

Vitale A¹, Ascione L², Cerullo G², Oliviero A³, Catapano D², Cangiano G², Allocca S², Di Maio S², Fulco E², Ferrone O², Rondinella R⁴, Moscariello C³, De Crescenzo U²

1 Research and Development Department, Pineta Grande Hospital, Castel Volturno (CE) Italy

2 Anesthesia and Intensive Care Unit

3 Cardiac Intensive Care Unit

4 U.O.C. Hepatobiliary surgery and liver transplant– AORN Cardarelli

Introduction

An ascending aortic aneurysm is a dilation of the upper portion of the aorta and often requires open surgical repair. CPB and aortic cross-clamping in aneurysm surgery can trigger a massive release of pro-inflammatory cytokines (e.g., IL-6, TNF- α). Hemoadsorption has been associated with reduced vasopressor need postoperatively due to lower inflammation-driven vasodilation.

Methods

We present the case of a patient with an ascending aortic aneurysm, aortic arch, and proximal descending thoracic aorta, who underwent cardiac FET (Frozen Elephant Trunk) surgery. Postoperatively, she was admitted from the operating room following FET. She arrived under analgesia and was awaiting curarization.

The patient was intubated and on mechanical ventilation in controlled mode. Hemodynamics were supported with continuous infusions of epinephrine, dobutamine, norepinephrine, and vasopressin. Due to hypovolemia, she received crystalloid infusion. CRRT was started with a single Cytosorb cycle to improve hemodynamics and reduce vasopressor requirements.

Results

Within the first few days postoperatively, vasopressor doses were significantly reduced. By the fifth postoperative day, the patient's hemodynamic status had stabilized, and no further support with vasoactive amines was required (see figure 1). This improvement coincided with ongoing critical care management and the initial application of hemoadsorption therapy.

Conclusions

This case highlights the potential benefit of CytoSorb hemoadsorption in managing severe postoperative inflammation and hemodynamic instability following complex aortic surgery. Its use was associated with reduced vasopressor requirements and improved stability, suggesting a valuable adjunct in the perioperative care of high-risk cardiovascular surgical patients.

Figure 1: Vasopressors and inotropes trend after FET

