

CytoSorb in postoperative septic shock after pylorus-preserving pancreaticoduodenectomy

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This case study reports on a 71-year-old male patient who presented at the hospital with painless icterus, reduced general condition and significant weight loss and who was later diagnosed for having pancreatic carcinoma.

Case presentation

- Two days after initial admission surgical pylorus-preserving pancreaticoduodenectomy (PPPD) with uncritical intraoperative course
- Postoperatively the patient developed fever exhibiting clinical signs of sepsis
- Diagnosis of a pancreatic fistula with subsequent reoperation
- After reoperation the patient was in critical condition, septic toxic shock, high doses of catecholamines, PCT 21 ng/ml, IL-6 >5000 pg/ml
- Severely impaired renal function with increased retention parameters and anuria with immediate initiation of citrate dialysis (CVVHD)
- Due to sharp increase of inflammatory markers and progressive need for catecholamine, the patient was treated with CRRT in combination with CytoSorb

Treatment

- Two CytoSorb treatment sessions for 24 hours each
- CytoSorb was used in conjunction with citrate dialysis (Multifiltrate; Fresenius Medical Care) in CVVHD mode
- Blood flow rate: 100 ml/min
- Anticoagulation: citrate
- CytoSorb adsorber position: pre-hemofilter

Measurements

- Demand for catecholamines
- Inflammatory parameters (IL-6, PCT)
- Renal function (excretion)

Results

- 1. treatment: Reduction of IL-6 from 4800 pg/ml to 315 pg/ml and hemodynamic stabilization of the patient with significantly decreased needs for catecholamines
- 2. treatment: reduction of IL-6 from 315 pg/ml to 79 pg/ml and further stabilization of the patient
- Additional decrease of inflammatory parameters (CRP) and of PCT from initially 21 ng/ml to 11.9 ng/ml during the course of both treatments

Patient Follow-Up

- After the described initial clinical improvement the patient developed recurring septic episodes in the further course with necessity for another operation due to persisting pancreatic fistula and a complete necrosis of the remaining pancreas with futile prognosis, and as a result the patient died

CONCLUSIONS

- Combined treatment of CRRT with CytoSorb resulted in a clear and quick stabilization of hemodynamics with declining needs for catecholamines and a pronounced reduction of inflammatory mediators
- Handling of the adsorber was easy and safe