

# BLOOD PURIFICATION WITH CYTOSORB® IN SEPTIC SHOCK WITH INTRAVASCULAR DISSEMINATED COAGULATION: CASE REPORT.



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## Background

Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection. Septic shock is defined as sepsis with persisting hypotension requiring vasopressors to maintain MAP  $\geq 65$  mm Hg and having a serum lactate level  $>2$  mmol/L (18 mg/dL) despite adequate volume resuscitation. Early identification and appropriate management in the initial hours after the development of sepsis improve outcomes. Disseminated intravascular coagulation (DIC; also called consumption coagulopathy and defibrination syndrome) is a systemic process with the potential for causing thrombosis and hemorrhage. It can present as an acute, life-threatening emergency or a chronic, subclinical process. It can occur in sepsis and septic shock conditions. Identifying DIC and the underlying condition responsible for it are critical to proper management.

## Methods

We present the case of a 47-years-old female patient, without relevant comorbidities, with acute and severe septic shock and DIC originated from a urinary infection sustained by E. Coli. In this case report we evaluate the impact of the CytoSorb blood purification therapy on multiple organ dysfunction syndrome caused by septic shock. She underwent CytoSorb treatment with the following protocol: 2 cartridges on the second day from admission in ICU (12 hours of treatment each CytoSorb), 1 cartridge for 24 hours on the third day and 1 cartridge for 24 hours on the fourth day.

## Results

The results are shown in figure 1. Improvement of hemodynamics and cardiac function (together with a Levosimendan treatment), reduction until stop of vasopressors support, gradual improvement of the P/F ratio (two failures of weaning with intubation), improvement of platelet count, renal function until resumption of spontaneous diuresis, liver function. Progressive reduction of inflammation indices and lactates.

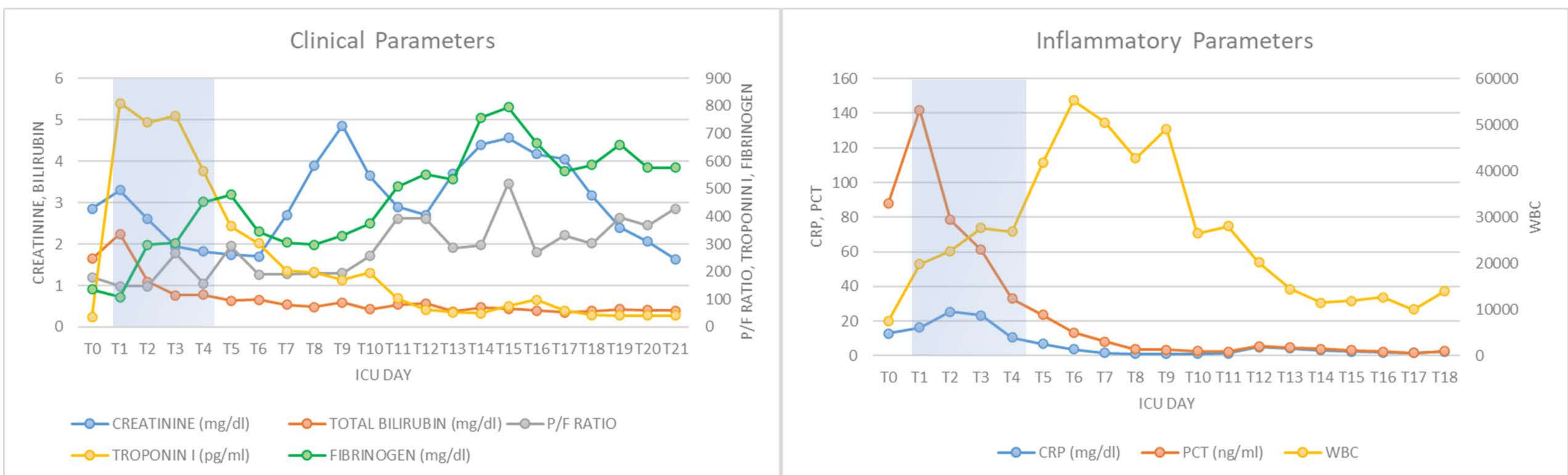


Figure 1: Clinical and inflammatory parameters trend during CytoSorb Therapy (light blue box) and ICU stay

## Conclusions

The early use of hemadsorption with CytoSorb therapy together with appropriate antibiotic therapy and an early intervention strategy for septic shock and its complications seems to have improved the clinical status and the organ function, determining the good outcome of this patient.