Post-print of Nursing Experience with Back-shu Point Cupping Therapy for Cough and Sputum in a Patient with Stable Chronic Obstructive Pulmonary Disease

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Abstract

This article summarizes the nursing experience of a stable-phase chronic obstructive pulmonary disease patient who received back acupoint cupping therapy for cough and sputum expectoration during hospitalization, including nursing assessment, operational methods for back acupoint cupping, precautionary measures, and routine traditional Chinese medicine nursing care such as dietary care, emotional care, and rehabilitation care, which effectively improved symptoms with satisfactory nursing outcomes, and is summarized herein to provide reference for clinical traditional Chinese medicine nursing.

Full Text

Back Acupoint Cupping for Cough and Sputum in a Stable-Stage Chronic Obstructive Pulmonary Disease Patient: A Nursing Experience

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Abstract

This article summarizes the nursing experience of managing cough and sputum in a stable-stage chronic obstructive pulmonary disease (COPD) patient through back acupoint cupping therapy during hospitalization. The comprehensive nursing approach included thorough assessment, specific cupping techniques on back acupoints, precautionary measures, and conventional Traditional Chinese Medicine (TCM) nursing interventions such as dietary guidance, emotional support, and rehabilitation care. This integrated approach effectively alleviated symptoms with favorable nursing outcomes. This case summary aims to provide a reference for clinical TCM nursing practice.

Keywords: Back acupoint cupping; Chronic obstructive pulmonary disease stable stage; Cough; Sputum expectoration

Introduction

Chronic obstructive pulmonary disease (COPD) is a global health condition encompassing chronic bronchitis with airflow obstruction, obstructive emphysema, and chronic asthma that has been poorly managed over time. As a common, preventable, and treatable chronic airway disease, COPD patients typically present with chronic cough, sputum production, and dyspnea or breathing difficulty. In advanced stages, the disease can affect multiple organ systems, with severe complications impacting disease manifestations and mortality rates. Recent surveys indicate that COPD prevalence exceeds 13.7% among individuals over 40 years old in China, representing a serious threat to public health. The pathogenesis is complex, with a protracted course prone to recurrent exacerbations that significantly impair both work capacity and overall health.

During stable phases when clinical symptoms substantially remit, TCM characteristic therapies demonstrate clear advantages. By integrating acupoints, meridians, and herbal medicine, these approaches comprehensively regulate the body' s yin-yang balance and restore vital qi, holding important clinical significance for controlling COPD progression. COPD falls under the TCM categories of "lung distension,""wheezing syndrome,"and "panting syndrome."The *Lingshu* states: "In lung distension, the patient experiences fullness with panting and cough." The *Huangdi Neijing* notes: "When the hand taiyin lung meridian is affected, it causes distension, fullness, and panting cough." The *Treatise on the Origins and Symptoms of Diseases* describes: "When lung deficiency is injured by slight cold, it causes cough; cough causes qi to return to the lung space, causing lung distension; lung distension causes counterflow qi; and because the lung is fundamentally deficient with insufficient qi, compounded by pathogenic invasion, the chest becomes congested and cannot diffuse and descend, thus causing cough, counterflow, and shortness of breath."

TCM understands COPD pathogenesis as developing from constitutional defi-

ciency, emotional injury, and six exogenous pathogenic factors, with repeated respiratory system attacks leading to dysfunction of the lung, spleen, and kidney. Lung qi becomes distended and cannot descend, causing cough, phlegm, and wheezing. The disease location begins in the lung, subsequently affecting the spleen and kidney, and in later stages involves the heart, associated with phlegm-fluid and blood stasis. The pathological nature is primarily root deficiency with branch excess, predominantly branch excess. External contraction of six evils, improper diet, overexertion, and emotional imbalance constitute external triggers. In elderly patients with chronic deficiency, lung qi deficiency and weakened defensive qi, or smoking habits that damage the lung, allow repeated pathogenic invasion that further injures lung qi and triggers episodes, creating a vicious cycle where pathogenic excess and healthy deficiency mutually reinforce each other. The inevitable pathological evolution is progressively worsening healthy qi deficiency.

Cupping therapy, a characteristic TCM modality, can warm and unblock meridians, open interstitial spaces, restore healthy qi, effectively expel pathogenic factors, and improve the lung' s diffusing function. Back acupoints are where organ meridian qi infuses into the back and waist, corresponding closely with organ location and function. Combined use of these acupoints moistens the lung, eliminates phlegm-dampness, and facilitates clear qi movement, allowing smooth qi flow that naturally stops cough. Modern research confirms that acupoints like Feishu (BL13) can enhance immunity, increase lung capacity and oxygen consumption, improve macrophage function, and promote bronchial inflammation absorption. Feishu, Fengmen (BL12), and other acupoints have rich sympathetic nerve distribution; cupping stimulation produces complex neurohumoral regulation that enhances sympathetic nerve function, particularly β-receptor function. The negative pressure in cupping creates mechanical stimulation on back acupoints, placing local tissue in a high-oxygen, low-consumption state that improves local metabolism. The artificial capillary rupture and bruising enhances local tissue repair and necrotic blood cell absorption, promotes regional blood circulation, activates essential qi, and improves immunity, facilitating disease recovery.

This article summarizes nursing experience from one case of back acupoint cupping combined with TCM pattern-based nursing care for cough and sputum in stable-stage COPD, aiming to provide new solutions and approaches for clinical COPD management.

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1. Clinical Data

1.1 Patient Information

Patient Fan, male, 73 years old, presented with cough and sputum for over 20 years, worsening for one week. The patient developed cough and sputum 20 years ago without obvious triggers, which improved after self-administered

cough medicine. Subsequently, cough and sputum recurred each winter and spring after exposure to cold, lasting 2-3 months per episode, with symptoms improving after anti-inflammatory and cough-suppressing treatment at external hospitals. For the past five years, the patient was repeatedly hospitalized in our department for "cough, sputum, and wheezing"and diagnosed with "chronic bronchitis and emphysema,"with symptom relief after systematic treatment. He experienced dyspnea during daily activities, which improved after self-administered theophylline sustained-release tablets. One week prior to admission, symptoms worsened after cold exposure, with frequent cough episodes producing white, sticky sputum, difficulty breathing, wheezing, shortness of breath, fatigue, poor appetite, nausea, and vomiting. He presented to our outpatient clinic and was admitted on August 5, 2021, for further systematic treatment.

Past medical history included chronic bronchitis and emphysema without regular medication; hypertension controlled with regular telmisartan tablets; no drug or food allergies; 40+ year smoking history of approximately 20 cigarettes daily, quit for 10 years.

1.2 Admission Assessment

Vital Signs: Temperature 36.8°C, pulse 88 beats/min, respiration 22 breaths/min, blood pressure 130/80 mmHg, oxygen saturation 92% (on 2 L/min oxygen).

Symptoms: Poor mental status, cough with white sticky sputum (approximately 50 ml/day), dyspnea, fatigue, dry mouth, poor appetite, restless sleep, normal bowel movements and urination.

Physical Examination: Barrel chest, widened intercostal spaces, diminished tactile fremitus, low breath sounds in both lungs, dry and moist rales audible.

Laboratory Results: White blood cells 9.8×10^9/L, neutrophils 72.1%, C-reactive protein 12.3 mg/L; arterial blood gas analysis (on 2 L/min oxygen): PaO_2 78 mmHg, $PaCO_2$ 45 mmHg, lactate 1.2 mmol/L, oxygen saturation 94%, actual bicarbonate 26 mmol/L, buffer base 48 mmol/L; sputum culture showed no abnormalities.

Imaging: Chest CT showed bilateral chronic bronchitis, emphysema with scattered pulmonary bullae; pulmonary function test: FEV_1/FVC 58%, FEV_1 52% of predicted value.

TCM Assessment: Pattern identified as lung distension with phlegm-turbidity obstructing the lung. Tongue: pale white with white greasy coating; pulse: wiry.

Constitutional Assessment: Qi deficiency constitution.

Symptom Scores: Cough Evaluation Test (CET) score 8; Self-Rating Anxiety Scale (SAS) score 52 (mild anxiety).

Skin Assessment: Intact skin without abnormalities.

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2. Diagnosis and Treatment

2.1 Treatment Plan

Western Medicine Diagnosis: Chronic obstructive pulmonary disease, Grade 2, stable stage.

TCM Diagnosis: Lung distension (phlegm-turbidity obstructing the lung pattern).

Treatment Principles: Dispel phlegm and clear heat, diffuse lung and relieve cough, strengthen spleen and resolve dampness.

Interventions: Continuous nasal cannula oxygen at 2 L/min; monitoring of heart rate, blood pressure, and pulse oximetry; azithromycin for anti-infection; Tanreqing for heat-clearing and phlegm-resolving; ambroxol hydrochloride for cough and expectoration; salmeterol/fluticasone inhaler (50/250 g bid) and tiotropium powder inhaler (18 g qd) for bronchodilation.

2.2 Back Acupoint Cupping Procedure

After discontinuing intravenous therapy as ordered, back acupoint cupping was administered for 7 days.

Acupoint Selection: - **Feishu (BL13)**: 1.5 cun lateral to the spinous process of T3. Regulates and supplements lung qi, clears and diffuses lung qi. - **Fengmen (BL12)**: 1.5 cun lateral to the spinous process of T2. Supplements qi, consolidates the exterior, and diffuses lung qi. - **Pishu (BL20)**: 1.5 cun lateral to the spinous process of T11. Strengthens spleen and resolves phlegm, an important qi-supplementing acupoint. - **Dingchuan (EX-B1)**: 0.5 cun lateral to the spinous process of C7. Located at the lung apex, diffuses lung qi, relieves cough and wheezing—a classic empirical point for lung diseases. - **Gaohuang (BL43)**: 3 cun lateral to the spinous process of T4. Nourishes yin, moistens lung, supplements deficiency and benefits damage, unblocks collaterals and relieves pain.

Procedure: Close doors and windows before operation. Patient placed in prone position with back fully exposed. Reassess local skin condition. Apply medium-sized glass cups (diameter 5 cm) using the alcohol flash-fire method to quickly attach cups to selected acupoints. After cup placement, cover patient with blanket for warmth and assist in maintaining comfortable position. Closely monitor vital signs and local skin condition, inquiring about any discomfort. Remove cups after 10-15 minutes, ensuring skin does not blister. Clean local skin after cup removal. Perform once daily, with subsequent applications slightly deviating from previous day' s positions.

Precautions: 1. Avoid immediate bathing: Post-cupping skin is vulnerable with decreased resistance; bathing may cause skin injury. Wait at least 4-6 hours. 2. Avoid scratching: Itching may occur; scratching should be prevented to avoid skin breakdown and infection. 3. Maintain warmth: Keep indoor temperature above 24°C in a draft-free environment. Post-cupping pores remain dilated temporarily; keep warm to prevent cold pathogen invasion. 4. Appropriate duration: Generally 10-15 minutes, adjusted according to patient tolerance and condition to prevent skin damage, blisters, or non-resolving purplish bruising. 5. Blister management: Small blisters resolve spontaneously; larger or persistent blisters require iodophor disinfection and aspiration with a syringe, with regular observation.

2.3 Comprehensive TCM Nursing Care

Dietary Nursing: Encouraged consumption of tangerine peel porridge and pear-white fungus-lily bulb soup to regulate qi, relieve cough, and clear phlegm. Advised reduced carbohydrate intake and avoidance of irritant foods. Recommended easily digestible, satiating porridges; fresh seasonal green vegetables and fruits; steaming and boiling cooking methods; and attention to food presentation, aroma, and taste.

Emotional Nursing: The protracted course caused anxiety. Staff explained TCM emotional factors' influence on disease, maintained communication, used verbal guidance, emotional transference, doubt resolution, desire fulfillment, and psychological suggestion to alleviate negative emotions. Family involvement was encouraged to enhance treatment confidence.

Rehabilitation Nursing: Respiratory muscle training was emphasized. Patients were taught: - **Abdominal breathing**: Relax upper body muscles, inhale deeply to expand abdomen, then exhale slowly while contracting abdomen. Practice 3-4 times daily, 10-15 minutes each session to increase tidal volume and relieve dyspnea. - **Pursed-lip breathing**: With lips pursed like whistling, gently exhale to move a paper held 15-20 cm away. Practice 3-4 times daily, 10 minutes each to prevent premature airway collapse and expel residual air. - **Seated breathing exercises**: While seated, flex knees with palms on them, inhale deeply to maximum lung capacity, hold for 3-5 seconds, then exhale. Repeat 10-15 times to strengthen respiratory muscles, prevent exacerbations, improve respiratory efficiency, reduce symptoms, and promote sputum expectoration.

Patients were also taught self-massage of health-promotion acupoints including Yingxiang (LI20), Hegu (LI4), Neiguan (PC6), Qihai (CV6), Guanyuan (CV4), and Zusanli (ST36).

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3. Efficacy Observation

After 7 days of treatment and nursing care, the patient's mental status improved, with occasional mild cough and minimal white, thin sputum (approximately 10 ml/day). No dyspnea, fatigue, or dry mouth was reported. Sleep was peaceful, and bowel and urinary functions remained normal. Tongue was pale white with white greasy coating; pulse was wiry. A few moist rales were audible.

Outcome Measures: - **CET Score**: Decreased from 8 pre-treatment to 2 after 7 days. - **SAS Score**: Decreased from 52 pre-treatment to 42 after 7 days.

Effect Evaluation

Assessment Item	Pre-Cupping	Day 3	Day 7
Cough Evaluation Test (CET)	8	5	2
Self-Rating Anxiety Scale (SAS)	52	48	42

4. Discussion

COPD belongs to TCM categories of "lung distension," "wheezing syndrome," and "panting syndrome." TCM pathogenesis involves constitutional deficiency, emotional and six-pathogenic injuries, with repeated respiratory attacks leading to lung, spleen, and kidney dysfunction. Lung qi distension prevents descent, causing cough, phlegm, and wheezing. The disease location begins in the lung, subsequently affecting spleen and kidney, later involving the heart, associated with phlegm-fluid and blood stasis. Pathological nature involves root deficiency with branch excess, predominantly branch excess. External triggers include six evils invasion, improper diet, overexertion, and emotional imbalance. In elderly patients with chronic deficiency, lung qi deficiency and weakened defensive qi, compounded by smoking damage, allow repeated pathogenic invasion that progressively worsens the condition, creating a vicious cycle where pathogenic excess and healthy deficiency mutually reinforce.

Cupping therapy, a characteristic TCM modality, warms and unblocks meridians, opens interstitial spaces, restores healthy qi, expels pathogenic factors, and improves lung diffusion function. Back acupoints, where organ meridian qi infuses into the back, correspond closely with organ location and function. Combined application moistens the lung, eliminates phlegm-dampness, facilitates clear qi movement, and allows smooth qi flow that naturally stops cough. Modern research confirms that Feishu acupoint can enhance immunity, increase lung capacity and oxygen consumption, improve macrophage function, and promote bronchial inflammation absorption. Feishu, Fengmen, and other acupoints have rich sympathetic nerve distribution; cupping stimulation produces complex neurohumoral regulation that enhances sympathetic nerve function, par-

ticularly β-receptor activity. The negative pressure creates mechanical stimulation that places local tissue in a high-oxygen, low-consumption state, improving metabolism. Artificial capillary rupture and bruising enhances tissue repair and necrotic blood cell absorption, promotes regional circulation, activates essential qi, and improves immunity.

In summary, back acupoint cupping as adjuvant therapy for stable-stage COPD cough and sputum is simple to perform, has minimal side effects, low cost, good efficacy, and high patient satisfaction, warranting clinical reference and promotion.

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