

# CytoSorb in a case of fulminant toxic shock syndrome from $\beta$ -hemolytic streptococcus group A with severe circulatory shock and multiple organ failure

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This case study reports on a 46-year-old female patient who was admitted to emergency department with beginning septic shock.

## Case presentation

- 14 days prior in proctological treatment for rectal herpesvirus infection and initiation of therapy with acyclovir
- Since 3 days painful swelling of lymph nodes in the groin and for the last 2 days chills followed by abdominal pain, diarrhea and vomiting
- Suspecting toxic shock syndrome, the contraceptive coil was removed and patient was started on broad-spectrum antibiotic therapy
- Venous blood gas analysis exhibited metabolic acidosis (pH 7,26, BE -9, 2mmol/l, lactate 8,22 mmol/l)
- On admission to ICU patient was awake and fully oriented, however despite massive fluid replacement (+8000 ml until transfer) and noradrenaline administration persistent hypotension (70 mmHg systolic) and tachycardia
- In the following hours development of fulminant shock syndrome with massive volume requirement, highest needs for catecholamines (noradrenaline up to 4.5 mg/h), respiratory insufficiency, oliguria/anuria, capillary leakage and pronounced disseminated intravascular coagulation (DIC)
- Explorative laparotomy with unclear abdomen and further deterioration of clinical status gave no indication on the septic focus
- Due to multiple organ failure (4) because of the massive inflammatory reaction as well as a persisting hitherto therapy-refractory septic shock, CRRT was started in combination with CytoSorb therapy

## Treatment

- One CytoSorb treatment sessions for a total period of 24 hours
- CytoSorb was used in conjunction with CRRT (multiFiltrate, Fresenius Medical Care) in CVVHD mode
- Blood flow rate: 100 ml/min
- Anticoagulation: citrate
- CytoSorb adsorber position: pre-hemofilter

## Measurements

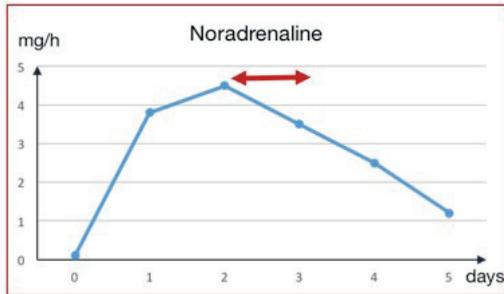
- Demand for catecholamines
- Lactate

## Results

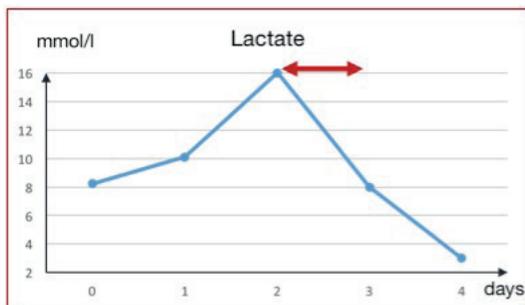
- Hemodynamic stabilization of the patient with significantly decreased needs for catecholamines
- Effective reduction of lactate levels during the CytoSorb sessions

## Patient Follow-Up

- Diagnosis of toxic shock syndrome with proof of  $\beta$ -hemolytic streptococcus on removed coil
- Despite hemodynamic stabilization severe microcirculatory failure with necrosis on hands and feet on both sides
- In the further course short uroseptic period with urine congestion of unclear etiology (Double J placement)
- Necessity for amputation of the right hand and lower legs on both sides
- Finally successful transfer to rehabilitation unit



←→ CytoSorb



←→ CytoSorb

## CONCLUSIONS

- Treatment with CytoSorb resulted in a significant stabilization of hemodynamics and declining needs for catecholamines as well as an effective reduction of lactate plasma levels