

# Use of CytoSorb Hemoperfusion in a Bilateral Lung Transplant Patient with Sepsis and Acute Kidney Injury: A Case Report

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## Introduction

This case report describes a 65-year-old male who underwent bilateral lung transplantation for Idiopathic Pulmonary Fibrosis (IPF) with a Usual Interstitial Pneumonia (UIP) pattern associated with rheumatoid arthritis.

## Methods

The patient, a former smoker, had a history of arterial hypertension. The transplant procedure was complicated by airway bleeding. Following the isolation of NDM-producing *Klebsiella* in the bronchoalveolar lavage, antibiotic therapy with ceftazidime/avibactam and aztreonam was initiated. Due to a high SOFA score and the presence of anuria with hyperkalemia, the patient was started on citrate-anticoagulated continuous veno-venous hemodialysis (CVVHD) combined with CytoSorb hemoperfusion for 24 hours.

## Results

Laboratory data were collected prior to CytoSorb initiation and up to four days post-treatment (Figure 1A). The data showed a reduction in White Blood Cell (WBC) count and a slight decrease in C-reactive protein (CRP). In contrast, lactate and procalcitonin (PCT) levels remained stable after treatment. The vasoactive inotropic score (VIS) was used to objectively quantify the level of hemodynamic support required (Figure 1B). The graph shows an increase in VIS up to 24 hours post-treatment, followed by a decrease over the subsequent days. This trend suggests that the combination therapy including CytoSorb may have contributed to hemodynamic stabilization and a reduced need for vasopressors, likely through modulation of the inflammatory response in this critically ill post-transplant patient. No dose adjustments of antibiotic therapy were required during treatment, and no CytoSorb-related complications were observed.

## Conclusion

If these findings were confirmed in a larger patient population, and in light of existing literature, it could be suggested that the reduction in circulating catecholamines may help decrease vasoconstriction and reduce the risk of organ damage—highlighting CytoSorb's potential in mitigating vasopressor-related toxicity.

Figure 1: laboratory data and VIS score over treatment period

