Use Of CytoSorb In Rhabdomyolysis Treatment: A Retrospective Observational Study

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Background

Rhabdomyolysis is a common and potentially life threatening syndrome , characterized by muscle necrosis, with release into the circulation of the intracellular contents, in particular of myoglobin. The release of myoglobin plays a fundamental role in the pathogenesis of Acute kidney injury (AKI). The treatment of severe forms involves the use of renal replacement therapy , however the removal of myoglobin from the circulation is also important in order to ensure faster recovery.

Methods

We present a 3-year retrospective observational study, includes 6 patients admitted to “Cardinale G. Panico” Hospital, Tricase (LE) for rhabdomyolysis and treated with CRRT + CytoSorb as adjuvant therapy to standard supportive care. CytoSorb was applied in combination with standard CVVHD on Multifiltrate CiCa, using an AV1000S hemofilter (Fresenius Medical Care). From 2 to 6 consecutive CytoSorb cartridges was used. The adsorbers were changed every 24 h. Blood flow rates (Qb) were maintained between 100 and 150 mL/min, and dialysis doses ranged from 20 to 35 mL/kg /h accord-ing to standard care. For each patient were described different profiles: the renal profile (creatinine, azotemia and 24h diuresis); the hemodynamic profile (mean arterial pressure MAP, number of inotropes used, lactates); the acid-base profile (pH). The trend of myoglobin over time was also evaluated. All these items were recorded at time 0 (T0), before the start of CytoSorb, after 24h from the start of treatment with CytoSorb, and also at 48h, 72h and 96h.

Results

The observed survival rate was 100%. Only one patient had to continue renal replacement therapy with intermittent hemodialysis. In all patients we observed a reduction in the myo-globin levels, and an improvement in haemodynamics (increase in MAP and decrease in lactate levels and in use of inotropic drugs). We have also seen a rapid increase in diuresis.

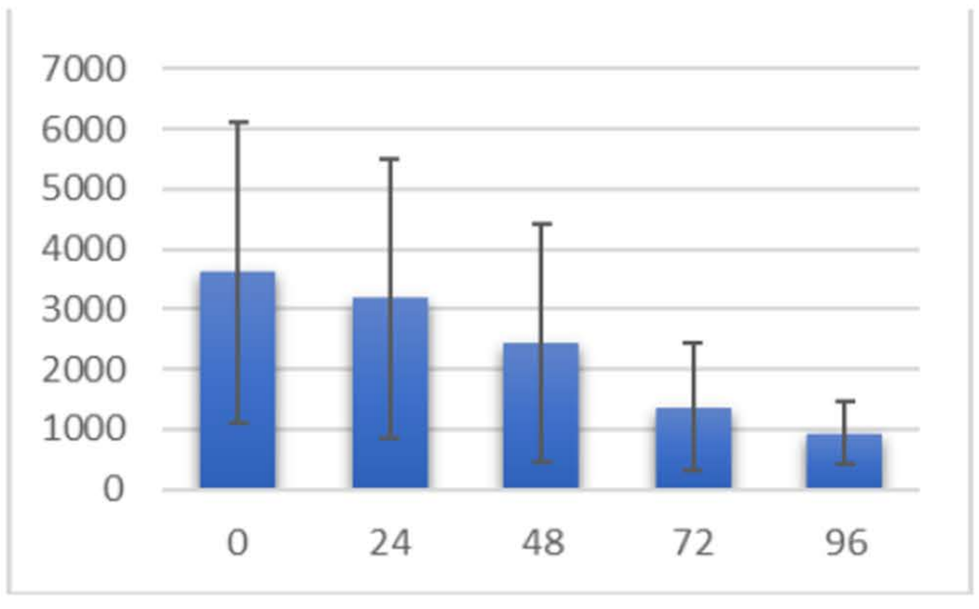

Figure1: Trend of myoglobin

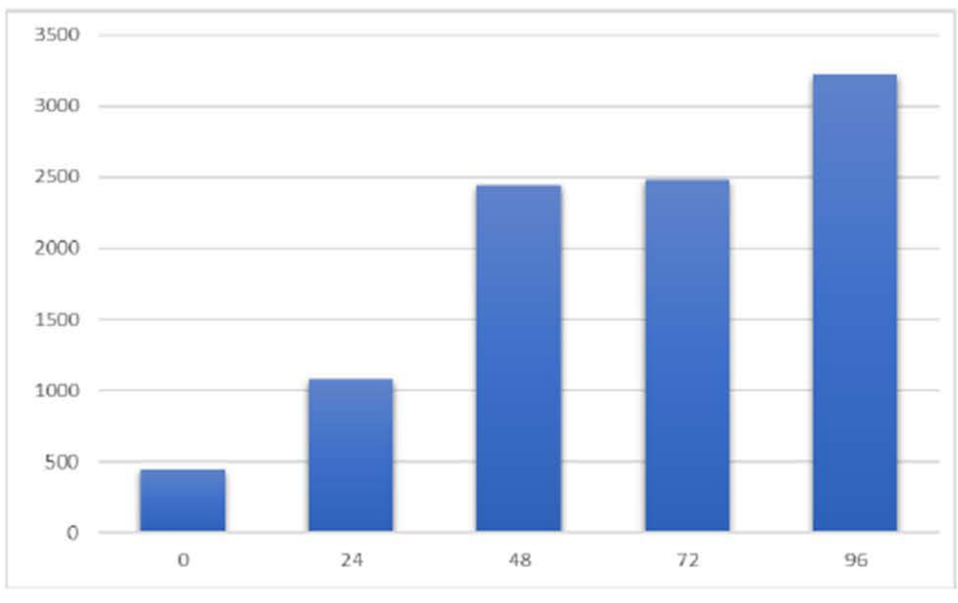

Figure2: Increase in diuresis

Conclusions

Our experience, the role of myoglobin and the evidence related to an improvement in renal outcome following the removal of this toxin support the hypothesis that the adsorbent cartridge may have a fundamental role in the prognosis of these patients, in reducing the recovery and costs related to hospitalization.