dampness retention, Shenling Baizhu San (from "Formulas of the Taiping Huimin Bureau") is often used with modifications to invigorate the spleen, resolve dampness, clear heat and astringe sores. The drug composition includes *Radix Codonopsis Pilosulae*, *Rhizoma Atractylodis Macrocephalae*, *Poria cocos (Schw.) Wolf*, *Rhizoma Dioscoreae*, *Semen Coicis*, *Fructus Amomi*, etc. This formula can invigorate the spleen and replenish qi, transport and transform water dampness, so that the damp turbidity is transformed and the oral ulcers are healed^[10].

3.2. External application of traditional Chinese medicine

The external application of traditional Chinese medicine

is one of the important methods for the treatment of oral ulcers with traditional Chinese medicine and pharmacy, which has the advantages of directly reaching the affected area and taking effect quickly.

3.2.1. Powders

Bingpeng San (from "Orthodox Manual of Surgery") is a commonly used external powder for the treatment of oral ulcers, composed of *Borneolum Syntheticum*, *Borax*, *Cinnabaris*, *Natrii Sulfas Exsiccatus*, etc. It has the effects of clearing heat and detoxifying, reducing swelling and relieving pain. *Borneolum Syntheticum* has a fragrant smell and can clear heat and relieve pain; *Borax* clears heat and detoxifies, and promotes tissue regeneration and anti-corrosion; *Cinnabaris* calms the mind and clears heat and detoxifies; *Natrii Sulfas Exsiccatus* softens and resolves masses, and clears heat and purges fire. Clinically, the application of Bingpeng San in the treatment of oral ulcers can quickly relieve pain and promote ulcer healing^[11].

Xilei San (from "The Golden Chamber Wings") is also a commonly used external powder, and its main ingredients include Elephant Tusk Shavings, *Indigo Naturalis*, Wall Coin Charcoal, Human Nail, Margarita, *Borneolum Syntheticum*, etc. It has the effect of detoxifying and resolving putrefaction, and has a remarkable therapeutic effect on oral ulcers, especially suitable for patients with severe heat-toxin^[12].

3.2.2. Gargles

Traditional Chinese medicine gargles can clean the oral cavity, reduce inflammation and relieve pain by directly acting on the oral mucosa. For example, compound *Scutellaria baicalensis Georgi* Gargle, composed of *Scutellaria baicalensis Georgi*, *Phellodendron amurense Rupr*, *Lonicera japonica Thunb*, *Glycyrrhiza uralensis Fisch*, etc., has the effects of clearing heat and purging fire, detoxifying and reducing swelling. Research shows that compound *Scutellaria baicalensis Georgi* Gargle can effectively reduce the pain of patients with oral ulcers, promote ulcer healing, and has high safety^[13].

3.3. Acupuncture and massage

Acupuncture and massage therapy are also widely used in the treatment of oral ulcers with traditional Chinese

medicine and pharmacy.

3.3.1. Acupuncture

By needling specific acupoints, the running of Qi and blood in the meridians of the human body can be regulated to achieve the purpose of treating oral ulcers. Commonly used acupoints include Hegu (LI4), Dicang (ST4), Jiache (ST6), Neiting (ST44), Sanyinjiao (SP6), etc. Hegu is the yuan-source point of the Large Intestine Meridian of Hand-Yangming, which has the functions of dispelling wind, releasing the exterior, dredging the collaterals and relieving pain; Dicang and Jiache are local acupoints, which can dredge the Qi and blood of the local meridians; Neiting is the ying-spring point of the Stomach Meridian of Foot-Yangming, which can clear and purge stomach fire; Sanyinjiao is the intersection point of the three Yin meridians of the foot, which can nourish Yin and reduce fire. Clinical research shows that acupuncture treatment of oral ulcers can effectively improve the symptoms of patients, enhance the body's immunity, and reduce recurrence^[14].

3.3.2. Massage

Massage techniques can regulate the functions of the zang-fu organs by stimulating the acupoints on the body surface to treat oral ulcers. For example, massaging the Spleen and Stomach Meridians can regulate the functions of the spleen and stomach and improve the state of heat accumulation in the spleen and stomach or spleen deficiency and dampness retention. The specific operation method is: use the pulp of the thumb to knead acupoints such as Zusanli (ST36), Sanyinjiao (SP6), Pishu (BL20), Weishu (BL21), etc., kneading each acupoint for 3 - 5 minutes, 1 - 2 times a day. Research has found that massage combined with traditional Chinese medicine in the treatment of oral ulcers can improve the clinical curative effect and shorten the treatment cycle^[15].

4. Clinical efficacy and mechanism of action

A large number of clinical studies have shown that the treatment of oral ulcers with traditional Chinese medicine and pharmacy has good clinical efficacy. Compared with Western medicine treatment, the treatment of traditional

Chinese medicine can not only effectively relieve pain and promote ulcer healing, but also regulate the physiological functions of the human body as a whole and reduce the recurrence of oral ulcers. The mechanism of action of traditional Chinese medicine in the treatment of oral ulcers mainly includes the following aspects.

4.1. Anti-inflammatory effect

Many components in traditional Chinese medicine have anti-inflammatory effects, which can reduce the local inflammatory reaction of oral ulcers. For example, berberine in *Coptis chinensis* Franch. and baicalin in *Scutellaria baicalensis* Georgi can inhibit the infiltration of inflammatory cells and the release of inflammatory mediators, thereby reducing pain and swelling^[16].

4.2. Immunomodulatory effect

The occurrence of oral ulcers is closely related to the disorder of the body's immune function. Traditional Chinese medicine can regulate the immune function of the body, enhance the body's resistance, and prevent and treat oral ulcers. For example, some kidney-tonifying traditional Chinese medicines can regulate the proportion of T lymphocyte subsets and improve the body's cellular immune function; spleen-invigorating traditional Chinese medicines can regulate the humoral immune function and enhance the body's immune response ability^[17].

4.3. Promotion of tissue repair

Some components in traditional Chinese medicine can promote the tissue repair of the oral ulcer wound. For example, pearl powder contains a variety of amino acids and trace elements, which can promote cell proliferation and collagen synthesis and accelerate ulcer healing^[18].

5. Conclusion

The treatment of oral ulcers with traditional Chinese medicine and pharmacy has a rich theoretical basis and clinical experience, and has unique advantages in the understanding of etiology and pathogenesis, treatment methods and mechanism of action. Through the comprehensive application of a variety of treatment methods such as oral administration of traditional Chinese medicine, external application, acupuncture and massage,

it can effectively relieve the symptoms of patients with oral ulcers, promote ulcer healing, reduce recurrence, and has fewer adverse reactions. However, there are still some deficiencies in the current research on the treatment of oral ulcers with traditional Chinese medicine, such as small sample sizes in clinical studies, a lack of unified curative effect evaluation criteria, and insufficient in-depth research on the mechanism of action. In the future,

it is necessary to further strengthen the clinical research and basic research on the treatment of oral ulcers with traditional Chinese medicine, standardize the clinical research design, deeply explore its mechanism of action, provide a more scientific and effective theoretical basis and treatment plan for the treatment of oral ulcers with traditional Chinese medicine, and better serve clinical patients.

Disclosure statement

The author declares no conflict of interest.

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