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COVID-19 infection outcome in African American Renal Transplant recipients: Detroit Medical Center

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Background: Transplant recipients are more vulnerable to infections including COVID-19, given their comorbidities and chronic immunosuppression. Most preliminary care series report rapid clinical progression and higher mortality compared to the general population.

Methods: Retrospective study at Harper University Hospital - Detroit Medical Center. Twenty-five renal transplant recipients (RTR) presenting consecutively with COVID-19 symptoms and positive NP swab PCR for SARS-CoV2 between 03/01/2020 - 05/01/2020 were included. Data on demographics, clinical presentation, laboratory findings, management and outcomes were collected.

Results: Patients had a median age of 56, all African American and deceased donor transplant recipients. Most had hypertension (96%), about half (52%) had diabetes, 64% had pulmonary disease including obstructive sleep apnea, COPD and pulmonary hypertension. Most common presenting symptom was dyspnea (64%), followed by fever and cough (56%) and diarrhea (56%). Half of patients had multifocal opacities on initial chest x-ray (52%). Immunosuppression with tacrolimus and low dose prednisone was continued, while mycophenolate mofetil was held on admission. Following institution guidelines, hydroxychloroquine was given to 32% who met criteria for risk of severe disease, while 48% received both hydroxychloroquine and steroids. Prophylactic anticoagulation was given to 80% of patients, while therapeutic coagulation to 8%. Oxygen supplementation given to 60% of patients and one patient required intubation. Three patients (12%) were admitted to intensive care, of which one expired. Treatment with mycophenolate was reintroduced based on resolution of symptoms and laboratory parameters.

Conclusion: COVID-19 infected RTR in this cohort had lower mortality of 4% (n=1) compared to State-wide mortality of 10%. Clinical presentation was similar to non-immunocompromised hosts, but diarrhea was common. Despite multiple co-morbidities and chronic immunosuppression, our patient cohort had favorable outcome and lower mortality compared to other series. Exact reasons for this optimal outcome are unclear.

Keywords: COVID-19, kidney transplant, immunocompromised