



# RHABDOMYOLYSIS WITH COVID-19

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## INTRODUCTION

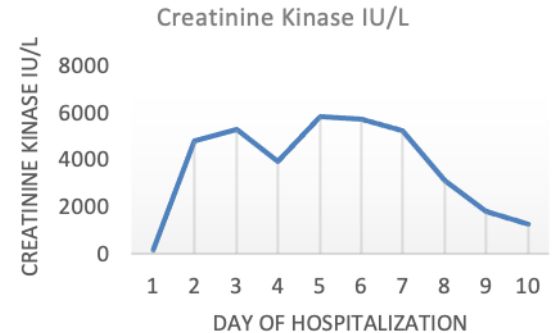
Rhabdomyolysis occurs with the leakage of muscle cell contents into circulation. Inciting events can be categorized into trauma/exertion, muscle hypoxia, genetic defects, infections, metabolic/electrolyte disorders and drugs/toxins. The mechanism of action involves direct sarcolemmic injury or depletion of ATP within the muscle leading to increase in intracellular calcium. COVID-19 highlights a new viral source of rhabdomyolysis that can be seen with an elevation in creatinine phosphokinase (CPK) with a prolonged recovery time as compared to trauma or over exertion. This case report showcases an 80 year old women with no significant past medical history presenting to the ED after a mechanical fall with rhabdomyolysis that may have been further exacerbated by COVID-19.

## METHODS

Patient underwent routine lab work including COVID-19 NAA, CBC, PT/INR, PTT, BMP, Hepatic function panel, CPK, D-Dimer, LDH, CRP, Iron, Ferritin, Reticulocytes, Procalcitonin, and Magnesium. Imaging included x-ray right femur 2 views, right hip 2 views, and chest.

## RESULTS

Patient was newly diagnosed with COVID-19 upon admission, without any supplemental oxygen requirements and clear lungs on x-ray. She incurred a subcapital fracture of the right femoral neck with a right hip hemi-arthroplasty performed. Creatinine phosphokinase (CPK) was trended starting at 207 IU/L on admission, peaking on day 5 at 5,806 IU/L with gradual down trending to 1,274 IU/L upon discharge on day 10. Initially patient was started on normal saline at 200 ml/hr for concerns of rhabdomyolysis. Fluids were gradually decreased to 100 ml/hr normal saline until discharge. Patient produced appropriate urine output, with kidney function showing no signs of kidney injury. Patient's rhabdomyolysis can be attributed to her mechanical fall and may have further been exacerbated by COVID-19. One proposed mechanism is an exaggerated immunological reaction causing a cytokine storm resulting in muscle damage.



## CONCLUSION

Rhabdomyolysis may be exacerbated by COVID-19, which is an important consideration in older patients with fall risk.

## REFERENCES

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