

A Case Report on a Characteristic Traditional Chinese Medicine Nursing Technique for Septic Shock Complicated with Gastrointestinal Dysfunction: Post-print

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Abstract

Objective: To summarize the nursing process of one case of septic shock complicated by gastrointestinal dysfunction, and to provide TCM-based reference approaches for the nursing care of critically ill patients with such conditions.

Methods: A patient with sepsis, upon admission, underwent physical examination, gastrointestinal assessment, circulatory assessment, and infection evaluation. Western medicine definitively diagnosed septic shock and acute gastroenteritis, while Traditional Chinese Medicine diagnosed Tuo disease (collapse disease) with patterns of Yang Qi on the verge of collapse and Phlegm-Turbidity blockage syndrome. During the overall treatment process, interventions included gastrointestinal function management, anti-infection therapy, fluid resuscitation and vasopressor support, regulation of intestinal flora imbalance, perianal skin management, and TCM emotional nursing measures.

Results: The patient's gastrointestinal function recovered, the condition stabilized, and the patient was transferred to the general ward for continued treatment.

Conclusion: In the process of comprehensive TCM nursing intervention, employing traditional medical theories and methods to apply characteristic TCM nursing techniques and methods—combining nourishment with care, and conducting nursing interventions for patients with severe sepsis and gastrointestinal dysfunction while regulating their condition—contributes to improved clinical outcomes and recovery of autonomous function.

Full Text

Preamble

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Nursing Care for Sepsis Shock Complicated with Gastrointestinal Dysfunction Using Characteristic Traditional Chinese Medicine Nursing Techniques: A Case Report

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Abstract

Objective: To summarize the nursing process for a patient with sepsis shock complicated by gastrointestinal dysfunction, providing a reference framework for the nursing care of such critically ill patients using Traditional Chinese Medicine (TCM) approaches. **Methods:** A patient with sepsis underwent comprehensive examination including physical assessment, digestive and circulatory evaluation, and infection screening. Western medicine diagnosis confirmed sepsis shock and acute gastroenteritis, while TCM diagnosis identified collapse disease with impending yang qi desertion and phlegm-turbidity blockage pattern. The integrated treatment approach included gastrointestinal function management, anti-infection therapy, fluid resuscitation and vasopressor support, regulation of intestinal flora imbalance, perianal skin care, and TCM-based emotional nursing interventions. **Results:** The patient's gastrointestinal function recovered, his condition stabilized, and he was transferred to a general ward for continued treatment. **Conclusion:** During comprehensive TCM nursing intervention, the application of traditional medical theory and methods through characteristic TCM nursing techniques, combining nourishment and care, facilitates both symptom management and functional recovery in patients with severe sepsis-induced gastrointestinal dysfunction, thereby improving clinical outcomes and promoting restoration of autonomous function.

Keywords: sepsis shock; gastrointestinal dysfunction; characteristic Traditional Chinese Medicine nursing techniques

Introduction

Sepsis refers to severe infection combined with systemic malignant inflammatory response and represents the most serious complication among critically ill

patients with trauma, burns, shock, and infection, characterized by high morbidity and mortality rates [1]. Severe sepsis poses a significant threat to human life and health due to its high incidence and fatality rates, imposing substantial financial and human resource burdens on society and the healthcare system [2]. Currently, international research on severe sepsis prevention and treatment has become a major focus in the medical and health field as a common critical and complicated disease. Sepsis is defined as an uncontrollable systemic inflammatory response resulting from various pathogenic microorganisms or toxins present in the blood or body tissues. Gastrointestinal dysfunction plays a crucial role in the progression of critically ill patients, and promoting recovery of gastrointestinal function in severe sepsis has become a hot research topic in critical care medicine, with nursing care being integral to patient outcomes and prognosis [3]. Although gastrointestinal dysfunction is not immediately fatal, it prolongs recovery time and increases psychological burden. Therefore, targeted treatment combined with comprehensive TCM nursing intervention should be implemented to restore gastrointestinal function to normal levels [4]. Early goal-directed nursing involves timely fluid resuscitation based on hemodynamic status and systemic tissue hypoxia to correct circulatory abnormalities and systemic hypoxia, thereby preventing cardiac failure, severe inflammatory response, and reducing mortality.

Characteristic TCM nursing techniques, guided by TCM theory, employ a holistic perspective to provide syndrome-based nursing care, utilizing distinctive TCM herbal medicine and methods to deliver care and services for patients and populations to protect human health. From a TCM perspective, this disease results from disordered qi mechanism and abnormal blood circulation, representing a pattern of deficiency in the root and excess in the branch. Following the principle of treating the branch in acute conditions, Da Chengqi Decoction, which purges heat accumulation, demonstrates satisfactory efficacy in improving intestinal mucosal barrier function and promoting gastrointestinal recovery [5].

Clinical observations reveal that the incidence of gastrointestinal dysfunction in severe sepsis patients ranges between 34% and 55%. Gastrointestinal dysfunction is a common non-organic gastrointestinal disease characterized by abdominal pain, distension, nausea, vomiting, and altered bowel habits. In August 2021, our department admitted a patient with sepsis shock complicated by gastrointestinal dysfunction. Based on the nursing diagnosis, we developed a personalized TCM nursing plan that significantly improved diarrhea, fever, cough, and sputum production, with subsequent improvement in the patient's condition. This case report documents our approach.

Case Report

Patient Information

The patient, a 75-year-old male retiree, was admitted on August 24, 2021, with the chief complaint of “intermittent diarrhea with fever and productive cough for over half a month, worsening for one day.” On August 8, the patient experienced more than 10 episodes of diarrhea with a temperature of 39.2°C, diagnosed with acute gastroenteritis; after shock correction, he could consume liquid diet. On August 10, he was admitted to the general ward via emergency department, still experiencing diarrhea, lethargy, and hypotension with temperature 37.2°C, diagnosed with septic shock, receiving fluid resuscitation and vasopressors. On August 11, he was transferred to the ICU, alert with stable circulation, no diarrhea, temperature 36.3°C, with acute gastroenteritis and corrected shock, tolerating liquid diet. On August 24, the patient developed diarrhea, vomiting, and temperature 39.4°C, with acute gastroenteritis.

Past Medical History: Seven-year history of old cerebral infarction, over 20-year history of hypertension, hyperlipidemia, and type 2 diabetes, seven-year history of prostate hyperplasia, and over 40-year history of gallbladder stones.

Allergy History: Positive penicillin skin test (+) with localized skin redness.

Personal History: Native to the region, living in non-damp environment. Irregular smoking and alcohol consumption for over 50 years, quit for 7 years.

Auxiliary Examinations

Laboratory Tests: White blood cells 14.85×10^9 /L, neutrophils 85.3%, procalcitonin 0.11 ng/ml, C-reactive protein 18.7 mg/L, blood lactate 2.2 mmol/L, stool routine and occult blood negative.

Physical Examination: Watery diarrhea, high volume (14 episodes/day, 1604 ml/day), abdominal distension, epigastric tenderness, bowel sounds 4-6 times/min, nasogastric tube in place with 299 ml/24h gastric residual volume, temperature 39.4°C, blood pressure 92/40 mmHg, GCS score E3V5M4, productive cough with self-expectorated sputum accompanied by dyspnea, coarse breath sounds in both lungs with minimal moist rales and rhonchi, indwelling urinary catheter with light yellow urine.

Treatment Process

Infection Management: With maximum temperature 39.4°C and significantly elevated inflammatory markers, acute gastroenteritis was considered, without excluding aspiration pneumonia from vomiting. Pathogen testing was completed, and chest-abdomen-pelvis CT performed to identify infection foci and causative organisms. Meropenem 1g q8h was administered for anti-infection treatment.

Circulatory Support: Blood pressure 92/40 mmHg, watery stool volume 1604 ml, lactate 2.2 mmol/L indicated inadequate perfusion, acute gastroenteritis, and septic shock. Fluid resuscitation was initiated with close monitoring of blood pressure, intake/output, and lactate levels.

Digestive System Management: After initiating liquid diet, the patient developed diarrhea and two episodes of vomiting, possibly related to dietary intolerance, followed by elevated temperature and abdominal distension. Abdominal CT revealed significant intestinal gas accumulation. Enteral nutrition was discontinued, gastrointestinal decompression initiated, and rectal tube placed to assist gas evacuation.

Nursing Process

Nursing Assessment

Vital Signs: Temperature 39.4°C, pulse 104 beats/min, respiration 20 breaths/min, blood pressure 92/40 mmHg. **Consciousness:** Alert but weak. **Positioning:** Productive cough and dyspnea necessitated passive semi-reclining position. **Digestive System:** Nasogastric tube in place with 299 ml gastric residual volume. **Urinary System:** Indwelling catheter with average daily urine output 1200 ml. **Peripheral Circulation:** Warm extremities with strong dorsalis pedis pulses. **Psychological Status:** Anxious and tense. **Skin Condition:** Perianal erythema without breakdown. **Scores:** ADL score 0 (complete dependence), Braden score 14 (moderate risk).

Gastrointestinal Status (August 24): Watery yellow stool 14 episodes, stool volume 1604 ml; feeding volume 400 ml, gastric residual 299 ml; abdominal palpation revealed distension with tenderness, bowel sounds 4-6 times/min.

Nursing Plan

The nursing plan encompassed: gastrointestinal function management; anti-infection, fluid resuscitation, and vasopressor support with intestinal flora regulation; perianal skin management; and TCM emotional nursing.

Nursing Interventions

4.1 TCM Syndrome Differentiation: Collapse Pattern, Urgent Tonicification and Consolidation Syndrome-Based Nursing: Auricular point pressing (lung, spleen, kidney points) three times daily, 30-60 seconds per point per session, with stimulation intensity to mild pain tolerance, to regulate qi, relieve pain, improve diarrhea and distension, calm the mind, and regulate organ function through meridian transmission. CT showed significant intestinal gas accumulation with high stool volume; rectal tube was applied for gas evacuation. Large gastric fluid volume was managed with gastrointestinal decompression.

August 27 (Day 4 of Admission): Diarrhea showed no significant improvement due to sepsis shock requiring high-dose norepinephrine and metaraminol. Consciousness deteriorated with decreased urine output and hypotension, indicating acute renal failure requiring CRRT. Dyspnea worsened due to acute respiratory failure, necessitating endotracheal intubation and mechanical ventilation.

Bowel Status (August 27): Watery yellow stool 7 episodes, stool volume 1518 ml. **Gastrointestinal Status:** Feeding volume 650 ml, gastric residual 448 ml; abdominal distension with tenderness persisted, bowel sounds 4-6 times/min.

4.2 Syndrome-Based Nursing Care Herbal Colonic Instillation: Taohu Chengqi Decoction combined with Da Chengqi Decoction, 200 ml once daily, to promote smooth qi flow.

External Herbal Application: Mirabilite bag applied to abdomen, changed every 4 hours, to expel water and reduce swelling.

Acupoint Injection: Neostigmine 2 ml injected bilaterally at Zusanli (ST36) once daily to assist qi movement and bowel evacuation.

Auricular Point Pressing: Wangbuliuxingzi (Semen Vaccariae) seeds applied to lung, spleen, and kidney points three times daily, 30-60 seconds per point, to regulate qi, relieve pain, improve diarrhea and distension, calm the mind, and regulate organ function through meridian transmission.

Acupuncture: Points including Shangwan (CV12), Zhongwan (CV12), Xiawan (CV10), Tianshu (ST25), Guanyuan (CV4), Zusanli (ST36), Shangjuxu (ST37), Xiajuxu (ST39), and Sanyinjiao (SP6) needled once daily to promote qi movement, unblock fu organs, and purge heat.

Ginger-Partitioned Moxibustion: 0.2-0.3 cm thick ginger slices punctured with three-edged needles, 1-2 moxa cones per session, applied to Guanyuan (CV4), Shenque (CV8), Shangwan, Zhongwan, Xiawan, and Zusanli once daily until local skin became flushed without blistering, to strengthen spleen-stomach function and protect yang qi.

4.4 Perianal Skin Management Due to frequent, high-volume diarrhea causing perianal erythema without breakdown, glycerin oil was applied three times daily for its heat-clearing, detoxifying, and skin cell repair properties, accelerating cell regeneration and providing moisture protection. The patient was repositioned every 2 hours to prevent perianal pressure, and an air mattress was used to prevent pressure injuries.

4.5 TCM Emotional Nursing 4.5.1 Admission Assessment: The responsible nurse assessed the patient's daily routines, temperament, and preferences to prepare for high-quality individualized care.

4.5.3 Family Communication: Video calls with family members were arranged every Tuesday and Saturday at 4:00 PM for 30 minutes to facilitate emotional expression, mobilize patient motivation, and regulate qi and blood.

4.5.4 Abdominal Massage: Daily 10-minute abdominal massage at 4:00 PM was provided to promote bowel movements, reduce abdominal distension, induce relaxation, and facilitate gastrointestinal recovery.

Nursing Outcomes

5.1 Progressive Recovery: Feeding volume increased while gastric residual volume decreased. On August 24, auricular point pressing, gastrointestinal decompression, and rectal tube decompression were initiated. On August 27, herbal colonic instillation, mirabilite external application, auricular point pressing, acupuncture, and ginger-partitioned moxibustion were added. On September 6, mirabilite application and gastrointestinal decompression were discontinued; 10% glucose solution 20 ml/h was administered via nasogastric feeding pump. On September 10, ginger-partitioned moxibustion was discontinued; Pepsisorb 20 ml/h, rice soup 30 ml q8h, and homogenized diet 2 scoops + warm water 30 ml at 7:00 were administered via nasogastric tube. On September 13, acupuncture and acupoint injection were discontinued. On September 18, the patient's gastrointestinal function recovered, condition stabilized, and he was transferred to a general ward for continued treatment.

5.2 Stool Normalization: Stool form progressed from watery to soft and gradually formed, with frequency decreasing from multiple high-volume episodes daily to twice daily with normal volume.

5.3 Intra-Abdominal Pressure Monitoring: Timely monitoring of intra-abdominal pressure enables assessment of gastrointestinal motility and timely decompression intervention, helping prevent severe multiple organ dysfunction [6-9]. Additionally, physical stimulation through massage, kneading, and abdominal breathing exercises promotes gastrointestinal motility and can be combined with TCM spleen-stomach acupoint massage, with care taken to avoid skin damage and maintain cleanliness and dryness after procedures [10-12]. These combined measures constitute a bundled care protocol for gastrointestinal protection that is simple, feasible, and highly practical.

Research demonstrates that Da Chengqi Decoction can accelerate gastrointestinal motility, repair damaged intestinal mucosal barriers, improve intestinal microcirculation, promote gastrointestinal function recovery, and inhibit sepsis progression [13]. Herbal enema therapy via rectal administration offers advantages over oral administration by reducing drug decomposition by digestive enzymes and avoiding hepatic metabolism, allowing direct absorption through intestinal mucosa into the bloodstream with superior peak concentration and timing. TCM theory holds that the lung and large intestine are interior-exteriorly related; rectal administration can distribute medicinal effects throughout the body via meridians to achieve therapeutic outcomes. This simple, rapidly absorbed,

fast-acting method effectively improves clinical efficacy and has been widely applied in sepsis treatment [14]. *Evodia rutaecarpa*'s active alkaloid components warm the middle, dispel cold, and regulate qi to stop vomiting, providing dual gastrointestinal regulation while directly stimulating the large intestine to enhance peristalsis and produce purgative effects, thereby significantly improving gastrointestinal function and reducing intra-abdominal pressure in severe sepsis patients [7,14].

Dietary principles focused on enhancing immunity through vitamin-rich foods to regulate metabolic function and improve antibacterial and antiviral capacity [15].

Conclusion

Comprehensive TCM nursing interventions for sepsis shock complicated with gastrointestinal dysfunction, incorporating acupuncture, auricular point pressing, acupoint injection, herbal external application, and herbal colonic instillation combined with emotional nursing care, can effectively improve clinical symptoms, reduce pain, alleviate anxiety, enhance quality of life, and improve clinical outcomes.

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