POST-OP HYPERINFLAM.

CytoSorb®

Clinical Evidence for CytoSorb® Therapy in Post Operative Hyperinflammation

Name	Title	Aim	Number of patients	Type of study	Outcome
Matejic-Spasic et al., BMC Cardiovasc Dis 2024; 2481):258	The role of hemoadsorption in cardiac surgery – a systematic review	Assess all published literature on role of perioperative hemoadsorption in cardiac surgery	N/A	Systematic Review	All 29 publications pertained to CytoSorb® with no unanticipated device-related adverse events. Use appears justified in selected high risk cases including infective endocarditis, aortic surgery, heart transplant and emergency surgery on anti-thrombotics
Pieri et al., Blood Purif 2023; 52(9-10):759-767	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®.
Boss et al., PLoS One 2021; 16(2):e0246299	Extracorporeal cytokine adsorption: Significant reduction of catecholamine requirement in patients with AKI and septic shock after cardiac surgery	Describe use of CytoSorb® in cardiac surgery pts who develop Septic Shock post surgery with acute kidney injury requiring continuous renal replacement therapy	98	Retrospective case series	Stabilization in hemodynamics (significant reduction in the noradrenaline and adrenaline requirements and serum lactate level). Observed versus predicted in-hospital mortality rates decreased.

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Kuehne et al., Int J Art Orgs 2019; 42(4):194-200	Comparison of intraoperative versus intraoperative plus postoperative hemoadsorption therapy in cardiac surgery patients with endocarditis	Use of CytoSorb compared to intraoperative use alone with intra- and post-op use	20 (10 v 10)	Retrospective cohort study	Both groups had a marked decrease is vasopressor requirements and inflammatory parameters post-op. Despite the pre-& post-op use group having more pronounced disease severity and higher rate of post-op complications, they had an equal ICU and 90 day survival rate compared in intra-op use only group.
Calabro et al., Artif Organs 2019; 43(2):289-294	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%
Traeger et al., Int J Art Organs 2016; 39(3):141-146	Treatment of post-cardiopulmonary bypass SIRS by hemoadsorption: a case series	Describe use of CytoSorb® in post cardiac surgery pts who develop acute kidney injury requiring renal placement post op.	16	Retrospective case series	Treatment with CytoSorb® resulted in reduction of elevated cytokine levels, clear stabilization of deranged hemodynamics, metabolic, & organ function parameters.

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