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Introduction

Comatose state with severe hypoxemic acute respiratory failure from drug abuse is life-threatening. Depressed respiratory drive and impaired alveolar ventilation lead to critical hypoxemia. Immediate airway management, ventilatory support, and intensive monitoring are essential to prevent irreversible brain injury, organ failure, and improve chances of recovery in these patients.

Methods

The patient arrived at the emergency department in a comatose state with severe hypoxemic acute respiratory failure secondary to drug abuse. Initial management included orotracheal intubation and invasive mechanical ventilation, followed by non-invasive ventilation and high-flow nasal cannula therapy. Imaging revealed a bronchopneumonic focus in the left lung with associated pleural effusion, complicated by superinfection with *Klebsiella pneumoniae* and *Proteus mirabilis*. Additionally, the patient developed acute anemia and acute renal failure. As a result, he underwent four cycles of continuous veno-venous hemodiafiltration (CVVHD) combined with CytoSorb therapy (4 CytoSorb changed every 12 hours) to support renal function and modulate the inflammatory response.

Results

The patient was transferred from the intensive care unit to the Respiratory Diseases Department in stable and clearly improving condition. The pleural effusion showed advanced resolution, accompanied by progressive improvement in key clinical parameters, including the P/F ratio, mean arterial pressure (MAP), serum creatinine levels, and overall renal function

Conclusion

Dialysis combined with CytoSorb therapy, administered at appropriate frequency and dosage, represents an effective therapeutic option for patients with severe hypoxemic acute respiratory failure due to drug abuse. This approach supports renal function and helps control the systemic inflammatory response, contributing to overall clinical stabilization and improved patient outcomes.