Cytokine Removal Therapy in Sepsis with neutral-macroporus sorbent– Case Report

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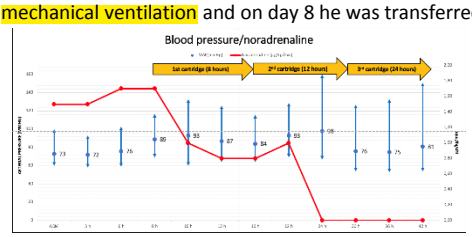
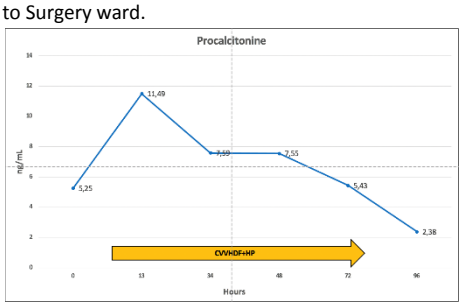
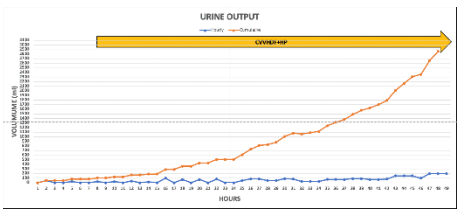
Case presentation:

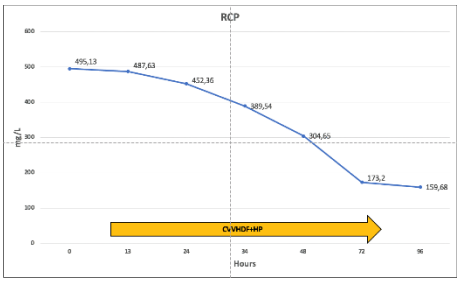
A 79 years-old male admitted to the ICU from the OR after emergent surgery due to suture dehiscence and diagnosed of fecaloid peritonitis and septic shock with MODS. He was hemodynamically unstable, with unresponsiveness to fluids and received high doses of vasopressors (up to 1.7 µg/kg/min of noradrenaline), peripheral hypoperfusion, increase in lactate (3.5 mmol/L) and low urine output.

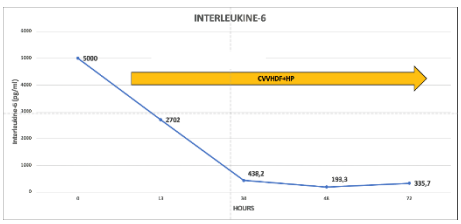
Lab tests showed lactic acidosis, low white blood cell (2.59x10^3/µL with neutrophil 62.6%). PaO_2/FiO_2 158 mmHg. The C-reactive protein (CRP) level was 495.13 mg/L (nv<10 mg/L), procalcitonin levels were high (5.25 ng/ml, nv<0.5 ng/ml) IL-6 >5000 pg/mL (nv <40 pg/mL). SOFA score 11 points. SAPS III 88 points (predicted mortality 83%). He received meropenem (continuous perfusion) and linezolid. CVVHDF(Baxter Prismaflex) with RCA and three times Hemoperfusion (Jafron HA380) were conducted. Changes of inflammatory mediators, blood pressure, doses of vasopressor, diuresis were monitored. Favorable clinical progression. No major complications related to HP. On day 4 of admission RRT was stopped, on day 5 he was weaned from mechanical ventilation and on day 8 he was transferred to Surgery ward.











Conclusion:

- Cytokine removal therapy should be considered in unresponsiveness septic shock.
- Potential role of HP (isolated or associated with CRRT) for:
  - Decrease cytokines and inflammatory mediators
  - Stabilize hemodynamic with decrease in requirements for vasopressors
- Safe technique with close and correct monitoring.

Reference:
Matsumoto, H., et al. Sci Rep 8, 13995 (2018).
Honore, P. M. et al. Intensive Care 9, 56 (2019).

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