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## A435 - *Adjunctive cytokine hemoadsorption in toxic shock syndrome: a case series*

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### **Introduction:**

Toxic shock syndrome (TSS) carries high mortality despite antimicrobials and organ support. As additional therapeutic option for patients who do not respond to standard of care, use of inflammatory mediator adsorption may be considered. We describe our experience with adjunctive hemoadsorption in patients with TSS.

### **Methods:**

In this case series we included seven consecutive ICU patients with TSS requiring  $\geq 0.3$   $\mu\text{g}/\text{kg}/\text{min}$  norepinephrine despite standard care: four with necrotizing fasciitis, two with postpartum endometritis, and one with community-acquired pneumonia. In all patients, *Streptococcus pyogenes* or *Streptococcus pneumoniae* were identified as the pathogen. Each patient received blood purification approach, which included CRRT with an enhanced-permeability membrane (EMIC2) and an inflammatory mediator adsorber (CytoSorb) for 1-2 sessions. We report baseline characteristics and the evolution of the Vasoactive-Inotropic Score (VIS), serum lactate, interleukin-6 (IL-6), procalcitonin (PCT), and SOFA score over 72 hours.

### **Results:**

Patients were severely ill at hemoadsorption initiation (median SOFA 16 [IQR 14-18], median norepinephrine 1.2  $\mu\text{g}/\text{kg}/\text{min}$  [0.95-1.3]). Within 72 hours, we observed a reduction in median SOFA score (from 16 to 6), VIS (from 120 to 35), lactate (from 3,4 to 1,2 mmol/L), PCT (from 52.6 to 18.65 ng/ml) and within 48 hours- reduction in median IL-6 (from 3450 to 236 pg/mL). Shock was reversed (vasopressor-free for >24h) in 6/7 patients. Six patients survived to ICU discharge, and one died from refractory multiorgan failure.

### **Conclusion:**

In this case series, adjunctive inflammatory mediators hemoadsorption was integrated into CRRT for severe TSS. Clinical improvement, including hemodynamic stabilization and MOF severity reduction, was observed following its application. These preliminary findings support the feasibility of this approach and justify further investigation in controlled trials.