Nursing Experience in Treating Acute Gouty Arthritis with Jinhuang San Application Therapy: A Case Report

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Abstract

This article summarizes the nursing experience of a patient with acute gouty arthritis attack treated with Jinhuang San external application therapy. Based on traditional Chinese medicine syndrome differentiation, pain relief was achieved through external application of Jinhuang San combined with comprehensive nursing interventions including health education and dietary guidance.

Full Text

Nursing Experience in Treating One Patient with Acute Gouty Arthritis Using Jinhuang San Paste Therapy

Abstract

This article summarizes the nursing experience of treating one patient with acute gouty arthritis using Jinhuang San paste therapy. Based on syndrome differentiation in Traditional Chinese Medicine (TCM), comprehensive nursing interventions including external application of Jinhuang San paste combined with health education and dietary guidance were implemented, resulting in effective pain relief for the patient.

Keywords

Jinhuang San; paste therapy; Bi syndrome

Introduction

Acute gouty arthritis (AGA) is a disease caused by abnormal purine metabolism resulting from excessive intake of high-purine foods, alcohol consumption, and

other factors, leading to deposition of monosodium urate crystals in joints. Affected joints present with redness, swelling, heat, and pain, accompanied by fatigue, fever, and other symptoms [1,2]. Currently, the prevalence of AGA is gradually increasing, and the age of onset is trending younger [3,4]. Western medicine primarily employs colchicine and non-steroidal anti-inflammatory drugs for AGA treatment. Although these medications act rapidly, they frequently cause adverse reactions such as gastrointestinal dysfunction and hepatic or renal impairment [5], significantly limiting their clinical application.

TCM external therapies act directly on the skin or mucous membranes to achieve therapeutic effects while avoiding gastrointestinal adverse reactions. Moreover, these methods are simple to operate and produce significant efficacy, offering unique advantages and broad clinical application in treating AGA [6].

Paste therapy, also known as *fujiu* (medicated application), is a traditional TCM treatment that involves applying medicated substances to specific acupoints or affected areas. Clinical variations include medicated compress, plaster application, medicinal coating, insufflation, fumigation and washing, ironing, eye drops, and umbilical therapy [7].

This article reviews the nursing experience of Jinhuang San paste therapy for one patient with acute gouty arthritis.

1 Clinical Data

The patient was a 60-year-old male farmer admitted to our department on August 14, 2023, with a four-year history of bilateral ankle and knee joint swelling and pain, worsening over the previous day. Upon admission, the patient appeared in fair spirits with bilateral ankle and knee joints showing redness, swelling, and persistent burning pain. Skin temperature was slightly elevated, more severe in the right lower limb, with mild mobility impairment and slight redness and swelling of both elbow joints. Appetite and sleep were acceptable, with normal bowel and bladder function. Tongue presentation was pale red with a white greasy coating, and the pulse was wiry.

2 Nursing Care and Intervention

2.1 Nursing Assessment

Pain assessment constitutes the first and critical step in effective pain management. Accurate pain evaluation is clinically significant for determining pain severity and achieving optimal analgesic effects. Therefore, selecting a simple and practical pain assessment tool is essential. The Changhai Pain Scale, designed by Changhai Hospital affiliated with the Second Military Medical University, integrates the Numerical Rating Scale and the Verbal Rating Scale, providing relatively accurate results with reduced evaluation error and greater patient acceptance. However, in clinical practice, patients often forget previous pain scores during continuous dynamic assessment, hindering effective com-

parison and compromising accuracy. To ensure pain management quality and achieve satisfactory pain control through timely dynamic monitoring, consistent evaluation protocols are necessary [8].

Pain scores for this case were recorded using the Changhai Pain Scale at the following time points: August 14 at 10:00, August 14 at 14:00, August 17 at 14:00, and August 20 at 10:00.

2.2 TCM Characteristic Nursing

2.2.1 Jinhuang San Paste Therapy The paste therapy was administered in three steps. First, Jinhuang San powder was mixed with ice-cold water to achieve proper consistency. The moisture content required careful control: excessive dryness resulted in powdery texture with poor skin contact and easy detachment, while excessive moisture caused medication leakage and unstable adhesion. The paste was applied uniformly at approximately 1 cm thickness—too thin reduced efficacy, while too thick wasted medication. Second, application targeted the painful areas, extending 5–8 cm beyond the pain points to comprehensively cover both medial and lateral malleoli, the medial and lateral knee clefts, and the anterior knee surface. Fixation employed adhesive tape combined with mesh sleeves, providing secure attachment without restricting joint mobility [9]. Third, patients assumed a comfortable supine position with adequate warmth maintenance. The paste was removed after 4–6 hours, and the skin was gently cleansed.

2.3 Comprehensive Nursing Interventions

2.3.1 Dietary Guidance Comprehensive dietary education was provided, explaining the relationship between diet and gout and detailing purine content in various foods. High-purine foods include animal organs (heart, stomach, liver, intestines), sardines, meat broth, and all alcoholic beverages. Moderate-purine foods include beef, mutton, pork, poultry (chicken, duck, pigeon), soy products, cashews, sesame, almonds, tremella, and kelp. Low-purine foods include coffee, chocolate, milk, rice, sugar, refined flour, and eggs. A scientifically structured diet was established to prevent disease progression. Patients were instructed to maintain adequate hydration exceeding 3,000 mL daily, ensuring urine output above 2,000 mL per 24 hours to promote uric acid excretion. Additionally, increased intake of alkaline foods such as vegetables, dairy products, potatoes, and citrus fruits was recommended, with proper cooking methods to minimize purine content—particularly for meats, which should be boiled with the broth discarded before further preparation. Alcohol, tobacco, coffee, strong tea, and spicy foods including ginger, garlic, and mustard were strictly prohibited [10].

2.3.2 Exercise Guidance During the acute attack phase, patients require bed rest with appropriate elevation of the affected limbs to reduce pain. Intermittent appropriate limb exercises may be performed to increase muscle mass, reduce fat, control body weight, and enhance immunity [10].

2.4 Efficacy Evaluation

Evaluation criteria were established according to the "Guidelines for Clinical Research of New Chinese Medicines (Trial)" [11]. Clinical remission was defined as essentially resolved joint swelling and pain with normalized uric acid (UA), C-reactive protein (CRP), and erythrocyte sedimentation rate (ESR). Marked effectiveness indicated improved joint swelling and pain with UA, CRP, and ESR trending toward normal. Effective meant some improvement in joint swelling and pain with decreased UA, CRP, and ESR. Ineffective indicated failure to meet the above criteria or disease progression.

Following seven days of treatment, the patient's bilateral ankle and knee joints showed no redness, swelling, or pain. Laboratory results on August 21, 2023 revealed: white blood cell count $15.12\$\times10^{\{9\}/L, monocytes0.96, neutrophils10.17\times10}\{9\}\$/L$; renal function panel: uric acid 567.5 mol/L; high-sensitivity CRP 6.98 mg/L; procalcitonin within normal range. These results indicated effective treatment.

Discussion

In TCM, gouty arthritis is classified under the categories of "turbidity-stasis Bi," "li jie disease," and "Bi syndrome." The *Jin Gui Yao Lue* (Essential Prescriptions from the Golden Cabinet) describes "swollen feet as if detached," "pain as if pulling," and "inability to flex or extend," depicting li jie disease and corresponding to gouty arthritis's predilection for the first metatarsophalangeal joint with nocturnal pain exacerbation. The *Yi Xue Chuan Deng· Tong Feng* (Medical Lamp Transmission · Painful Wind) states: "Gout causes whole-body pain, reduced by day and severe by night, penetrating bones and muscles like tiger bites, hence also called white tiger li jie wind." TCM attributes acute gouty arthritis primarily to damp-heat pathogenesis. As Zhu Danxi noted: "Among the six qi, damp-heat causes disease in eight or nine out of ten cases." The *Dan Xi Zhi Fa Xin Yao* (Danxi's Methods of Treatment) explains: "For limb joint swelling and pain, pain belongs to fire and swelling to dampness; this is damp-heat disease, compounded by external wind-cold invading the meridians, causing continuous damp-heat flow into limb joints." Contemporary practitioners attribute the pathogenesis to pathogen stagnation and damp-heat Bi obstruction [12].

This patient presented with damp-heat Bi obstruction syndrome. Jinhuang San paste therapy was selected for application to the prominently painful bilateral ankle and knee joints. External application of Jinhuang San resolves swelling and pain while clearing heat and detoxifying.

Jinhuang San comprises Trichosanthis Radix, Phellodendri Chinensis Cortex, Rhei Radix et Rhizoma, Angelicae Dahuricae Radix, Curcumae Longae Rhizoma, Arisaematis Rhizoma, Citri Reticulatae Pericarpium, Magnoliae Officinalis Cortex, Atractylodis Rhizoma, and Glycyrrhizae Radix et Rhizoma. It treats initial-stage sores, carbuncles, redness, swelling, heat, and pain, possessing heat-clearing, detoxifying, swelling-reducing, and pain-relieving effects. The formula promotes blood circulation, rapidly restores vascular

elasticity, reduces vascular permeability, protects vascular endothelial cells, activates macrophages, and demonstrates favorable performance in edema reduction, analgesia, and anti-inflammation [13]. Furthermore, topical application enables transdermal absorption with direct access to the disease site, yielding remarkable clinical efficacy in treating localized redness, swelling, heat, and pain.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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Note: Figure translations are in progress. See original paper for figures.