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Introduction

The "golden hour" in sepsis treatment is critical; early recognition and intervention significantly improve survival. Administering antibiotics, fluids, and source control within this window reduces organ failure and mortality. Prompt care during this first hour is essential for optimal outcomes in septic patients, also with extracorporeal therapies for blood purification as CRRT and hemoadsorption.

Methods

A 52-year-old patient presented to the emergency room with a high fever, redness, swelling, and pain in his right arm, suggestive of an infectious condition—possibly erysipelas—potentially caused by an insect bite or injury from a contaminated object. Due to worsening clinical status and vital signs, along with the onset of septic shock and acute renal failure, he was admitted to the intensive care unit. Hemodynamic support was initiated with norepinephrine due to severe hypotension secondary to septic shock. From the first day of hospitalization, the patient underwent hemofiltration using a CVVHD machine in combination with CytoSorb therapy. Three sessions of CVVHD were performed, each with a new CytoSorb cartridge

Results

On day 3, CytoSorb and CRRT treatments were discontinued, as the infection and sepsis had fully resolved. The patient showed improved vital signs, regained full hemodynamic stability (with norepinephrine gradually tapered and permanently stopped by day 3), and experienced recovery of both renal and respiratory function. Laboratory markers, including procalcitonin and creatinine (see Figure 1), showed consistent improvement. Broad-spectrum empiric antibiotic therapy was continued despite negative culture results. The antibiotics administered included meropenem, daptomycin, clindamycin, and doxycycline.

Conclusion

This case highlights the importance of early recognition and aggressive management of sepsis and septic shock. The combination of timely antibiotic therapy, hemodynamic support, and advanced blood purification strategies—specifically CVVHD and CytoSorb therapy—played a crucial role in the rapid clinical improvement and organ function recovery of the patient.

Figure 1: PCT and Creatinine trend

