

Letter to the Editor

Remowell II and Cytokine Adsorber; a Synergistic Strategy During Cardiopulmonary Bypass

Cardiopulmonary bypass (CPB) is often associated with degrees of complex inflammatory response mediated by various cytokines. This response can, in severe cases, lead to systemic hypotension and organ dysfunction. Cytokine removal might therefore improve outcomes of patients undergoing cardiac surgery (1). A cytokine adsorber (HA380, Jafron) is expected to reduce the level of cytokines during CPB, which may decrease both intraoperative and

postoperative inflammation. For adults Remowell II (Eurosets SPA, Medolla, Italy) device is the only oxygenator-integrated reservoir which combines two strategies: fat emboli and leukocytes removal; by filtration and supernatant elimination. We share our perfusion strategy to contain inflammatory response syndrome and the products of hemolysis in high risk fragile patients. This is achieved through the use of a dedicated device, the cytokine adsorber (HA380), in series with the new generation of venous reservoir (Remowell II, Eurosets SPA) (Figure 1). We hypothesize that the synergistic use of these two devices will show improvements in cytokine levels (IL-2, IL-6, TNF- α , IFN gamma) and secondary parameters (Fibrinogen, Albumin, Platelets, Hemoglobin, Hematocrit, White Blood Cells, Neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils) measured at anesthesia induction, end of CPB; as well as improvements in primary outcomes: hemodynamics with or without vasoconstrictors use, the mechanical ventilation time and length of stay in intensive care unit. For this reason, we are carrying out a controlled randomized prospective study: “Jafron Haemoadsorption During Cardiopulmonary Bypass (JAFRONCPB),” to evaluate the use of this approach and their impact on inflammation and patient outcome (2). We hope to share and publish the full data in a study as soon as possible.



Figure 1. Remowell II (Eurosets, Medolla SPA, Italy) and cytokine adsorber (HA380, Jafron) synergy strategy during cardiopulmonary bypass.

Ignazio Condello, PhD
Department of Cardiac Surgery
Anthea Hospital
GVM Care & Research
Bari, Italy
E-mail: ignicondello@hotmail.it

REFERENCES

1. Condello I, Santarpino G, Nasso G, Fiore F, Moscarelli M, Mastroberto P, Speziale G. Air, inflammation and biocompatibility of the extracorporeal circuits. *Perfusion*. 2021;36(8):781–5. doi:10.1177/0267659120968364.
2. <https://clinicaltrials.gov/ct2/show/NCT05349669>.