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WORST OUTCOME IN SCLERODERMA RENAL CRISIS ASSOCIATED WITH COVID-19 NEPHROPATHY

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BACKGROUND

Systemic Sclerosis (SSc) is an autoimmune disease which may evolve with severe renal impairment. The scleroderma renal crisis leads to arterial hypertension and renal dysfunction. It is a potentially fatal complication that occurs in approximately 10% of patients. Severe forms of COVID-19 present renal involvement in 20 to 40% of patients who require intensive care. There are few reports of this infection in patients with systemic sclerosis.

CASE REPORT

AXL, female, 29 years old, with overlapping SSc and systemic lupus erythematosus for 11 years, under use of prednisone 40mg, azathioprine 100mg and chloroquine 150mg daily. The patient started flu-like symptoms, presenting with cough, fever, chest pain and dyspnea. After one week, she developed respiratory distress and desaturation, requiring orotracheal intubation and ICU management. She also had edema in the lower limbs, livedo reticularis and Raynaud's phenomenon in hands. The chest tomography demonstrated diffuse ground-glass opacities bilaterally, compromising 50% of the lung parenchyma, in addition to mild pleural and pericardial effusion. Echocardiogram showed diffuse left ventricular hypokinesia. Detectable PCR for SARS-CoV-2 confirmed the new coronavirus infection. The patient underwent treatment with methylprednisolone 62.5mg daily and piperacillin with tazobactam. During hospitalization, she developed hypertensive conditions, macroscopic hematuria and acute renal failure due to a probable scleroderma renal crisis. Laboratory tests showed renal dysfunction (creatinine of 3.4 mg/dl, urea of 170 mg/dl), microangiopathic hemolytic anemia (hemoglobin of 8.6 g/dl, hematocrit of 29.2%), elevation of liver enzymes (TGO 744 U/l, TGP 452 U/l), proteinuria of 532mg in 24 hours, low C3 and metabolic acidosis. Initially, a treatment with captopril 300mg daily was instituted, but dialysis therapy was needed. The patient evolved gravely, with septic shock, no improvement under use of antibiotic therapy, antifungal and vasoactive drugs. She passed away after 1 month of hospitalization.

CONCLUSION

SARS-CoV-2 kidney failure has a multifactorial etiology, which may occur due to direct viral endothelial and epithelial injury, cardiorenal syndrome or sepsis. COVID-19 renal and cardiovascular complications, corticosteroid use in inflammatory phase of the infection and renal impairment of underlying autoimmune diseases, possibly contributed to this unfavorable progression of renal dysfunction in the scleroderma crisis.