CytoSorb®

Clinical Evidence in **Rhabdomyolysis**

Name	Title	Aim	Number of patients	Type of study	Outcome
Ferrer et al., Renal Failure 2025; 47(1):2600720	Hemoadsorption Therapy in Severe Rhabdomyolysis: A Report from the International, Prospective COSMOS (CytOSorb® TreatMent Of Critically Ill PatientS) Registry.	This is a subanalysis of the International COSMOS (CytOSorb® TreatMent Of Critically Ill PatientS) registry including 31 rhabdomyolysis patients. CytoSorb (CS) was integrated into a renal replacement therapy (RRT) circuit in 25 (81%) patients, and in stand-alone hemoperfusion mode in 6 (19%) patients.	31	Registry	Comparing pre and post CS treatment there was a significant reduction in mean myoglobin (24,109 ± 28,777 to 4,251 ± 4,399 µg/L; p=0.001) and creatinine levels (3.5 ± 2.9 to 2.4 ± 1.5 mg/dL; p=0.013). All survivors (n=23), including those with (n=19) as well as without (n=4) initial need for RRT, were able to be discharged from ICU without renal support. During the 90-day follow-up only one of these patients required dialysis again. There were no serious device-related adverse effects reported.
Weidhase et al., BMC Neph 2025; 26(1):23	Kidney REPLACEment therapies in patients with acute kidney injury and RHABDOmyolysis (ReplaceRhabdo): A pilot trial.	Pts received either CVVH n=5 (control group), CVVHD using high cut-off dialyzer (CVVHD-HCO) n=5, or CVVHD using a high-flux dialyzer + CytoSorb® (CVVHD-CS) n=5. Serum myoglobin, urea, creatinine, β2-microglobulin, interleukin – IL 6 and albumin measured pre & post dialyzer or adsorber, between adsorber & dialyzer (int) and after (post) dialyzer at 1, 6, 12, and 24 h after initiating renal therapy.	15	RCT	CytoSorb® group has significantly higher myoglobin elimination compared to other modes in first hours of treatment which decreased over time indicating adsorber saturation. IL-6 only decreased in the CytoSorb® group. No relevant elimination of albumin in any group at any time, nor any adverse or severe adverse event differences between groups. Simulation of different device combinations showed highest myoglobin clearance for CVVHD-HCO + CytoSorb with a 12-hourly adsorber exchange interval.
Forni et al., BMC Nephrol 2024; 25(1):247	Hemoadsorption therapy for myoglobin removal in rhabdomyolysis: consensus of the hemoadsorption in rhabdomyolysis task force.	Consensus task force on the use of CytoSorb® hemoadsorption in patients with severe rhabdomyolysis.	N/A	Consensus Statement	Patients with myoglobin levels of > 10,000 ng/ml should be considered for myoglobin removal by CytoSorb® which should ideally be started within 24 h of admission. If myoglobin cannot be measured then hemoadsorption may be indicated based on clinical picture and creatine kinase levels. Cartridges should be replaced every 8-12 h until myoglobin levels < 10,000 ng/ml.

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Albrecht et al., Blood Purif 2024; 53(2):88-95	Rapid and Effective Elimination of Myoglobin with CytoSorb® Hemoadsorber in Patients with Severe Rhabdomyolysis.	Patients with severe rhabdomyolysis (myoglobin > 30,000 µg/l or myoglobin > 10,000 µg/l plus GFR < 40 ml/min), received continuous veno-venous hemodiafiltration (CVVHD) with a high cut-off hemofilter (EMIC®2) using high blood and dialysate flows for 48 h with or without CytoSorb®.	8 (4 v 4)	RCT	Myoglobin concentrations declined considerably faster when CytoSorb® was added to CVVHD. When compared to a high-cut-off hemofilter, efficacy of CytoSorb® for myoglobin elimination was much better.
Grafe et al., Ren Fail 2023; 45(2):2259231	The effect of CytoSorb® application on kidney recovery in critically ill patients with severe rhabdomyolysis: A propensity score matching analysis.	Patients with severe rhabdomyolysis (various etiologies), myoglobin 27,218 ng/ml, put on renal replacement with CytoSorb® compared to matched pairs (myoglobin 26,872 ng/ml) without CytoSorb®.	70 (35 v 35)	Propensity score matched pairs	Probability of kidney recovery significantly (p = .04) higher in CytoSorb® group 1 (31.4 vs. 11.4%). In patients who survived to 30 days, kidney recovery was also significantly (p = .03) higher in patients treated with CytoSorb® (61.1 vs. 23.5%).

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