Creatine-phosphokinase and myogoblin adsorption with CytoSorb® in multi-operated patient: a case report

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Background

Rhabdomyolysis (RM) is a clinical condition associated with elevated levels of creatine-phosphokinase (CpK), myoglobin and electrolyte imbalance caused by severe trauma, muscle injuries, among other factors. In addition to preventing further muscle injuries, intensive treatment is primarily aimed at reducing these potentially nephrotoxic agents (CpK, myoglobin) and correcting metabolic acidosis. CytoSorb® is an adsorption device that can be used as stand-alone therapy or in combination with CRRT. In this case report, we describe the use of CytoSorb® in rapidly reducing CpK and myoglobin levels in a patient after 2 surgeries.

Case Presentation

the patient was admitted to peripheral Emergency Unit for an acute abdomen, abdominal CT scan showed signs of intestinal occlusions. She underwent laparotomy viscerolysis, removal of the right external iliac vein, resection of the transverse colon with latero-lateral anastomosis and appendectomy. In the immediate postoperative period CT angiography was performed and arterial thrombosis was found. She was then transferred to our hospital and underwent embolectomy surgery and subsequent admission to the intensive care unit. On admission to the ward, the patient was sedated and ventilated with adequate exchanges, hemodynamics sustained by noradrenaline at 0.25 mcg/kg/min and volumetric filling was carried out (1000ml crystalloids), with slight lactacidemia at 2.48 mml/L. Indices of muscle necrosis severely increased as well as indices of sepsis. Antibiotic therapy with piperacillin tazobactam and teicoplanin is imposed. After 2 days catecholamines 0.33 mcg/kg/min, diuresis always present, but with worsening renal function indices and persistently out of range muscle necrosis indices. Perform nephrological assessment and start CVVHDF with 1 treatment with CytoSorb x 12 h.

Results

After CVVHDF + CytoSorb treatment there was a reduction in hemodynamic support 0.15 mcg/kg/min, reduced muscle necrosis indexes, so CVVHDF was continued and started second cycle of CytoSorb x 12 h. After 48 hours and a third treatment with CytoSorb hemodynamic support was reduced to 0,05 mcg/kg/min. In figure 1 was shown trend of CpK, myoglobin and LDH.

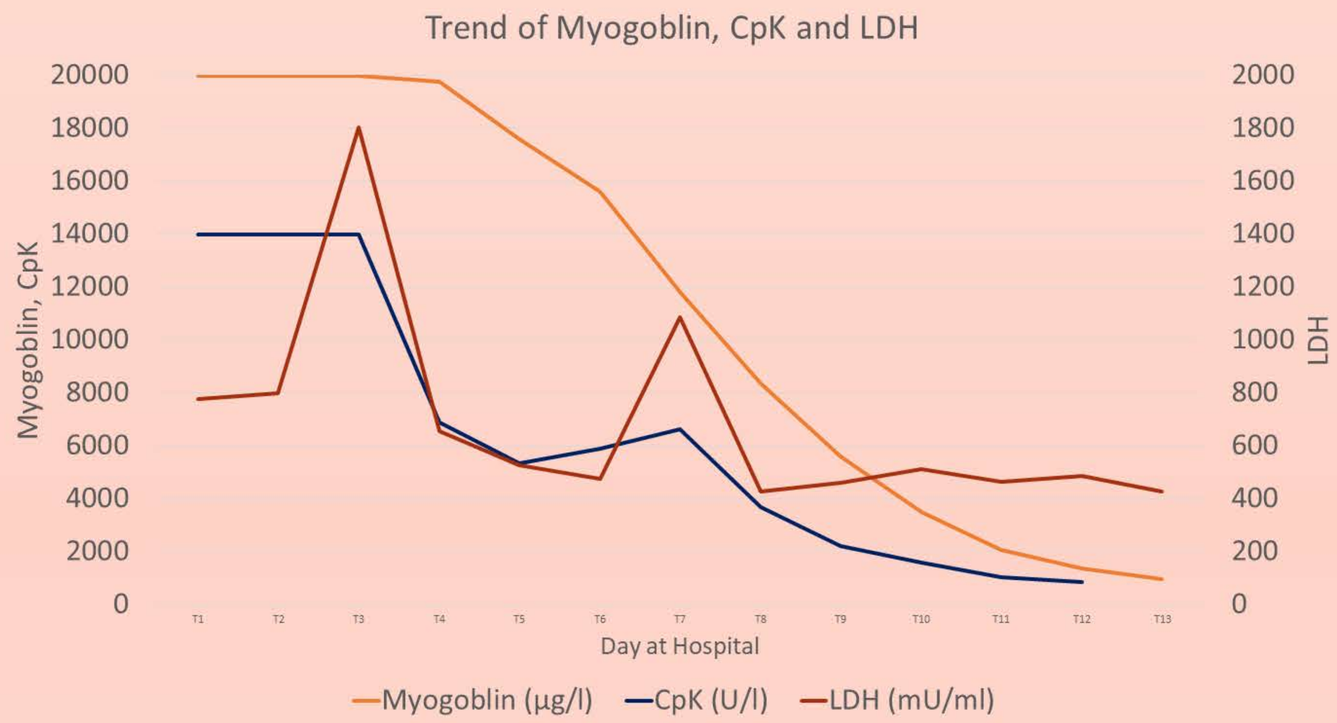

Figure 1: Myoglobin, CpK and LDH trend during ICU stay

Conclusion

In the present case, we successfully treated a patient suffering from severe rhabdomyolysis after surgery with CVVHDF and CytoSorb. This treatment led to improvement of sepsis indices and renal function, allowing creatinine, Cpk and LDH clearance.