

# ACUTE KIDNEY INJURY DA RHABDOMYOLYSIS IN COVID-19

## PATIENT: A CASE REPORT

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**Background:** Rhabdomyolysis can occur as a rare complication of SARS-CoV-2 infection; acute kidney injury (AKI) with oliguria, resulting from rhabdomyolysis, is a serious syndrome and an accurate and timely diagnosis can be essential for patient survival.

**Methods:** A 62-year-old man with Diabetes Mellitus and Hypertension, was hospitalized six days after the onset of fever and cough, tachycardia, tachypnea, hypotension, oliguria, despite maximal diuretic therapy, SpO<sub>2</sub> 91%. A picture of bilateral ground glass pulmonary opacities was evident on chest CT scan. He tested positive to the molecular swab for SARS-CoV-2. On admission, laboratory exams showed plasma concentration of: creatinine 4,5 mg/dL (eGFR 13 ml / min / 1.73m<sup>2</sup>), BUN 190 mg/dL, phosphate 9 mg/dl, GOT 3000 mg/dl, GPT 1000 mg/dl, LDH 1940 U/L, Myoglobin > 4000 U/L, CK 8000 U/ L. After right jugular catheter placement, a CVVHD session was started with high cut-off polysulfone 40000 dalton, Qb 150 ml / min, Qreinf. 2500 ml / hour (Fig.1). After seven days of CVVHD session, resumption of diuresis occurred. One month after, serum creatinine levels decreased to 1.2 mg/dl.

Fig. 1. Data CRRT.

CRRT (Continuous renal replacement therapies)
Dialysis method: CVVHD (Continuous Hemodialysis)
Vascular access: temporary bilumed central venous catheter in the right internal jugular vein
Filter: high cut-off polysulfone 40000 Da
Qb: 150 ml/min
Qreinf.: 2500 ml/h

**Results:** The differential diagnosis of rhabdomyolysis includes autoimmune myopathies, electrolyte imbalances, medications, drugs, alcohol abuse, and viral infections. In this specific case, the pathogenetic mechanism of rhabdomyolysis is likely triggered by the cytokine storm typical of Sars CoV-2 infection and by hypoxic damage.

**Conclusion:** Acute kidney injury associated with rhabdomyolysis and sepsis has a high mortality rate. The treatment with a membrane with a high cut-off permeability allowed the removal of myoglobin and inflammatory cytokines with a marked improvement in hemodynamic stability and a complete recovery of renal function with suspension of the purification treatment.

Fig.2. Trend of Creatininemia

