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Case Report: A Patient with “Cramp” Treated with “Multi-target” Traditional Chinese Medicine External Therapy

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Abstract

Muscle cramps are among the common conditions that severely affect patients' quality of life. The combined therapy of herbal paste massage, acupoint application, and herbal hot compress demonstrates significant efficacy in treating muscle cramps and constitutes a commonly employed therapeutic modality in Traditional Chinese Medicine (TCM) external treatment. This paper primarily describes the determination of patient nursing care plans through scientific nursing assessment and syndrome differentiation-based classification. Grounded in TCM' s theory of pattern-identification-based nursing care, and targeting the site of the patient' s cramps with local acupoint selection, the approach involves: first applying herbal paste massage with acupoint pressure technique, subsequently performing meridian-following massage on the local limb, then administering local hot compress therapy with herbal hot packs, and utilizing the aromatic penetrating therapy of acupoint plastering. This can effectively ameliorate patients' clinical symptoms and improve their quality of life. The method provides a novel approach for treating muscle cramps, features a simple operational procedure, fully exemplifies the characteristic nursing care of TCM, yields significant therapeutic outcomes, and is worthy of clinical promotion.

Full Text

A Case Report of “Multi-Targeted” External Traditional Chinese Medicine Therapy for a Patient with Muscle Cramps

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Abstract

Muscle cramping is a common condition that seriously affects patients' quality of life. The combination of Chinese herbal ointment massage, acupoint application, and herbal hot compress therapy demonstrates significant efficacy in treating cramps and represents a frequently employed method in Traditional Chinese Medicine (TCM) external treatment. This article presents a case where scientific nursing assessment and syndrome differentiation were used to determine an appropriate care plan. Based on TCM's principle of dialectical nursing, treatment targeted the cramping sites through proximal point selection. The therapeutic protocol involved first applying Chinese herbal ointment massage with acupoint pressure, followed by meridian massage of the local limbs, then local hot compress with a Chinese herbal hot compress pack, and finally aromatic acupoint application therapy. This integrated approach effectively improved clinical symptoms and enhanced the patient's quality of life, offering a novel treatment strategy for cramps. The method features simple operation, fully embodies the characteristics of TCM nursing, yields significant therapeutic effects, and warrants clinical promotion.

Keywords: cramps; Chinese herbal ointment massage; acupoint application; Chinese herbal hot compress; Traditional Chinese Medicine nursing

“Cramping” refers to gastrocnemius muscle spasm, which in TCM is categorized as “tendon bi syndrome” or “tendon contraction.” It involves sustained or intermittent involuntary muscle contraction caused by abnormal neural or muscular excitation. Modern medicine terms this muscle spasm, which falls under TCM categories of “tendon contraction” and “convulsion” [1]. Among the twelve meridian tendon pathologies, “tendon contraction” appears most frequently (15 times), with “tendon tension” mentioned 7 times, both representing muscle and tendon spasms. Location-specific “tendon” designations such as “neck tendon,” “popliteal tendon,” “abdominal tendon,” “cheek tendon,” and “cervical tendon” refer to muscles and their attachments; other manifestations include tendon laxity, tendon flaccidity, and tendon pain—all disorders of muscular structures. Typically an involuntary tonic muscle contraction, cramps can occur throughout the body but most commonly affect the calf and toe muscles. Episodes cause unbearable pain lasting from seconds to tens of seconds, often awakening patients at night and disrupting sleep. Cold winter climate increases cramp incidence. Clinical treatment approaches include Western medicine (pharmacological and physical therapy) and TCM (massage, tuina, acupuncture, and acupoint therapy). With the development and promotion of TCM treatments, the combined use of herbal ointment massage, acupoint application, and herbal hot compress has effectively relieved cramp symptoms with favorable outcomes. This article reports the nursing experience of one patient with cramps treated with this combined approach.

1.1 General Patient Information

The patient was a 76-year-old female admitted on February 8, 2024, with a chief complaint of “dry mouth and polydipsia for over 9 years, worsening with bilateral lower limb heaviness and intermittent pain, with increased heaviness and pain accompanied by nocturnal cramps in the past week.” Admission symptoms included fatigue, coldness and pain in the lower limbs, nocturnal cramps with severe pain, intermittent sleep, normal appetite, regular bowel movements and urination, red tongue with thin yellow coating, and a wiry, thin pulse. The patient had a 15-year history of diabetes mellitus, 8-year history of hypertension, and 3-year history of hyperlipidemia, all controlled with medication. No history of drug or food allergies was reported.

1.2 Physical Examination

Admission vital signs: temperature 36.2°C, pulse 84 beats/min, respiration 18 breaths/min, blood pressure 150/88 mmHg. Specialized examination: random blood glucose 10.2 mmol/L, low skin temperature in both feet, diminished dorsalis pedis pulse, reduced temperature sensation, and decreased vibration sense with tuning fork.

1.3 Diagnosis

TCM diagnosis: Xiao Ke disease (consumptive thirst). Western medicine diagnosis: Type 2 diabetes mellitus; diabetic peripheral neuropathy; hypertension.

1.4 Treatment Intervention

TCM treatment: oral herbal medicine to tonify qi, nourish yin, resolve phlegm, and unblock collaterals. TCM nursing characteristics: combined treatment with herbal ointment massage, acupoint application, and herbal hot compress to warm the middle, dispel cold, regulate qi, and relieve pain. Pre-treatment lower limb pain was assessed using the Visual Analogue Scale (VAS), scoring 7 points. After one week of treatment (February 15, 2024), the patient showed significant improvement: fatigue markedly reduced, mild coolness and pain in lower limbs, relieved nocturnal cramps, normal appetite and sleep, regular bowel movements and urination, with VAS score decreased to 1 point, leading to discharge per medical advice. Post-discharge outpatient TCM treatment continued, focusing on dietary and exercise guidance and education. The patient demonstrated good compliance and tolerance with no adverse events. After one week of outpatient treatment (February 22), the patient reported no obvious fatigue, mild coolness in lower limbs, significant relief of pain and cramping symptoms, normal appetite and sleep, and regular bowel movements and urination.

2.1.1 Pain Assessment

The Visual Analogue Scale (VAS) [3] and clinical efficacy evaluation were employed. VAS scoring: 0 = no pain; 1-3 = mild pain tolerable to the patient; 4-6 = moderate pain intolerable to the patient affecting sleep; 7-10 = severe pain intolerable to the patient affecting appetite and sleep. Clinical efficacy criteria: cured = complete disappearance of lower limb pain and cramping symptoms; markedly effective = occasional symptoms approaching normal; effective = improvement in symptoms but still some distance from normal recovery; ineffective = no improvement in symptoms. The patient's pre-treatment VAS score was 7 points, indicating severe pain affecting sleep.

2.1.2 Psychological Status

The Self-Rating Anxiety Scale (SAS) was used to assess anxiety symptoms. SAS employs a 4-point rating system for 20 items; the sum of all items multiplied by 1.25 and rounded yields the standard score. SAS standard score <50 indicates normal; 50-59 indicates mild anxiety; 60-69 indicates moderate anxiety; ≥70 indicates severe anxiety. This patient presented with irritability and anger, with adverse emotions caused by pain and insomnia, scoring 69 points on the SAS scale, indicating moderate anxiety.

2.1.3 Daily Living Ability Assessment

The Barthel Index was used for assessment, covering feeding, bathing, grooming, dressing, bowel and bladder control, toileting, bed-chair transfer, ambulation, and stair climbing. The maximum score is 100, with higher scores indicating better self-care ability. This patient's Barthel score was 85 points, rated as Level 1, indicating mild functional impairment.

2.2 Nursing Diagnosis

The patient's nursing diagnoses were: (1) Pain related to limb pain caused by diabetic peripheral neuropathy; (2) Anxiety related to discomfort from lower limb pain and cramps; (3) Sleep pattern disturbance related to lower limb pain and cramps; (4) Activity intolerance related to fatigue.

2.3 Nursing Plan

Based on the patient's actual condition, the nursing plan was formulated as follows: (1) Combine TCM characteristic techniques to alleviate pain; (2) Strengthen emotional care, increase communication frequency, and provide psychological counseling; (3) Guide proper sleeping positions to reduce pain and improve sleep quality; (4) Provide appropriate exercise guidance according to the patient's activity tolerance, progressing gradually to enhance physical strength while avoiding overexertion and ensuring safety.

2.4.1 TCM Characteristic Nursing Care

The patient received combined treatment with herbal ointment massage, acupoint application, and herbal hot compress, with specific procedures as follows.

Meridian and Acupoint Selection: Based on syndrome differentiation and the location of lower limb pain, the three yang meridians of the foot were selected: Foot Yangming Stomach Meridian, Foot Taiyang Bladder Meridian, and Foot Shaoyang Gallbladder Meridian, with meridian massage performed along these three yang meridians. Local acupoints selected included: Zusanli (ST36, located on the anterolateral aspect of the lower leg, 3 cun below Dubi, one finger-breadth from the anterior crest of the tibia), Yanglingquan (GB34, located in the lateral aspect of the lower leg, in the depression anterior and inferior to the head of the fibula), Sanyinjiao (SP6, located on the medial aspect of the lower leg, 3 cun above the highest point of the medial malleolus), and Weizhong (BL40, midpoint of the popliteal crease). The “finger-cun” method was used to locate acupoints. First, a warm moxibustion instrument with bian stone was used to press acupoints for opening, followed by meridian massage along the three selected meridians.

For the herbal hot compress, Ashi points were selected by placing the compress on areas where the patient experienced pain. For acupoint application, medication was applied to Yongquan (KI1, located on the sole of the foot, in the depression when the foot is plantar-flexed, approximately at the anterior 1/3 and posterior 2/3 intersection point of the line connecting the web between the 2nd and 3rd toes to the heel).

Operation Method: Assist the patient to a sitting position; the practitioner stands on one side, fully exposing the lower limb skin while maintaining warmth. Apply oil medium evenly to the lower limbs, adjust the bian stone warm moxibustion instrument to approximately 40°C, test temperature on the practitioner’s wrist, then hold the instrument to press key acupoints (Zusanli, Yanglingquan, Sanyinjiao, Weizhong), 15 times per acupoint, until the patient feels soreness and distension. Subsequently, perform meridian massage along the Foot Yangming Stomach, Foot Taiyang Bladder, and Foot Shaoyang Gallbladder meridians. Use the bian stone instrument to perform clockwise or counterclockwise kneading on the body surface with gentle pressure tolerable to the patient. Post-procedure precautions: After herbal ointment massage, monitor skin temperature and subjective feelings, promptly adjust temperature and pressure, observe skin temperature changes, and ensure warmth after treatment. Wipe the skin with tissue after treatment and observe skin condition; perform once daily. Thirty minutes after herbal ointment massage, apply a preheated herbal hot compress (40°C) to Ashi points on the lower limbs for 20-30 minutes. Before bedtime, after soaking feet in warm water (40°C), apply acupoint plaster to Yongquan point and remove the next morning. The above procedures were performed once daily for seven days as one treatment course, with nursing effects observed. Operation precautions: Observe skin temperature and subjec-

tive feelings, adjust temperature and force promptly, and ensure warmth after treatment.

2.4.2 Emotional Nursing Care

Maintain frequent communication with the patient, encourage expression of inner feelings, and enhance confidence in overcoming the disease. Listening to soothing music can help shift attention from the illness, while encouraging optimism and active cooperation with treatment facilitates recovery.

2.4.3 Dietary Nursing Care

Guide the patient regarding dietary habits, avoiding raw, cold, spicy, and irritating foods. Advise increased intake of high-quality protein, vitamins, and dietary fiber, while reducing high-sugar and spicy foods. Recommend foods that strengthen the spleen such as Chinese yam, crucian carp, and beef; also yin-nourishing foods like black sesame, goji berries, and white fungus. Through balanced diet combined with exercise and medication, maintain blood glucose within ideal range to achieve comprehensive metabolic control, improve overall health status, meet general and special physiological needs, and effectively prevent various acute and chronic diabetes complications.

2.4.4 Exercise Nursing Care

When permissible, provide exercise guidance according to the patient's condition, allowing appropriate aerobic exercise such as walking, Tai Chi, Baduanjin, blood-activating and collateral-dredging exercises, and seasonal health exercises, with duration of 0.5-1 hour being appropriate. Advise the patient to develop good lifestyle habits, balance work and rest, and avoid overexertion.

2.4.5 Foot Care

Teach the patient and family members the importance of foot self-examination and protection, selecting loose, properly sized footwear and socks that are lightweight with thick, soft soles and good ventilation.

2.4.6 Daily Living Care

Adapt to seasonal changes by timely adding or removing clothing, maintaining regular daily routines, avoiding wind-cold exposure, ensuring warmth, and quitting smoking and limiting alcohol consumption.

3 Results and Follow-up

After admission, the patient received combined treatment with herbal ointment massage, acupoint application, and herbal hot compress based on syndrome differentiation and dialectical nursing. Following one week of treatment and care,

the patient's VAS score decreased to 1 point, SAS score decreased to 48 points, and Barthel score increased to 100 points. Additionally, the patient reported markedly reduced fatigue, mild coolness and pain in lower limbs, relieved nocturnal cramps, normal appetite and sleep, and regular bowel movements and urination. The tongue presentation changed to pale red with thin white coating.

Continued outpatient TCM treatment and follow-up after discharge showed good patient compliance and tolerance. After one week of outpatient treatment on February 22, the patient reported no obvious fatigue, mild coolness in lower limbs, no significant pain, no recurrence of cramping symptoms, normal appetite and sleep, and regular bowel movements and urination. The patient was guided to maintain a lifestyle balancing work and rest with regular daily routines and expressed high satisfaction with the treatment outcomes.

Muscle cramping belongs to the TCM category of “tendon bi syndrome.” As stated in *Suwen • Changci Jielun* (Plain Questions: On Long Needle and Joint Pathology), “Disease in the tendons with tendon spasm and joint pain, preventing walking, is called tendon bi syndrome.” TCM attributes the etiology to both external and internal factors. External causes involve exposure to wind, cold, and dampness pathogens obstructing collaterals and impeding qi-blood flow, leading to malnourishment of tendons; or exposure to warm-heat pathogens scorching body fluids, causing tendon malnourishment; or excessive heat generating wind. Internal causes involve aging, chronic illness, and overexertion leading to qi-yin deficiency and liver yang hyperactivity generating wind. External and internal factors often coexist. As the sages stated: “Where evils gather, qi must be deficient.” Elderly patients with insufficient righteous qi are more susceptible to external pathogens triggering this condition. TCM identifies the key pathogenesis of tendon spasm as essence-blood deficiency and tendon malnourishment. The disease location is in the lower limb meridian tendons, with pain distribution closely related to the pathways of the Foot Yangming Stomach, Foot Taiyang Bladder, and Foot Shaoyang Gallbladder meridians and tendons, guiding acupoint selection according to meridian pathways— “Where the meridian passes, there lies the treatment.” Qi deficiency fails to move the “boat” (circulation), yin deficiency lacks “water” (fluids) for movement, leading to internal blood stasis. Blood stasis and qi-yin deficiency become mutually causal, ultimately resulting in blood stasis in collaterals manifesting as pain, numbness, or even limb atrophy. This elderly female patient with long-standing diabetes had deficient righteous qi, yin deficiency with fire effulgence, fire scorching body fluids, consuming lung-stomach qi and fluids upward, scorching liver-kidney fluids downward, and dissipating tendon-bone-muscle fluids peripherally, eventually causing blood stasis and collateral obstruction with malnourishment manifesting as limb numbness and coolness. Therefore, the treatment principle focuses on nourishing zang-fu organs, moving qi and blood, and unblocking collaterals to relieve pain. *Lingshu • Jingjin* (Miraculous Pivot: Meridian Tendons) states: “Diseases of meridian tendons: with cold, tendons contract and spasm; with heat, tendons become flaccid and fail to contract.” This indicates meridian tendon diseases have “tendon tension” (spasm and rigidity) and “tendon

flaccidity” (weakness and laxity), demonstrating that ancient understanding of meridian tendons emphasized both structural form and functional manifestation. In recent years, natural and green therapies have gained increasing recognition and attention.

The human body is an organic whole interconnected by meridians. Herbal ointment massage involves applying herbal ointment to the treatment area and performing acupoint massage to achieve comprehensive therapeutic effects through combined manual and pharmacological actions. This method has a long history in China, as documented in the *Neijing* (Inner Classic): “Press with hands, rub or combine with medicinals.” Acupoint application regulates zang-fu organs through combined effects of drug stimulation, meridians, and acupoints. Based on TCM theory with meridian-acupoint doctrine as the core, appropriate medicinals are applied to corresponding acupoints on the body surface, utilizing meridian transmission to harmonize qi-blood, regulate meridian deficiency-excess, and balance yin-yang. Transdermal herbal absorption avoids hepatorenal damage from oral Western medicine and pain intolerance from acupoint injection, offering simple operation and direct access to the disease site. Herbal hot compress (herbal hot pack therapy) involves placing heated herbal medicinals in a cloth bag on the affected area. This method integrates pharmacological, thermal, and meridian effects, using warmth to regulate local blood and lymphatic circulation with blood-activating and stasis-resolving analgesic effects. It helps open skin interstices, promotes transdermal drug absorption into capillaries for systemic circulation, and effectively relieves pain, itching, and other discomforts [8-11].

This article summarizes and analyzes the treatment and nursing process of this case, highlighting the advantages of TCM nursing techniques. The combined application of herbal ointment massage, acupoint application, and herbal hot compress represents an effective treatment for cramps, demonstrating characteristics of direct action, no adverse reactions, relatively simple operation, low cost, high patient tolerance, and obvious therapeutic advantages—key factors in promoting patient recovery that are increasingly favored by patients. This approach promotes the internationalization of integrated Chinese-Western nursing discipline development and academic achievements, establishes the academic status and international image of integrated nursing on the world stage, assists TCM nursing in “going global,” and enhances its international influence. Research on various tendon bi syndrome treatment protocols has been widely conducted, though some limitations remain: variations exist when different operators perform the same technique, and efficacy differs for the same operator treating different patients; some patients continue to experience lower limb pain even after recovery—these issues warrant further clinical observation and investigation.

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