A Case of Adjuvant Traditional Chinese Medicine Therapy and Psychological Nursing for Lower Extremity Arterial Embolism in a Very Elderly Patient (Postprint)

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Abstract

This article summarizes the experience of traditional Chinese medicine (TCM) adjuvant therapy and psychological nursing care for a super-aged patient with lower limb arterial embolism complicated by constipation. Preoperative measures included strict disinfection and isolation as well as standardized pain management; postoperative care involved enhanced monitoring of the patient' s condition, implementation of TCM acupoint application and acupoint massage for constipation, and provision of psychological nursing care to alleviate postoperative constipation and lower limb pain symptoms.

Full Text

Traditional Chinese Medicine Assisted Treatment and Psychological Nursing for a Very Elderly Patient with Lower Extremity Arterial Embolism: A Case Report

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Abstract

This article summarizes the experience of Traditional Chinese Medicine (TCM) assisted treatment combined with psychological nursing for a very elderly patient with lower extremity arterial embolism complicated by constipation. Preoperative measures included strict disinfection, isolation, and standardized pain management. Postoperative care involved intensive condition monitoring, TCM

acupoint application and acupoint massage for constipation, and psychological nursing to alleviate postoperative constipation and lower extremity pain symptoms.

Keywords: lower extremity arterial embolism; Traditional Chinese Medicine nursing; psychological care; pain; puncture; intervention therapy

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Lower extremity arterial embolism (AE) is a common vascular surgical emergency. Emboli typically originate from detachment of cardiac and aortic mural thrombi, and the condition carries high rates of amputation and mortality [1]. Therefore, the urgent priorities are to reconstruct lower extremity arterial blood flow and restore limb perfusion to avoid ischemic necrosis, reduce amputation, and improve patients' quality of life and survival rates. Very elderly patients (>95 years) often have significantly decreased hearing, communication difficulties, poor psychological resilience, and experience fear and anxiety about surgery, necessitating effective psychological guidance during the perioperative period to help them build confidence in overcoming the disease [2]. Interventional therapy is the main treatment for AE, offering simplicity and minimal trauma with widespread clinical application [3]. This article reports the experience of TCM assisted treatment and psychological nursing for a very elderly patient with lower extremity arterial embolism.

1 Clinical Data

The patient was a 95-year-old female admitted with a chief complaint of "left lower extremity coolness and numbness for over one month, left foot ulceration with pain for one week." She was diagnosed with lower extremity arterial embolism. Presenting symptoms included clear consciousness, weakness, low left foot skin temperature, pale coloration, swelling and ulceration with redness, dry gangrene at the tip with minimal exudate, pale red tongue with thin coating, old tongue quality, and a wiry pulse. Physical examination revealed palpable right femoral and popliteal arteries, weak left femoral pulse, and absent left popliteal and bilateral dorsalis pedis pulses. Both feet were cool with pitting edema, more severe on the left side.

Past medical history included cholecystectomy for gallstones 20 years previously, atherosclerotic gangrene, mild anemia, renal insufficiency, hypoalbuminemia, and carotid arteriosclerosis. Laboratory tests showed: white blood cell count $×10^{9}$/L, hemoglobin g/L, neutrophil percentage %, lymphocyte percentage %; troponin T ng/mL, CK-MB ng/mL, procalcitonin ng/mL, myoglobin ng/mL, albumin g/L, urea mmol/L, uric acid mmol/L, BUN mmol/L, chloride 414 mol/L, and high-sensitivity C-reactive protein mg/L. Color Doppler ultrasound revealed mild tricuspid regurgitation, atrial enlargement, bilateral carotid artery plaque formation, left ventricular diastolic dysfunction, left lower extremity atherosclerotic changes with occlusion of the left superficial femoral and anterior tibial arteries, mostly occluded left popliteal artery, left popliteal vein

thrombosis with partial recanalization, and right lower extremity arteriosclerosis. Electrocardiogram showed sinus arrhythmia.

Emergency procedures included femoral artery stenting, femoral artery balloon angioplasty, percutaneous femoral artery thrombectomy, tibial artery balloon angioplasty, peroneal artery balloon angioplasty, and lower extremity arterial catheter thrombolysis. The patient was transferred to the ward postoperatively in stable condition. On postoperative day 2, psychological therapy combined with manual assisted defecation and TCM assisted treatment were implemented. Postoperative bowel movements occurred every two days with good effect, and TCM therapy effectively relieved lower extremity pain. The patient was safely discharged on [date] with good follow-up recovery.

Nursing Care

Strict Disinfection and Isolation

During the COVID-19 pandemic, protective isolation in a single room was strictly implemented for this very elderly patient to create an optimal treatment environment.

Standardized Pain Management

Lower extremity coolness and pain are primary symptoms of arterial embolism [4], and pain causes emotional fluctuations. Standardized pain management helps stabilize patient emotions and ensures smooth surgical implementation. Upon admission, pain was assessed using the Numeric Rating Scale (NRS, 0-10 scale), with the highest pain score being 8. Nursing staff comforted and encouraged the patient while assisting the physician in placing a nerve block catheter. After injecting ropivacaine through the catheter, the pain score decreased to 3 within 30 minutes.

Postoperative Condition Monitoring

Key aspects of condition monitoring included:

Postoperatively, patient condition changes were closely monitored with routine ECG monitoring of vital signs including temperature, respiration, pulse, and blood pressure, with special attention to blood pressure fluctuations. Nasal cannula oxygen was administered, suction equipment was kept at the bedside, and ward rounds were conducted hourly.

The left groin received sandbag compression for 6 hours with left lower extremity immobilization for 24 hours. The puncture site and affected limb were closely observed for bleeding or subcutaneous hematoma. Left lower extremity skin temperature, dorsalis pedis pulse, and muscle tension were monitored to prevent reperfusion injury [5], with prompt reporting of abnormalities to the physician. Calf muscle compression and ankle pump exercises were guided to prevent deep vein thrombosis.

Intake and output were accurately recorded hourly, strictly controlling hourly fluid intake (including IV fluids, drinking water, food water content, and other

liquids consumed during treatment) and recording hourly output (including urine, stool, vomiting, sweating, and respiration). Total 24-hour intake and output were maintained in negative balance following the principle of "measure intake by output, better less than more."

After 6 hours, sandbag compression was discontinued and axial turning was assisted; after 24 hours, ambulation was assisted; after 6 hours, semi-reclining position for eating was permitted. Patients were instructed not to strain during defecation, and family members were informed to apply slight pressure to the puncture site when the patient sneezed or coughed to avoid increased abdominal pressure causing puncture site bleeding [6].

Constipation Intervention

The patient had not defecated for 2 weeks while bedridden. After emergency surgery requiring supine positioning and limb immobilization, gastrointestinal motility slowed and constipation risk increased significantly. On postoperative day 2, the patient complained of abdominal distension and difficulty defecating. To address this safely and without risk, manual assisted defecation was performed after perianal lubrication with paraffin oil, with continuous reassurance and encouragement throughout the process. After successful evacuation of retained stool, TCM interventions were implemented based on the patient' s tongue and pulse characteristics.

Midnight-Noon Ebb-Flow Acupoint Application: The Shenque (CV8) acupoint was selected. In TCM theory, Shenque is a crucial point on the Conception Vessel known as the "sea of yin meridians" where the Conception and Penetrating vessels intersect. Connected to all meridians internally and externally, it can regulate liver, kidney, spleen, stomach, heart, and lung functions while resolving stasis and regulating intestines. The dual regulatory effect of acupoint application combines drug absorption with acupoint stimulation to promote large intestine conduction and excretion [7].

Acupoint Massage: Points were selected according to the national standard "Nomenclature and Location of Acupoints" (GB/T 12346-2006) [8], including Tianshu (ST25, lateral to the umbilicus), Daheng (SP15, parallel to Tianshu), Guanyuan (CV4, on the midline below the umbilicus), and Zhongwan (CV12, on the midline above the umbilicus). Procedure: With the patient supine, knees flexed, and abdomen relaxed, the abdomen was massaged clockwise with the palm for 5 minutes, followed by digital pressure on Daheng, Tianshu (bilateral), Guanyuan, and Zhongwan for 2 minutes each. Treatment was administered 1-2 times daily between 9:00-11:00 (Spleen Meridian flow time) for 10 days per course.

Psychological Nursing

As a very elderly patient, psychological reactions during hospitalization and surgery were significant and required systematic psychological nursing intervention.

Respect and Attention: The patient' s prominent psychological needs were to

feel respected and valued. Given slightly impaired vision and hearing, communication was conducted at close distance with appropriately increased volume, patience, and smiles to enhance emotional connection.

Care and Concern: The patient experienced mood swings and refused medication and meals after dietary changes. Nurses established good communication, shared positive stories, arranged a cheerful roommate to create a pleasant atmosphere, patiently listened to concerns, and met reasonable needs to reduce psychological burden. Interactive postoperative health education provided encouragement.

Social Support: Video calls with beloved grandchildren and communication with other elderly patients about longevity experiences helped regulate the patient' s emotions.

Family Involvement: Based on patient preferences, family companionship was strengthened to increase patient security and trust, promoting active treatment cooperation.

Dietary Nursing

Combined with TCM dietary regulation, a personalized nutritional support plan was formulated. TCM theory holds that elderly postoperative patients often present with "multiple stasis and deficiency," easily leading to qi collapse and blood loss, with qi deficiency failing to promote circulation and worsening blood stasis, causing local swelling and pain. Dietary principles focused on tonifying spleen qi, nourishing yin and blood, and activating blood to remove stasis. Through early spleen-stomach nourishment followed by qi-blood regulation, local symptoms were relieved while nutritional status improved to promote recovery [9]. Given the patient' s advanced age and stubborn personality with refusal of hospital meals, psychological counseling was provided. After communication with the attending physician and nutrition department, a customized meal plan combining hospital meals with patient-preferred foods was implemented with small frequent meals, increased high-calorie and high-vitamin foods, and balanced nutrition.

Discussion

Very elderly patients have severe physiological decline and numerous comorbidities, with high postoperative risk of organ failure [10]. Therefore, surgery for such patients requires high-level attention, specialized medical-nursing teams, and multidisciplinary cooperation to ensure patient safety. Treatment and nursing plans must be scientific, systematic, and personalized according to the actual conditions of very elderly patients and their families. This patient, due to advanced age and communication difficulties, presented significant nursing challenges. Through medical-nursing teamwork and active postoperative interventions, the surgery was completed successfully with good limb function and eventual recovery, allowing safe discharge. This article summarizes these nursing experiences to provide reference for similar clinical nursing practice.

Conflict of Interest Statement: The authors declare no conflict of interest.

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