Nursing Care of Cryptogenic Organizing Pneumonia in a Gastric Cardia Cancer Patient During Immunotherapy: A Postprint

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Abstract

This article summarizes the nursing experience of a patient with gastric cardia cancer who developed cryptogenic organizing pneumonia during immunotherapy. For the patient who experienced severe immune-related adverse events (cryptogenic organizing pneumonia) during immunotherapy, the key nursing points included: strict protective isolation to prevent cross-infection, specialized and fundamental nursing care encompassing positioning care, oxygen therapy care, maintenance of the infusion port, body weight management, and symptom monitoring, strict medication guidance, skin care for herpes zoster that occurred following drug administration, as well as attention to the patient's psychological changes and emotional stabilization. After active treatment and meticulous nursing care, the patient's condition improved significantly, the cryptogenic organizing pneumonia was well controlled, and the patient was discharged successfully.

Full Text

Nursing Care for a Cardiac Cancer Patient with Cryptogenic Organizing Pneumonia Following Immunotherapy: A Case Report

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ABSTRACT

This article summarizes the nursing experience of a cardiac cancer patient who developed cryptogenic organizing pneumonia (COP) during immunother-

apy. The patient experienced severe immune-related adverse events (specifically COP) during treatment, requiring comprehensive nursing interventions including strict protective isolation to prevent cross-infection, specialized and basic nursing care (positioning, oxygen therapy, infusion port maintenance, weight management, and symptom monitoring), meticulous medication guidance, skin care for herpes zoster that developed after treatment, and psychological support to stabilize the patient's emotional state. Following active treatment and intensive nursing care, the patient's condition improved significantly, the COP was well-controlled, and the patient was discharged successfully.

KEY WORDS: immunotherapy; cardiac cancer; cryptogenic organizing pneumonia; herpes zoster

INTRODUCTION

Cardiac cancer, a subtype of gastric cancer, accounts for a significant proportion of gastric malignancies. True cardiac carcinoma originates at the anatomical site of the cardia, typically located within 2 cm below the esophagogastric junction. This cancer often presents insidiously, with low differentiation and high invasiveness, yet early symptoms are frequently absent. Consequently, most cases are diagnosed at intermediate or advanced stages, making immunotherapy a critical treatment modality. Research has demonstrated that nivolumab, a programmed death receptor-1 (PD-1) immune checkpoint inhibitor, exhibits durable antitumor activity in refractory advanced gastric or gastroesophageal cancer, significantly prolonging overall survival with favorable safety profiles. However, immunotherapy toxicities differ fundamentally from conventional chemoradiotherapy, presenting novel clinical challenges. When immune tolerance becomes dysregulated and affects normal tissues, immune-related adverse events (irAEs) occur. Cryptogenic organizing pneumonia represents a severe irAE, with reported incidence of organizing pneumonia estimated at 6-7 per 100,000, over half of which are cryptogenic. COP, classified as an acute or subacute interstitial pneumonia, typically presents subacutely with reversible fibrosis, though acute onset resembling acute respiratory distress syndrome (ARDS) occasionally occurs and can be fatal without prompt treatment. Currently, nursing literature regarding COP induced by PD-1 antibodies such as nivolumab remains limited. This report details the treatment and nursing management of COP in a cardiac cancer patient undergoing immunotherapy to inform clinical practice.

1. CLINICAL DATA

The patient was a 73-year-old male diagnosed with cardiac cancer, previously healthy. He initially received chemotherapy with partial response. Following regimen modification, he maintained partial response. On May 15, 2019, he underwent thoracic esophagogastrectomy with esophagogastric anastomosis and lymph node dissection under general anesthesia. Postoperative chemotherapy resulted in grade III nausea and vomiting, prompting a regimen change on November 26, 2019.

On November 26, 2019, review imaging suggested probable tumor recurrence with metastasis. Left lower lobe patchy and linear opacities were considered benign, with minimal left pleural effusion. The patient received natural killer (NK) cell therapy and PD-1 inhibitor treatment. On December 30, 2019, CT revealed bilateral multiple patchy and consolidation opacities, highly suspicious for COP, likely immune-related. PD-1 inhibitor was suspended, and intravenous methylprednisolone 80 mg was initiated. After 7 days, repeat chest CT showed slight absorption; methylprednisolone was reduced to 60 mg intravenously. Following another 7 days, CT demonstrated further absorption, and the dose was reduced to 40 mg intravenously. After an additional 7 days, CT showed good absorption, and treatment was converted to 40 mg oral methylprednisolone. After one week, the dose was reduced to 32 mg orally, with subsequent weekly reductions of 4 mg.

Concurrently, the patient developed scattered erythema and clustered vesicles on the anterior chest and neck, diagnosed as herpes zoster. Antiviral and neurotrophic agents were administered orally, with topical acyclovir cream applied. Pregabalin was added for significant pruritus and pain. On March 20, 2020, due to intolerable itching and severely compromised sleep quality, venlafaxine extended-release capsules (Effexor) were added. Acupuncture treatment and intermittent cervical ganglion block were performed. After two weeks, the patient's condition stabilized, immune-related pneumonia improved, skin lesions resolved, and he was discharged with instructions for regular follow-up.

2. NURSING CARE

2.1 Protective Isolation Oncology patients have relatively compromised immunity, necessitating stringent protective measures during daily care. The patient was managed in a private room with a sign limiting visitors. Environmental surfaces and floors were disinfected daily with 1,000 mg/L chlorine-containing disinfectant (Jianzhisu). Tableware was dedicated for single-patient use and sterilized by high-temperature steam. All medical equipment (thermometers, blood pressure monitors, monitors, stethoscopes) was dedicated to the patient's room. When caring for multiple patients, nurses followed the principle of attending to general patients before those with infectious diseases, performed hand hygiene per protocol, wore masks properly, and donned isolation gowns, sterile gloves, and disposable caps for strict aseptic procedures.

2.2 Specialized Nursing Care Specialized nursing interventions included positioning, oxygen therapy, infusion port maintenance, weight management, and symptom monitoring. For positioning, the patient was instructed to maintain a semi-recumbent position (head of bed elevated 30-45°) to facilitate breathing. Oxygen therapy was administered intermittently per physician orders with appropriate flow rates; the patient was educated about oxygen safety and prohibited from adjusting concentrations. Post-nebulization, the patient was taught effective sputum expectoration techniques with demonstration and assisted back

percussion to facilitate secretion clearance.

Infusion port maintenance required strict aseptic technique for all access and maintenance procedures, with each shift assessing the dressing integrity and surrounding skin condition. Weight was monitored weekly with documentation of changes. Symptom monitoring was crucial following ganglion block, as the patient developed neurological symptoms including ipsilateral ptosis, facial deviation, and unilateral upper extremity weakness, requiring safety precautions. Additionally, nurses remained attentive to patient complaints, promptly reporting abnormalities and monitoring post-procedural status.

2.3 Basic Nursing Care Basic nursing encompassed environmental management, dietary guidance, and daily living support. The room temperature was maintained at 24-26°C with 50-60% humidity, appropriate for an elderly patient with occasional non-productive cough. Bed linens were kept clean and comfortable. The patient was encouraged to maintain adequate hydration and consume nutrient-rich, easily digestible foods with daily fruit intake. Rest was emphasized, particularly given poor nocturnal sleep; daytime naps were encouraged with appropriate activity levels. Post-activity sweating required prompt clothing changes and warmth maintenance. For outpatient examinations, additional clothing, masks, and hats were recommended for warmth and protection, with hand hygiene upon return.

2.4 Pain Management Pain was assessed daily using the Numeric Rating Scale (NRS). Analgesia was administered according to the three-step analgesic ladder based on pain severity. For herpes zoster lesions, topical acyclovir cream was applied daily: residual medication was gently removed with sterile saline-soaked cotton balls, followed by application of fresh cream using circular motions with sterile swabs to promote absorption. Sterile gauze separated lesions from clothing to prevent irritation. Post-acupuncture, the patient avoided water contact for 4 hours and maintained warmth. Following ganglion block, sterile dressings protected the puncture site to prevent infection.

2.5 Psychological Support The patient experienced mild anxiety due to disease progression and poor sleep quality. Sedative-hypnotics were prescribed, with gentle nighttime rounding. Nurses actively inquired about his condition, listened patiently to concerns, and used encouraging language to build confidence. The patient enjoyed reading; books were provided, and television programs were played to distract from anxiety and promote relaxation. Neurological symptoms post-ganglion block were explained as normal medication effects that would resolve with drug absorption, alleviating fear. Steroid-induced side effects such as moon facies and central obesity were proactively discussed, with reassurance that these would resolve after treatment completion to maintain medication adherence. Without family accompaniment, nurses communicated frequently with genuine, calm demeanor to provide emotional warmth.

2.6 Medication Guidance and Adverse Effect Management Long-term steroid therapy predisposes to multiple adverse effects requiring vigilant monitoring and prompt intervention. For gastrointestinal bleeding prophylaxis, gastroprotective agents were administered: intravenously before steroid infusion and orally 30 minutes before meals during oral therapy, with steroids taken with food. Nurses monitored for hematemesis, melena, and gastric discomfort, obtaining stool specimens for laboratory testing as ordered. Osteoporosis prevention included calcium supplementation per physician orders. Edema was assessed each shift by examining lower extremities for fluid retention, with attention to urinary output. Fat redistribution (moon facies, central obesity) was monitored and explained to the patient.

3. DISCUSSION

COP is a type of idiopathic interstitial pneumonia diagnosed when organizing pneumonia of unknown etiology is identified pathologically after excluding known causes. COP typically presents with mild initial symptoms including fever, irritative cough, generalized fatigue, and weight loss—flu-like manifestations that warrant heightened vigilance. Hormone therapy demonstrates excellent efficacy. As immunotherapy becomes increasingly important in cancer treatment, COP as a serious complication demands attention. Clinicians must maintain close observation during immunotherapy to detect COP early. When COP occurs, nursing care must align with treatment protocols and address patient-specific symptoms.

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