

# The use of CytoSorb in septic shock patients with MOF due to inveterate stercoraceous peritonitis from perforated diverticulitis

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## Background

Sepsis and septic shock are characterized by complex organ dysfunction caused by a misdirected host response to infection with persistent high morbidity and mortality. An important determinant of multi-organ dysfunction is the excessive release of pro and anti-inflammatory cytokines. Hemoadsorption using CytoSorb<sup>®</sup> offers a new therapeutic approach. In this case we report the use of Cytosorb in a septic shock patient with MOF.

## Materials and Methods

We present a case of 62-years-old woman admitted to Emergency Unit for abdominal pain with asthenia and hypotension. In the history she presented chronic renal failure, bowel diverticulosis and ischemic cardiomyopathy. CT scan with contrast diagnosed acute abdomen from probable diverticular intestinal perforation. Resection of the sigma according to Hartman, with left colostomy, was performed for a picture of inveterate diverticular perforation of the colon with associated stercoraceous peritonitis. Postoperatively, hemodynamic was supported with noradrenaline 0.2 µg/kg/min, she needed for hemodialysis, depurative and ultrafiltrate treatment for hyperpotassemia. Elevated sepsis markers showed the presence of septic shock with MOF, so within 12 hours after surgery, hemoadsorption with CytoSorb was started with CRRT in CVVHD mode.

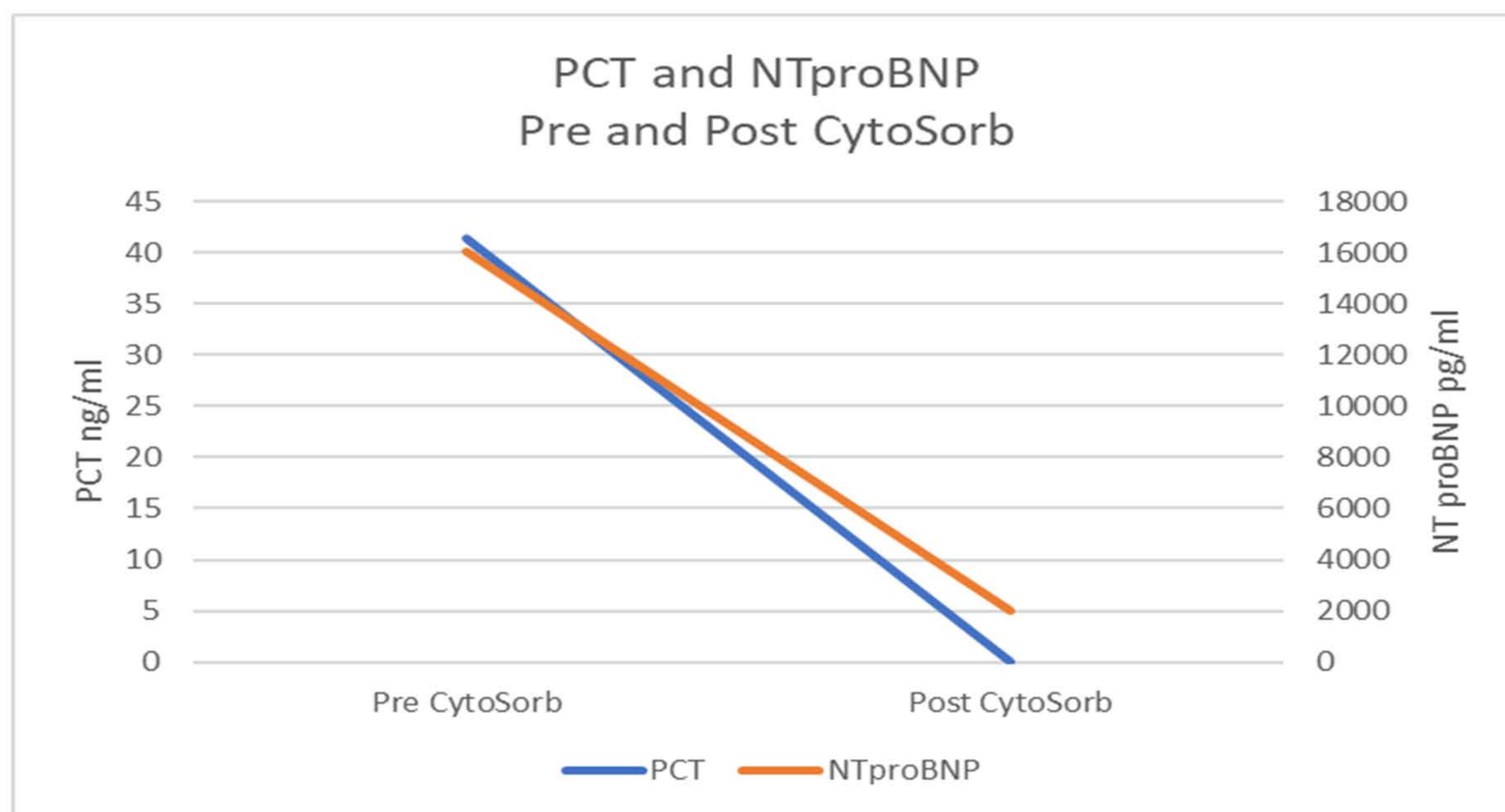


Figure 1: PCT and NTproBNP pre and post CytoSorb

## Results

After 24 hours of CytoSorb with CVVHD there was an improvement in hemodynamic and support with noradrenaline was discontinued. Respiratory parameters also improved with weaning from mechanical ventilation 24 hours after surgery. Inflammation indices remained constant (PCR from 422 mg/L to 391 mg/L) indicating, however, a clear control of the hyperinflammatory situation post-treatment. Sepsis markers showed a return to normal (PCT - procalcitonin from 41.36 to 0.06, WBC from 12.000 to 10.120 mm<sup>3</sup>, myoglobinemia from 943 to 358 µg/l) and there was also a clear improvement in NTproBNP from 16,078 to 2,000 pg/ml). In figure 1 is show PCT and NTproBNP trend.

## Conclusion

In this case the use of CytoSorb shows to be effective to stabilization of hemodynamics, resolution of metabolic acidosis, control of hyperinflammatory response and sepsis. CytoSorb therapy was found well tolerated and safe, without adverse reaction.