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CytoSorb in a case of caecum perforation and fecal 4-quadrant peritonitis

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This case study reports on a 76-year-old male patient who underwent emergency laparotomy due to an acute abdomen after a previous total hip replacement surgery.

Case presentation

- Intraoperatively confirmed colon perforation with 4 quadrant fecal peritonitis
- On admission to ICU after preceeding surgery the patient was in septic shock with need for high catecholamine doses and mechanical ventilation
- Due to concomitant onset of renal failure with highly elevated inflammatory and infection markers (leucocytes 18.3, PCT 14.2, IL-6 >5000, CRP 459), the patient was started on renal replacement therapy in combination with CytoSorb

Treatment

- Three consecutive CytoSorb treatment sessions of 24 hours each over a total period of 72 hours
- Cytosorb was used in conjunction with CRRT (Baxter BM11a/BM14) in CVVHF mode
- Blood flow rate: 140 ml/min
- Anticoagulation: citrate
- CytoSorb adsorber position: pre-hemofilter

Measurements

- IL-6, PCT, CRP, leucocytes
- Demand for catecholamines
- Renal function (diuresis, creatinine, urea)

Results

- Hemodynamic stabilization of the patient with significantly decreased needs for catecholamines
- Effective reduction of IL-6 levels down to 200 pg/ml after the last treatment
- Declining plasma levels of CRP and PCT during the three CytoSorb sessions
- Marked improvement of renal function with onset of spontaneous diuresis and decreasing retention parameters

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Patient Follow-Up

- In the further course secondary wound infection with local abdominal wall infection, requiring intraabdominal lavage, debridement and ultimately secondary abdominal wall closure
- Delayed weaning, critical illness polyneuropathy
- Successful transfer of the patient to a neurologic rehabilitation unit in the further course

CONCLUSIONS

- Treatment with CytoSorb resulted in a significant stabilization of hemodynamics with declining needs for catecholamines, an effective reduction of inflammatory markers as well as a considerable improvement of kidney function
- Handling of the absorber was safe and easy after an initial training phase