

The use of Polymyxin B Hemoperfusion for COVID-19 Patients with endotoxic shock

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BACKGROUND

Recent published data show how endotoxemia and bacterial DNA are frequently found in patients with COVID-19 pneumonia, indicating that loss of intestinal barrier function can contribute to the pathogenesis of COVID-19. In addition, patients who are hospitalized for extended periods in an ICU are more prone to superimposed infections.

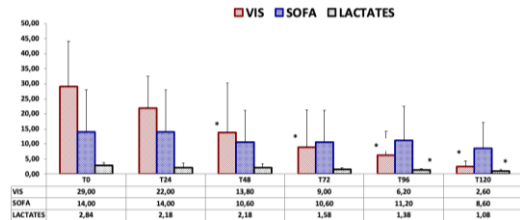
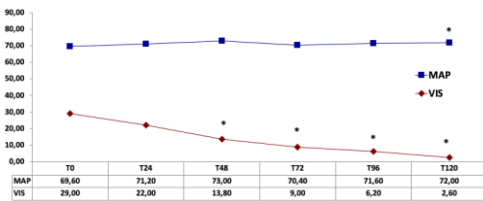
OBJECTIVES

In this retrospective analysis we report our experience of Polymyxin B hemoperfusion (PMX-HP) as complementary therapy for unresponsive endotoxic shock management in 5 patients with COVID-19 hospitalized in our ICU ward between February and April 2020. To the best of our knowledge, there is no data published yet concerning PMX-HP use in COVID-19 patients.

METHODS

In the present case series, we evaluated the impact of PMX-HP as adjunctive therapy in a population of patients affected by COVID-19 and confirmed endotoxic shock identified by measurement of endotoxin activity at enrollment. Hemodynamics and main clinically relevant outcome parameters were monitored. PMX-HP treatment consists of 2 hemoperfusion sessions, the second session performed 24 hours after the first one, at a blood flow rate of 100 ml/min. Unfractionated heparin was used as standard anticoagulant.

RESULTS



PMX-HP treatment was associated with rapid hemodynamic stabilization with reduction of Vasopressors Inotropic Score (VIS), reduction in blood lactate levels, rapid decrease in EA levels in a population affected by SARS-CoV-2 and endotoxic shock.

CONCLUSION

Endotoxic shock could be associated to SARS-CoV-2. PMX-HP can be considered for management of unresponsive endotoxic shock. In our cases, PMX-HP treatment was associated with rapid hemodynamic improvement associated with a rapid decrease in vasopressor use, blood lactates and EAA levels.

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