


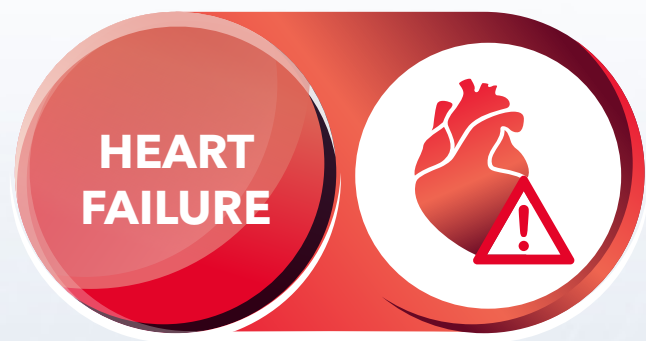





## Clinical Evidence for CytoSorb® Therapy in Heart Failure

Name	Title	Aim	Number of patients	Type of study	Outcome
 <b>Nemeth et al., ESC Heart Failure 2024; 11(2):772-782</b>	Use of intraoperative haemoadsorption in patients undergoing heart transplantation: A proof-of-concept randomized trial	Patients with end stage heart failure requiring orthotopic heart transplantation (OHT) randomized to receive intraoperative CytoSorb® or standard care alone	55 (30 v 25)	RCT	Intraoperative hemoadsorption with CytoSorb® was associated with better haemodynamic stability, mitigated PCT response, lower rates of post-operative AKI and RRT, more stable hepatic bilirubin excretion, and shorter durations of MV and ICU stay. Intraoperative haemoadsorption did not show any relevant adsorption effect on MPA. There was no increase in the frequency of early cardiac allograft rejection related to intraoperative haemoadsorption use.
 <b>Lovric et al., Ther Apher Dial 2024; 28(1):103-111</b>	The addition of CytoSorb® in patients on VA-ECMO improves urinary output and ICU survival	Analyze the efficiency of CytoSorb® in patients presenting with cardiogenic shock and treated with venoarterial extracorporeal membrane oxygenation (VA-ECMO)	16 (9 v 7)	Retrospective cohort study	Results showed significantly lower vasopressor doses were required among patients treated with CytoSorb® at initiation and before weaning from VA-ECMO. These patients showed significantly higher urine output before weaning and lower lactate levels during the extracorporeal support. Mortality rate was lower among the CytoSorb® therapy group (22.2% vs 57.1%).
 <b>Soltesz et al., J Clin Med 2022; 11(21):6517</b>	Influence of Venoarterial Extracorporeal Membrane Oxygenation Integrated Hemoadsorption on the Early Reversal of Multiorgan and Microcirculatory Dysfunction and Outcome of Refractory Cardiogenic Shock.	Patients with refractory cardiogenic shock on vaECMO with or without integrated CytoSorb® were propensity matched to compare rates of reversal of multiorgan and microcirculatory dysfunction, and early mortality.	58 (29 v 29)	Retrospective propensity matched pairs	There was a lower mean sequential organ failure assessment (SOFA) score ( $p = 0.04$ ), lactate ( $p = 0.015$ ), P(v-a)CO <sub>2</sub> gap ( $p < 0.001$ ), vasoactive inotropic score ( $p = 0.007$ ), and reduced delta C-reactive protein level ( $p = 0.005$ ) in the CytoSorb® group after 72 hrs of therapy. In-hospital mortality was much lower than predicted in the CytoSorb® group (44.8%) with less ECMO-associated bleeding complications ( $p = 0.049$ ). Overall, 90-day survival was better in the hemoadsorption group.





## Clinical Evidence for CytoSorb® Therapy in Heart Failure

Name	Title	Aim	Number of patients	Type of study	Outcome
 <b>Pieri et al., Blood Purif 2023; 52(9-10):759-767</b>	Extracorporeal Blood Purification with CytoSorb® in 359 Critically Ill Patients	Case series included consecutive high risk intensive care patients (refractory cardiac arrest, profound cardiogenic shock, post cardiotomy shock, respiratory failure and other) who were treated with CytoSorb® at the physicians discretion.	359	Consecutive case series	Parameters of shock and organ failure, and in particular the vasoactive inotropic score reduced during CytoSorb® treatment. Mortality in ICU, hospital and day 30 all significantly lower than predicted by the SAPS II and SOFA scores suggesting a mortality benefit with the use of CytoSorb®.
 <b>Calabro et al., Artif Organs 2019; 43(2):289-294</b>	Blood Purification With CytoSorb® in Critically Ill Patients: Single-Center Preliminary Experience	Describe effect of use of CytoSorb® 40 patients (19 on ECMO, 21 in CVVH). 28 patients had cardiogenic shock, 2 septic shock, 9 ARDS and 1 liver failure	40	Retrospective case series	CytoSorb® treatment is effective in reducing bilirubin, lactate, CPK and LDH in critically ill patients. Actual mortality was 52.2% vs predicted mortality of 80%
 <b>Nemeth et al., J Clin Transplant 2018; 32(4):e13211</b>	Impact of intraoperative cytokine adsorption on outcome of patients undergoing orthotopic heart transplantation: an observational study	Assess the influence of intraoperative CytoSorb® use in orthotopic heart transplantation compared to historical controls	16 matched pairs	Prospective observational study	CytoSorb® use was associated with significantly reduced vasopressor demand & less frequent postoperative renal replacement therapy with a favourable tendency towards reduced length of mechanical ventilation & ICU stay.

### CytoSorbents Europe GmbH

Müggelseedamm 131  
12587 Berlin | Germany

T +49 30 65 49 91 45  
F +49 30 65 49 91 46  
support@cytosorbents.com

Register for the literature newsletter

Visit our literature database for an overview of all references



www.cytosorb.com

The clinical and preclinical data and results obtained with the CytoSorb® adsorber are not transferable to other products. CytoSorb® should only be administered by health care professionals, properly trained in administration of extracorporeal therapies. The statements here represent the personal opinions and views of the author(s) only and do not necessarily reflect accepted medical knowledge in general or indications covered by the intended use of CytoSorb®. CytoSorb® and CytoSorbents are trademarks of the CytoSorbents Corporation, USA. © Copyright 2024, CytoSorbents Europe GmbH. All rights reserved. B1295R04ENG2024