

Hemoperfusion reduced mortality and renal damage in patients with respiratory insufficiency secondary to SARS-CoV2 neumonia

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Introduction

Hemoperfusion (HPF) is a depurative technique based on the passage of blood (or plasma) through an adsorption cartridge for binding diverse solutes. Among different sorts of sorbent cartridges, the HA330 one can be used for treating inflammatory overreaction since it binds cytokines. SARS-CoV2 neumonia induced cytokines storm is one of the inflammatory states which can be treated by HPF. Then, it was decided to compare the clinical evolution between critical patients suffering from respiratory insufficiency secondary to SARS-CoV2 neumonia who were treated with or without HPF based on HA330 cartridge.

Material & Methods

Mortality rate, serum creatinine, and ferritin values were compared between a group of patients suffering from respiratory insufficiency due to SARS-CoV2 neumonia who received conventional treatment support (Clínica de la Costa, Barranquilla, Colombia), and another group who additionally received 4 HPF-HA330 sessions (Clínica de la Mujer, Bogotá, Colombia). Student and Wilcoxon tests were applied for data analyses.

Results

From 116 patients, 57 years old (range: 47-71), male (65%) suffering from RIC, one group (n: 84) received conventional support treatment (Clínica de la Costa, Barranquilla), and the other group (n: 32) additionally received HPF-HA330 (Clínica de la Mujer, Bogotá). Both groups had similar basal serum creatinine (0.9 mg/dl), and prevalence of hypertension (49%), diabetes mellitus (26%), chronic respiratory disease (12%) and cardiopathy (9%). HPF group had higher prevalence of obesity (72% vs 44%, p: 0.013), and mechanical ventilation (90% vs 48%, p:<0.001) than the non HPF group. Mortality rate (31% vs 61%, p: 0.008), highest serum creatinine (0.5 mg/dl vs 1.4 mg/dl, p:<0.001), and post-HPF ferritin (2868 vs 1675, p:<0.001) were significantly lower in HPF group.

Conclusion

HPF reduced mortality and renal damage in patients with respiratory insufficiency secondary to SARS-CoV2 neumonia.