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CytoSorb-friend or foe!!

Sir,

We read the case report “use of a novel hemadsorption device for cytokine removal as adjuvant therapy in a patient with septic shock with multi-organ dysfunction: A case study” by Basu et al.[1] with great interest.

We would like to share our experiences with a similar patient in our Intensive Care Unit and discuss some of the intriguing points.

We had a 79-year-old male patient in severe septic shock (urosepsis) with multi-organ failure (acute on chronic renal failure, acute respiratory distress syndrome, Arterial hypotension, drowsy mentation), acute physiology and chronic health evaluation (APACHE II) score on admission was 32, started on CytoSorb (CytoSorbents Corporation, USA) therapy along with sustained low effusion dialysis (SLED) in citrate at a flow rate of 100 ml/min, with in 15 h of admission along with standard surviving sepsis guidelines treatment.

He improved with 3 days of CytoSorb hemadsorption along with SLED for 6 h every day, as reflected by improved hemodynamic parameters, ventilator requirements along with increasing urine output. He had improved to APACHE II score of 8 after day 3 of therapy, and his interleukin-6 (IL-6) levels, which were to start with 1356.3 pg/ml dropped down to 26.12 pg/ml.

However, he started to deteriorate clinically on 5th day onwards despite all on-going supportive care, let us think about the immune-modulation done with CytoSorb therapy.

CytoSorb contains adsorbent polymer beards that adsorb cytokines as blood pass through the device. Among cytokines, there are few harmful pro-inflammatory cytokines like IL-1, 6, 8 and tumor necrosis factor and few useful anti-inflammatory cytokines like IL-10 and tumor growth factor-β.[2]

Does the CytoSorb hemadsorption distinguishes among them needs to be ascertained? As our case probably deteriorated due to immunosuppression by the removal of helpful anti-inflammatory cytokines.

So perhaps randomized controlled trials are necessary to check the risk-benefit ratio of hemadsorption therapy in severe septic patients.

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