Hemoadsorption treatment in polytraumatized patient with rhabdomyolysis: A case series

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Background

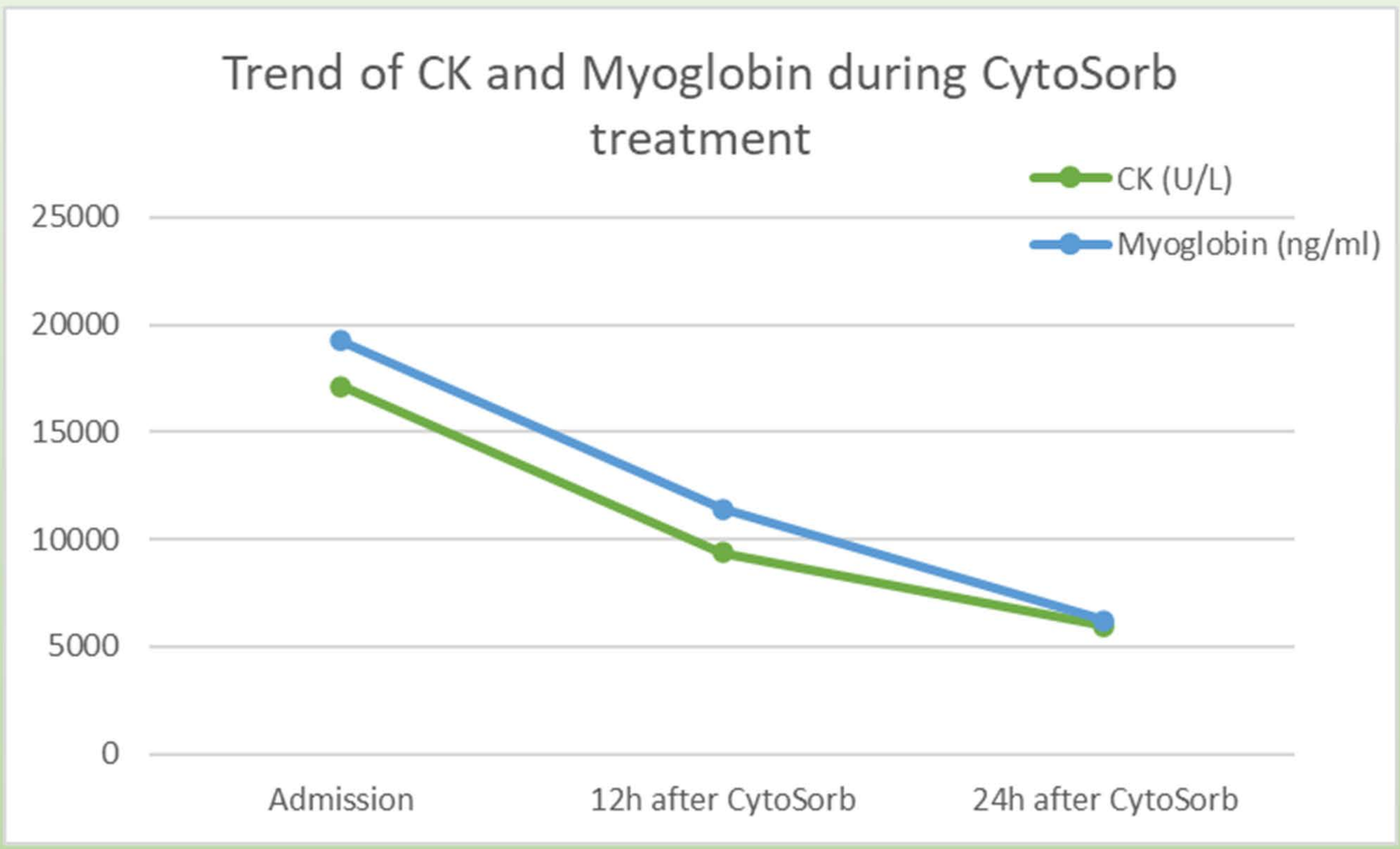
Post-traumatic rhabdomyolysis is a syndrome characterized by a damage to skeletal muscle and consequent release of myocellular components into the blood stream (Creatin Kinase CK, LDH, myoglobin). Disseminated intravascular coagulation (DIC) and Acute kidney injury (AKI) are severe complication of rhabdomyolysis. When rhabdomyolysis is suspected or certain, an early optimized medical therapy with hydration, urine alkalinization, forced diuresis and organ support with Continuous Renal Replacement Therapy (CRRT) should be initiated to prevent irreversible organ damage. Extracorporeal blood purification with CytoSorb represents a promising adjuvant therapy to rapidly lower high levels of myocellular components.

Methods

Between August 2020 and October 2021, 175 patients have been included due to rhabdomyolysis (CK>1000 U/L and myoglobin>5000 ng/ml) and 9 patients received CytoSorb blood purification due to high levels of myocellular components (CK>5000 U/L and myoglobin>10000 ng/ml).

Results

During the study period, 9 patients with crush-syndrome related severe rhabdomyolysis received a CytoSorb treatment in hemoperfusion or together with CRRT for 24 consecutive hours. The early use of CytoSorb allowed a rapid and efficient stabilization of myoglobin and CK levels in blood, avoiding AKI development (compared to the no-CytoSorb group in which 13% of patients developed AKI).



Conclusion

The early use of the extracorporeal blood purification adsorption cartridge CytoSorb to modulate high levels of myoglobin and CK in the bloodstream after severe rhabdomyolysis might be a potential option to prevent the development of AKI in polytraumatized patient and avoid Chronic Kidney Disease.