

Traditional Chinese Medicine Compress Combined with Acupressure for Thromboangiitis Obliterans of the Lower Extremity: A Nursing Experience

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Abstract

This article reviews the nursing experience of a case of lower extremity thromboangiitis obliterans treated with a combination of traditional Chinese medicine compresses and acupoint massage. Guided by the syndrome differentiation theory of traditional Chinese medicine and taking syndrome differentiation-based nursing as the foundation of nursing practice, targeted nursing strategies were implemented in addition to conventional therapeutic measures. These strategies included the application of characteristic TCM nursing techniques and integrated routine nursing care such as lifestyle regulation, dietary guidance, and health education. Through such comprehensive intervention, simultaneous treatment of both etiology and symptoms was achieved, resulting in effective control of the patient's lower extremity thromboangiitis obliterans. Moreover, this therapeutic approach is simple, practical, and highly cost-effective, significantly enhancing patient satisfaction with treatment.

Full Text

Nursing Experience of Traditional Chinese Medicine Herbal Compress Combined with Acupoint Massage in a Case of Lower Limb Thromboangiitis Obliterans

Abstract

This article reviews the nursing experience of treating one case of lower limb thromboangiitis obliterans through the combined application of traditional Chinese medicine (TCM) herbal compress and acupoint massage. Guided by TCM syndrome differentiation theory and based on dialectical nursing practice, targeted nursing strategies were implemented alongside conventional treatment

measures. These strategies included the application of characteristic TCM nursing techniques integrated with lifestyle modifications, dietary recommendations, and health education. Through such comprehensive intervention addressing both etiology and symptoms, the patient's lower limb thromboangiitis obliterans was effectively controlled. Moreover, this treatment protocol proved simple to implement, cost-effective, and substantially improved patient satisfaction.

Keywords: thromboangiitis obliterans; herbal compress therapy; acupoint massage

Thromboangiitis obliterans is a chronic, recurrent vascular occlusive disease primarily affecting small and medium-sized arteries and veins of the extremities. Typical clinical manifestations include limb coldness, numbness, intermittent claudication, skin malnutrition, and in advanced stages, severe distal limb pain and rest pain that may ultimately lead to ulceration or gangrene formation [1]. This study employed TCM holistic concepts and syndrome differentiation theory to guide treatment, combining characteristic TCM techniques of herbal compress therapy and acupoint massage for lower limb thromboangiitis obliterans. This approach not only effectively alleviated patient suffering and relieved limb ischemia but also offered simple operation, rapid effect, and improved patient satisfaction. This article details the significant outcomes of a patient with lower limb thromboangiitis obliterans treated with combined herbal compress and acupoint massage intervention.

Case Presentation

1.1 Patient Information

The patient was a 41-year-old male admitted with the chief complaint of “blackening and necrosis of the right second toe for 2 months, worsening over the past 7 days.” Vital signs at admission were: temperature 36.2°C, pulse 89 beats/min, respiration 20 breaths/min, and blood pressure 131/88 mmHg. Physical examination revealed a cool, cold-intolerant right lower limb with numbness and pain, purplish-dark right foot, and black necrosis of the right second toe. The patient experienced nocturnal rest pain and intermittent claudication with a walking distance of approximately 150 meters. Additionally, the right lower limb showed swelling. The patient denied palpitations, chest tightness, fever, dry cough, fatigue, or other discomforts. Appetite was adequate, sleep was poor, and bowel movements were normal. Tongue presentation was dark red with a thin white coating, and pulse was deep and choppy.

The patient was usually healthy and denied any history of infectious diseases, blood transfusions, trauma, or drug allergies. TCM diagnosis: gangrene with qi deficiency and blood stasis syndrome. Western medicine diagnoses: thromboangiitis obliterans [Buerger's disease]; lower limb arteriosclerosis obliterans; lower limb venous insufficiency.

1.2 Treatment Course

After admission, relevant examinations were completed promptly. Laboratory tests including complete blood count, coagulation panel, liver function, kidney function, and erythrocyte sedimentation rate showed no significant abnormalities. Medical orders included intravenous pentoxifylline for vasodilation, oral atorvastatin calcium for plaque stabilization, oral sarpogrelate for vasodilation, and oral tramadol sustained-release tablets for pain management. Three Yellows ointment oil gauze strips were applied for dressing changes to clear heat, detoxify, reduce swelling, and relieve pain. Herbal compress therapy was prescribed for the right lower limb to promote blood circulation and unblock collaterals, administered twice daily for 30 minutes each session. Bilateral lower limb acupoint massage was performed at Xuehai (SP10), Zusanli (ST36), Sanyinjiao (SP6), Chengshan (BL57), and Yongquan (KI1) acupoints to soothe meridians, activate collaterals, promote blood circulation, remove blood stasis, regulate qi, and relieve pain. This was administered twice daily for 15-20 minutes each session. The patient was instructed to keep warm, avoid prolonged static positions, and refrain from crossing legs to prevent impaired circulation. During rest, a head-elevated foot-low position was recommended to promote blood flow. After four weeks of treatment, the patient's right lower limb coldness, cold intolerance, and numbness improved significantly. Walking distance increased from approximately 150 meters to 500 meters, nocturnal rest pain improved markedly, and sleep quality enhanced considerably. The black necrotic area of the right second toe showed no exudate. The patient's condition improved and he was discharged.

Nursing Assessment

2.1.1 Pain Assessment

Pain severity was evaluated using the Visual Analogue Scale (VAS), scored from 0 to 10 points, with higher scores indicating greater severity. Scoring criteria: 0 points indicated no pain; 1-3 points indicated mild pain; 4-6 points indicated moderate pain; 7-9 points indicated severe pain; and 10 points indicated excruciating pain. This patient scored 7 points, indicating severe pain.

2.1.2 Sleep Assessment

Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), with total scores ranging from 0 to 21 points. Higher scores indicated poorer sleep quality. The patient's PSQI score was 16 points, indicating very poor sleep quality.

2.1.3 Thromboangiitis Obliterans Symptom Assessment

According to the *Guiding Principles for Clinical Research of New Chinese Medicines*, clinical symptoms were evaluated using the TCM symptom scor-

ing scale for gangrene. The right lower limb coldness and numbness scored 6 points, and intermittent claudication scored 6 points.

2.2 Nursing Diagnoses

The nursing diagnoses were: pain related to limb ischemia and tissue necrosis; impaired skin integrity related to distal necrosis and sloughing; activity intolerance related to insufficient blood supply to distal extremities; and sleep pattern disturbance related to pain.

2.3 Nursing Plan

Based on the patient's condition and clinical symptoms, pentoxifylline was administered according to medical orders to improve circulation. According to the patient's syndrome type, oral atorvastatin calcium was prescribed for plaque stabilization, oral sarpogrelate for vasodilation, and folic acid tablets to reduce homocysteine levels. Herbal compress therapy was applied externally to the right lower limb to promote blood circulation and unblock collaterals. Behaviorally, the patient was taught acupoint massage techniques to unblock meridians, relieve pain, and improve bodily functions.

Nursing Interventions

2.4.1 Lifestyle Management

First, the patient was instructed to maintain warmth, avoid damp and cold environments, protect the affected limb, and prevent trauma. Second, proper positioning was emphasized: a head-elevated foot-low position to facilitate blood perfusion to the lower limbs, while avoiding prolonged static positions. Third, absolute smoking cessation was mandated. Fourth, Buerger's exercises were taught to promote collateral circulation establishment [2]. Buerger's exercise protocol: the patient lies supine with both lower limbs elevated 45°-60° for 2-3 minutes, then sits up with feet hanging naturally while performing rotational and flexion-extension movements of the feet, followed by resting the limbs in a flat position for 2-3 minutes. This cycle is repeated multiple times and can be performed several times daily.

2.4.2 Dietary Care

Due to gangrene and excessive energy consumption from bodily pain, the diet focused on low-fat, high-protein, and high-calorie intake with appropriate vitamin supplementation. The patient was advised to consume fresh vegetables, fruits, whole grains, and legumes, particularly foods beneficial for this condition such as seaweed, wood ear mushroom, and jellyfish. Spicy and irritating foods, fishy and hair-inducing substances, and fried products were prohibited as they can injure the spleen and stomach, impairing transformation and transportation functions and accelerating disease progression.

2.4.4 Emotional Regulation

First, when experiencing pain, the patient was guided to practice various health-preserving exercises, relaxation exercises, tapping exercises, and Tai Chi to divert attention. Second, peer support education was implemented, encouraging communication among patients to eliminate concerns and promote active treatment cooperation.

2.4.5 Characteristic Traditional Chinese Medicine Nursing

2.4.5.1 Herbal Compress Therapy Herbal compress therapy utilizes a self-prepared herbal decoction containing processed *Strychnos nux-vomica* 36g, processed leech 18g, *Angelica sinensis* 36g, *Carthamus tinctorius* 18g, *Zanthoxylum bungeanum* 18g, *Asarum sieboldii* 9g, *Coptis chinensis* slices 9g, *Cinnamomum cassia* 36g, vinegar-processed *Corydalis yanhusuo* 18g, *Lonicera japonica* 18g, and *Forsythia suspensa* 18g. The dressing material is soaked in the herbal decoction and applied at a temperature maintained between 37-40°C to prevent scald injury. The dressing is placed evenly on the affected limb and gently wrapped with plastic film for 30 minutes per session, twice daily, with seven consecutive days constituting a complete treatment cycle. This method stimulates the skin pores, cutaneous tissues, interstitial spaces, vessels, and meridians at the affected area to harmonize qi and blood, improve circulation, warm and unblock meridians, dispel cold, and relieve pain [3]. During treatment, regular ward rounds are essential to inquire about skin itching and inspect for rashes, blisters, or other adverse reactions. Treatment must be discontinued immediately with appropriate management if allergic reactions or blisters occur.

2.4.5.2 Acupoint Massage Acupoint massage is a health-preserving technique based on TCM theory that primarily stimulates acupoints to regulate qi and blood circulation and relieve symptoms. Patients are advised to wear loose clothing for operational convenience. The selected acupoints include Xuehai (SP10), Zusanli (ST36), Sanyinjiao (SP6), Chengshan (BL57), and Yongquan (KI1) [4]. Using the thumb or index finger, techniques including point pressure, pressing, kneading, and rubbing are applied [5]. Massage should alternate between clockwise and counterclockwise directions, with pressure gradually increasing from light to heavy until the patient feels warmth, soreness, or numbness at the treatment site. Each acupoint is massaged for 2-3 minutes, with the entire process lasting 30 minutes. Seven consecutive days constitute one treatment course, aiming to unblock meridians, promote blood circulation, regulate qi and blood flow, enhance immunity, and relieve pain [6].

Effect Evaluation

Following treatment with the characteristic TCM techniques of herbal compress combined with acupoint massage, therapeutic effects were calculated using the formula: Score reduction rate = (pretreatment score - post-treatment score) ÷

pretreatment score $\times 100\%$. Clinical outcomes were defined as: cured (symptoms and signs disappeared or essentially disappeared with score reduction rate $\geq 75\%$); significant improvement (symptoms and signs markedly improved with score reduction rate 50%-74%); effective (symptoms and signs improved with score reduction rate 30%-49%); and ineffective (symptoms and signs unchanged or worsened with score reduction rate $<30\%$). Comparison of pre- and post-treatment scores and reduction rates are shown in Table 1 .

After treatment with herbal compress and acupoint massage, symptoms including rest pain, right lower limb coldness and numbness, and intermittent claudication improved significantly. Telephone follow-ups at 1, 2, and 4 weeks post-discharge revealed that the patient persisted with acupoint massage and Buerger's exercises. The patient reported marked improvement in right lower limb pain, coldness, and numbness, substantially enhanced sleep quality, and increased walking distance to approximately 650 meters.

Table 1 Effect Evaluation

In traditional Chinese medicine, thromboangiitis obliterans belongs to the categories of "gangrene" and "vessel bi syndrome". The *Huangdi Neijing • Lingshu • Yongju* states: "When disease occurs in the toes, it is called toe abscess. If the color is red-black, it is untreatable; if not red-black, it is not fatal. If the condition does not improve, urgent amputation is required, otherwise life will be endangered." This disease is considered a condition of root deficiency and branch excess, often caused by emotional depression, yang deficiency constitution, and invasion of cold pathogenic factors leading to vessel obstruction and loss of nourishment to the limbs, resulting in pain, numbness, and mobility impairment. Initial manifestations include pale, cold, cold-intolerant, and numb limbs with intermittent claudication; subsequent development of rest pain, particularly worsening at night; and in chronic untreated cases, skin discoloration, dryness, muscle atrophy, and eventual ulceration, gangrene, and sloughing [7]. TCM treatment emphasizes syndrome differentiation and treatment, consistently applying principles of activating blood circulation to remove blood stasis and warming meridians to unblock collaterals.

Herbal compress therapy is an external TCM treatment method wherein prepared herbs are decocted and gauze is soaked in the herbal liquid before being applied directly to the affected area at appropriate temperature. This approach avoids hepatic first-pass effect [8] and gastrointestinal destruction, improving drug bioavailability while reducing toxicity and adverse reactions. In the herbal compress formula, processed *Strychnos nux-vomica*, *Angelica sinensis*, and *Cinnamomum cassia* serve as sovereign drugs to unblock vessels, activate blood circulation, warm the middle-jiao, dispel cold, and regulate qi to relieve pain. Processed leech breaks blood and expels stasis, *Carthamus tinctorius* activates blood circulation and unblocks vessels to dissipate stasis and relieve pain, *Zanthoxylum bungeanum* warms the middle-jiao and dispels cold, vinegar-processed *Corydalis yanhusuo* regulates qi to relieve pain, and *Forsythia suspensa* reduces swelling and dissipates nodules. These ministerial drugs, combined with

sovereign drugs, achieve internal and external warming of meridians, activation of blood circulation to remove stasis, and regulation of qi to relieve pain. *Asarum sieboldii* resolves the exterior, dispels cold, expels wind to relieve pain, and opens orifices, while *Coptis chinensis* clears heat and dries dampness; these two herbs serve as adjuvant and courier drugs to assist sovereign and ministerial drugs in achieving nodule-dissipating and pain-relieving effects. Modern pharmacological research demonstrates that *Lonicera japonica* regulates blood lipids and inhibits platelet aggregation and thrombosis. Through the compress technique, these medicinals enable full absorption of active components through skin and mucous membranes to directly reach the lesion, exerting effects of activating blood circulation to remove stasis, dissipating nodules to relieve pain, and unblocking meridians.

In TCM theory, acupoints are critical points on meridians. Stimulating specific acupoints through various massage techniques can activate meridian qi to unblock meridians, regulate qi and blood circulation, and dispel pathogenic factors while supporting healthy qi [9]. Xuehai (SP10) belongs to the Foot-Taiyin Spleen Meridian and is an important acupoint for generating blood and activating blood circulation, capable of unblocking qi and blood throughout the body. Zusanli (ST36) belongs to the Foot-Yangming Stomach Meridian and functions to tonify middle-jiao qi, unblock meridians, promote qi and blood circulation, and support healthy qi while dispelling pathogenic factors. Sanyinjiao (SP6) is the intersection point of the Foot-Taiyin Spleen, Foot-Shaoyin Kidney, and Foot-Jueyin Liver Meridians, gathering damp-heat, water-dampness, and cold qi from three yin meridians. The *Zhenjiu Juying* states: “For blocked and obstructed meridians, draining immediately unblocks them; for deficient and non-flowing meridians, tonifying makes them flourish and flow.” Massaging Sanyinjiao can tonify and nourish blood from the liver, kidney, and spleen meridians to promote circulation and reduce deep vein thrombosis occurrence [10]. The *Huangdi Neijing* notes: “The kidney emerges at Yongquan, and Yongquan is the center of the sole.” Yongquan (KI1) is a major acupoint of the kidney meridian; massaging Yongquan can activate blood circulation, remove blood stasis, and promote qi and blood flow. Clinical practice demonstrates that combined herbal compress and acupoint massage therapy for thromboangiitis obliterans patients can enhance therapeutic efficacy with simple, safe, effective, and low-cost procedures that are readily accepted by patients and highly recognized by patients and their families, warranting clinical promotion and application.

Patient Informed Consent: Publication of this case report was approved with informed consent from the patient and family members.

Conflict of Interest Statement: The authors declare no conflicts of interest regarding this article.

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