Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to Editor

Continuous renal replacement and removal of inflammatory mediators in sepsis: Still an open debate

Dear Editor,

We read with great interest the article by Wu et al about the role of continuous renal replacement therapy (CRRT) in sepsis-associated kidney failure; the authors reported that in septic patients CRRT allowed a better recovery of renal function and a reduction of inflammatory biomarkers.[1] Particularly, the authors found that the expression levels of IL-9, TNF-α, and INF-γ were significantly reduced after a CRRT performed with a flow rate of 40 ml/kh/h.[1] More recently CRRT has been used in COVID-19 patients developing acute kidney injury both to treat renal failure and to remove the mediators of cytokines storm.[2] Dialysis dose is crucial to determine the efficacy of CRRT in septic patients, but the correct dose is still a matter of debate.[3] The flow rate is conventionally set between 20 and 35 ml/kg/h; CRRT performed with a dialysis dose greater than 35 ml/kg/h is defined high volume hemofiltration Both mediators and pro-mediators of inflammation are removed by high volume hemofiltration not only from the blood but also from the interstitial fluids and the tissues; when the concentration of these molecules falls below a certain threshold, the inflammatory cascade is blocked.[4] Indeed, in septic patients, a high flux hemofiltration at 60 ml/kg/h was found to progressively reduce the circulating cytokines and to increase the transcriptional activity of IL-6 produced by peripheral blood mononuclear cells.[5] Since we strongly believe that CRRT not only removes inflammatory mediators in a non-selective way during sepsis[5] but also may affect the transcription of inflammatory mediators we would ask the authors to add more details about the choice of a flow rate of 40 ml/kg/h. Furthermore, the authors should better specify which routine therapies have been applied to the control group and discuss their role on cytokine modulation.

Declaration of competing interest

The authors have no conflict of interest.

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Pasquale Buonanno, Giuseppe Servillo, Maria Vargas*
Department of Neurosciences, Reproductive Sciences and Odontostomatology, University of Naples Federico II, Naples, Italy

* Corresponding author. Department of Neurosciences, Reproductive and Odontostomatological Sciences, University of Naples "Federico II, Via Pansini, 80100, Naples, Italy.
E-mail address: vargas.maria82@gmail.com (M. Vargas).

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