Extensive Venous Thromboembolism and Massive Pulmonary Embolism in a Middle-Aged Male with Polymyositis Flare Up

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Supplemental Video

Presenting Author: Aksiniya Krasteva Stevasarova, MD, Internal Medicine Resident PGY3, Department of Medicine, North Alabama Medical Center, Florence, AL

Coauthors: Sucheta Kundu, MD, Internal Medicine Resident PGY2, North Alabama Medical Center, Florence AL; Felix Morris, MD, Critical Care Medicine Attending, North Alabama Medical Center, Florence AL

Introduction: Autoimmune myopathies are rare inflammatory conditions that share a common feature of immune-mediated muscle injury. The estimated prevalence of polymyositis is 5 to 22 per 100,000 persons. Infection, malignancy, and cardiovascular accidents are the leading causes of death in patients with polymyositis. There is increased risk of venous thromboembolism (VTE) in these groups of patients.

Case: We present a 52-year-old Caucasian male, with history of polymyositis, who presented with progressively worsening muscle weakness and acute dyspnea. Patient had been treated with IVIG, methotrexate, and steroids. Upon admission patient's saturation was in the 80s. His motor strength was reduced at 1/5 in all four extremities. Labs showed WBC of 16.2, CPK 5471 confirming polymyositis flare up. D-Dimer 6.98; Troponin I 0.2. CT chest showed interstitial lung disease with subsegmental atelectasis. Doppler revealed acute long segment left lower extremity deep venous thrombosis from the common femoral through the posterior tibial vein. CTA confirmed bilateral pulmonary emboli. TTE revealed EF 55% with mildly decreased right ventricular systolic function. Patient was started on SoluMedrol 1g daily and therapeutic dose of heparin. Despite initial improvement in muscle weakness, the patient had sudden cardiac arrest
likely secondary to massive clot burden from pulmonary emboli and passed away.

Discussion: VTE risk is significantly elevated in patients with polymyositis that is oftentimes ignored. The mechanism is not well studied. The incidence of massive pulmonary embolism (PE) leading to death in these patients has not been well documented in literature and is an extremely rare event, but it should be considered as a possible cause of acute exacerbation of respiratory failure. This case provides valuable information regarding the high index of clinical suspicion that should be considered for the timely diagnosis and appropriate intervention to help reduce mortality and improve outcomes in such instances.

Learning Objectives
1. VTE risk is significantly elevated in patients with polymyositis that is oftentimes, despite considerable evidence, ignored.
2. The incidence of massive pulmonary embolism (PE) leading to death in these patients has not been well documented in literature and is an extremely rare event, but it should be considered as a possible cause of acute exacerbation of respiratory failure.
3. No literature is available regarding the need for, or success rates of TPA or USG guided thrombolysis in this patient population.