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Background

Rhabdomyolysis is an important muscle cell injury which may induce an acute kidney injury (AKI). Clozapine has been associated with rhabdomyolysis, although this association remains poorly understood and underestimated.

Methods

A 43-year-old man went to the Emergency Room for dyspnea and hyperpyrexia. The medical history revealed a state of schizophrenia, a recent hospitalization for pulmonary aspergillosis treated with fluconazole and normal renal function. The patient was positive for COVID-19 test and had pulmonary thickening on the chest x-ray. He developed lung failure, so he was transferred to the Intensive Care Unit where he started ventilator support. Lab tests revealed a worsening of renal function (sCr 6.05 mg/dl, BUN 170 mg/dl), anemia, hyperphosphatemia, thrombocytopenia, elevated levels of myoglobin and CK. Clozapine was stopped following the diagnosis of rhabdomyolysis. A reduced urine excretion appeared. We decided to start Cytosorb® treatment in combination with CRRT (CVVHDF). Cytosorb™ was stopped a day later (three sessions for a total treatment time of 24 hours).

Results

Within 12 hours, myoglobin levels decreased from 12,000 to 8,237 ng/ml while at the end of the treatment there was a reduction of 68.65%. It has also been observed a reduction of CK levels over 12 hours from 101,380 to 28,463 U/l and at the end of the treatment the reduction rate was 92.29% [fig.1]. During the next days, parameters of renal function, CK and myoglobin decreased in association with an increased patient's urine output and ventilator support was diminished. The patient's condition improved subsequently and renal function completely recovered.

Conclusion

We observed a high decrease of myolysis indices after application of Cytosorb® cartridge followed by an improvement of renal function. Thus, in our opinion Cytosorb™ should be considered in case of rhabdomyolysis drug-induced not only for the treatment but also in the prevention of AKI.

Figure 1: myoglobin and CK levels over 30 hours

