

CytoSorb in ECMO system and IABP as a bridge to reparative surgery in ventricular septal defect complicating acute myocardial infarction: a case report.

¹Vessella W., ²D'Arezzo M., ³Fori S., ¹Munch C.M.

¹UOD Anestesia e Rianimazione Cardiochirurgica. AOU Ospedali Riuniti di Ancona, Italy

²UOD Nefrologia, Dialisi e Trapianto di Rene. AOU Ospedali Riuniti di Ancona, Italy

³Clinica di Anestesia e Rianimazione Generale, Respiratoria e del Trauma Maggiore. AOU Ospedali Riuniti di Ancona, Italy

Background

Post-infarction ventricular septal defect (VSD) is a rare but potentially fatal complication of acute myocardial infarction. Definitive cardiac surgery remains the treatment of choice but the operative risk remains high and the optimal timing for surgery is still under debate. Aortic counterpulsation (IABP) and extracorporeal membrane oxygenation (ECMO) represent standards of therapy as a bridge to surgery. We report the use of extracorporeal blood purification therapy (CytoSorb®) after removal of the ECMO system and after surgical repair of the VSD in a young female patient with severe hemodynamic instability after surgical repair.

Methods and results

The patient was a 47-years-old Caucasian female (125 Kg, 168 cm) with no previous medical history and a diagnosis of ventricular septal defect as a complication of acute myocardial infarction. The patient needed IABP support and ECMO for severe hemodynamic instability, continuous renal replacement therapy (CRRT) was started for acute renal failure. Surgical repair with a Dacron patch and removal of the ECMO system were scheduled after 20 days of circulatory support. Subsequently, the authors observed persistent severe hemodynamic instability with the need for high dose support with epinephrine (0.25 mcg/Kg/min) and norepinephrine (0.5 mcg/Kg/min). In the absence of hemodynamic improvement extracorporeal blood purification therapy (CytoSorb®) was started for a 24 hours period. The authors observed an immediate improvement in hemodynamics; inotropic therapy could be rapidly reduced and stopped after 5 days. No other complications occurred and echocardiographic follow-up demonstrated nearly normal left ventricular function without residual shunts. The IABP could be removed 4 days after surgery and the patient was finally dismissed after 51 days of hospital stay.

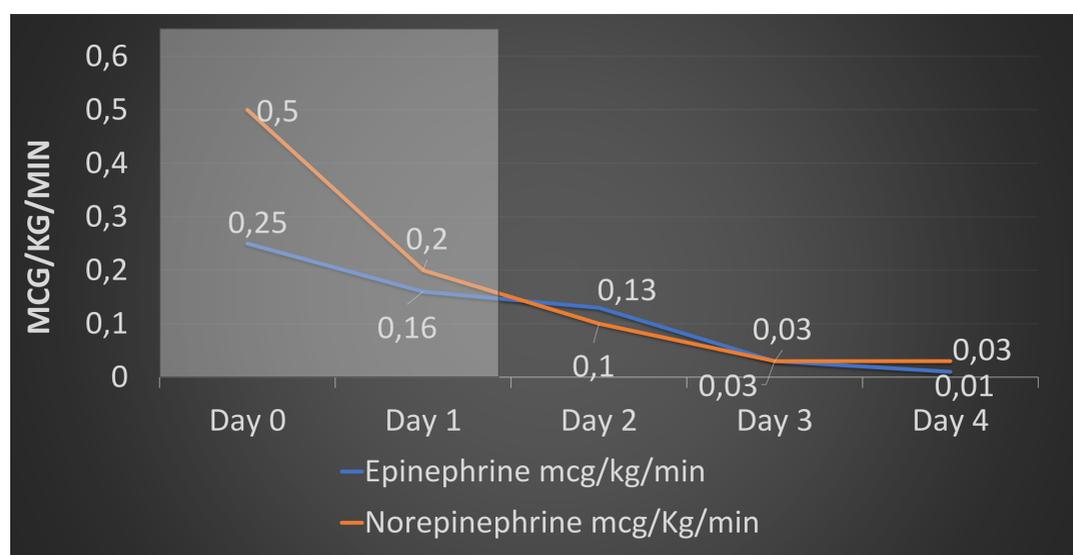


Figure. Inotrope and vasopressor reduction after blood purification therapy.

Conclusions

The extracorporeal blood purification therapy (Cytosorb®) appeared as a promising therapeutic option in patients with severe hemodynamic instability and the need of high dose inotropic support.