

A successful treatment with CytoSorb of AKI due to rhabdomyolysis, multifactorial cirrhosis and Staphylococcus Cohnii Sepsis



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BACKGROUND

Rhabdomyolysis is a syndrome characterized by skeletal muscle necrosis resulting in the release of electrolytes, myoglobin, and other muscle proteins into the bloodstream. The cause may be traumatic or nontraumatic. Myoglobin can lead to renal damage due to a direct cytotoxic effect on the epithelial cells of the proximal tubule and subsequent oxidative stress.

CASE PRESENTATION

We describe the case of a patient admitted to Emergency Unit with sudden onset of soporific state and accidental fall. He is affected by HCV and drug addiction history. The exams showed neutrophilic leukocytosis (WBC: 23.300 CRP: 6,2 mg/dl), an increase in transaminases (AST 1460 UI/l , ALT 295 UI/l) and ammoniemia of 218 umol/l. It also showed positivity for methadone and cannabinoids and a slight worsening of renal function with creatininemia: 1.5 mg/dl was observed. The patient was admitted to the Department of Internal Medicine with a diagnosis of multifactorial cirrhosis with hyperammonemic decompensation. At the same time of clinical worsened, there were a rapid deterioration in renal function (Creatinine: 3.4 mg/dl), the appearance of faecal vomiting, decreased diuresis (<100 ml) and indices of massive rhabdomyolysis with Myoglobin: 261252 ng/ml, Troponin: 1513 ng/ml CPK: 93900 IU/l. So, the patient was transferred to the nephrology unit, where was started CVVHDF treatment with CytoSorb. This procedure was associated with antibiotic therapy with Meropenem and Linezolid.

RESULTS

A total of 3 treatment of CytoSorb was performed with change every 24 hours. After the treatment there was a substantial improvement in clinical conditions and blood values (table and figure 1). After 72 hours from the admission, we found positive blood cultures for Staphylococcus Cohnii; so, the antibiotic therapy with clindamycin was started. From the 4TH day CVVHDF was stopped and intermitted dialysis of an average duration of 3 h was started. After 28 days there was a complete recovery of renal function..

T	T0	T1	T2	T3	T4	T5	T6	T7	T10	T20	T26
CK (UI/l)	93900	43323	33161	24554	846	122	178	180	147	108	13,6
Miogloblina (ng/ml)	126065	38971	59696	1382,8	382,8	300,6	240	160	122	64	50
Crs (mg/dl)	3,2	3,4	3,5	5,93	9,12	5,3	5,7	11,5	13,5	3,54	1,1
Urea (mg/dl)	34	62	69	70	78	144	134	220	170	117	74
WBC	23300	19600	19300	16600	16400	12400	12400	13900	14300	10700	10400
AST	1460	1585	850	802	440	370	280	140	78	32	50
ALT	295	358	291	277	245	210	180	150	52	14	49
GAMMAGT	257	212	204	202	360	310	280	240	215	114	103

Table 1: Blood Values during CVVHDF+CytoSorb Therapy

CONCLUSION

This case shows the importance of the association between haemodialysis and haemoadsorption methods and also underlines the crucial importance of starting treatment early in the case of rhabdomyolysis. Treatment with CytoSorb was effective in reducing the myoglobinemia caused by massive rhabdomyolysis and resulted in a complete recovery of renal function, together with the resolution of the septic state caused by Staphylococcus Cohnii.

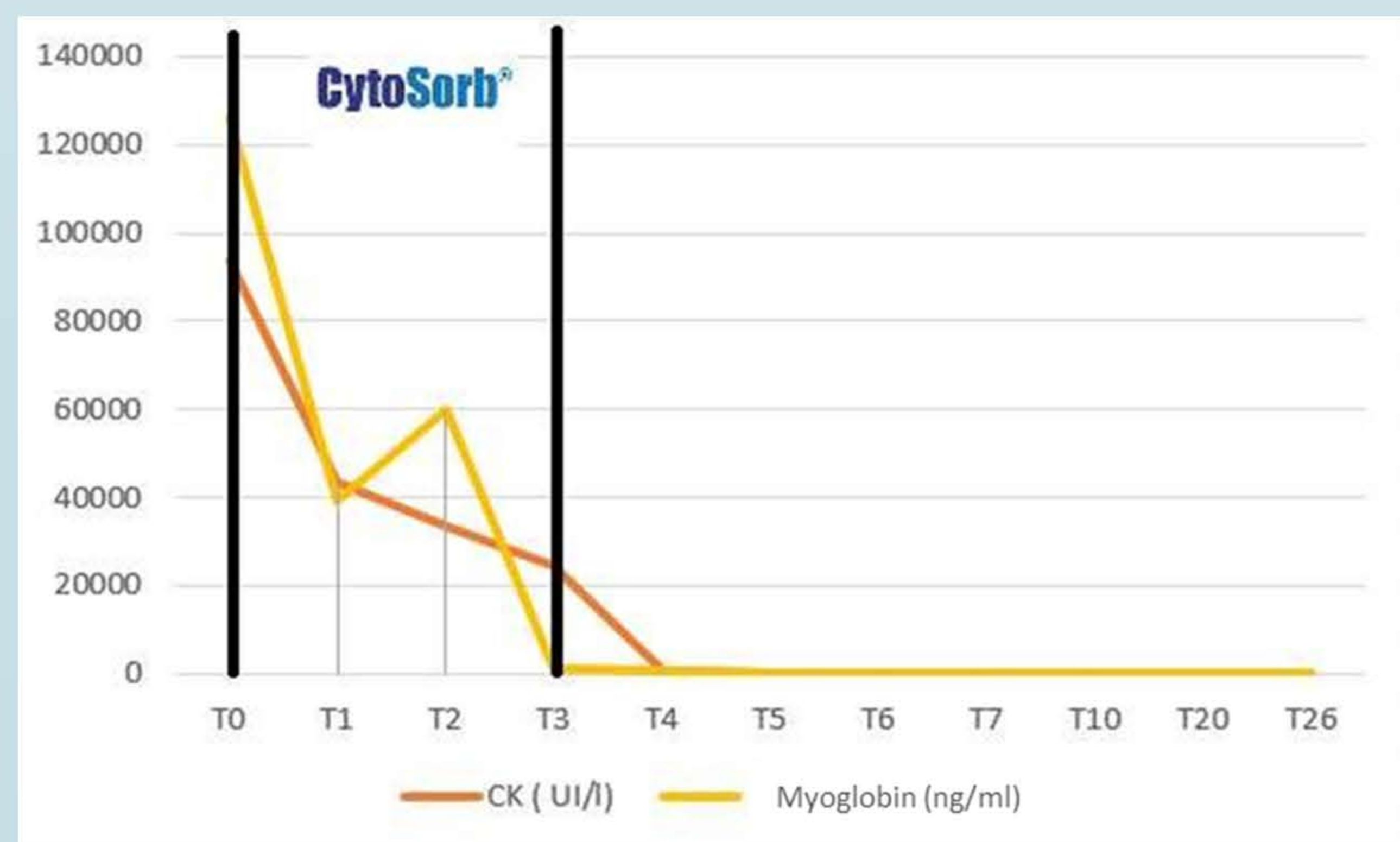


Figure 1: CK and Myoglobin Trend