Managing COVID-19 infection in living donation kidney transplant recipient: a single center experience

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Background: COVID-19 is detrimental for those with comorbidities. Kidney transplant recipients are at the highest risk for developing severe COVID-19 due to their immunocompromised status. We perform a review of COVID-19 infection in our kidney transplant recipients who underwent transplantation from year 2014–2020.

Methods: We conducted a cross-sectional study of 12 kidney transplant recipients who were infected with COVID-19 from January 2020–July 2021. Data was collected through electronic health record. Clinical data includes presenting symptoms, duration from onset to hospitalization, COVID-19 severity, use of mechanical ventilation and any forms of renal replacement therapy, and laboratory values. COVID-19 severity is divided into three categories based on our local guidelines: mild (no evidence of pneumonia), moderate (clinical evidence of pneumonia without dyspnea or supplemental oxygen requirement), and severe-critical (acute respiratory distress syndrome at presentation or severe dyspnea requires supplemental oxygen).

Results: Prevalence of COVID-19 infection in kidney transplant recipient is 0,02% (12/689). Most of the patients are male (83%) and 67% patients were diagnosed with severe-critical COVID-19. Fifty percent of patients (6/12) were died and one is still in hospitalization. Among non-survivor we found a trend towards older age (58 [22.5] vs. 54 [31.5] years; median [interquartile range, IQR]), longer time to seek for medical assistance (6 [10.9] vs. 2 [3] days; median [IQR]), having multiple comorbidities, as well as higher inflammatory markers (C-reactive protein, 156.3 [173.8] vs. 42.9 [97.9] mg/L; D-dimer, 7,590 [5,615] vs. 820 [2,180] μ g/mL; median [IQR]). Immunosuppressants were discontinued/adjusted in all moderate-severe cases. None of the patients who required mechanical ventilation (16%, 2/12) and dialysis (16%, 2/12) were survived. Ninety-nine percent of non-survivors were not vaccinated/unknown. Meanwhile, one fully vaccinated patient had severe-critical COVID-19 and survived.

Conclusions: Early diagnosis and timely management for COVID-19 infection in kidney transplant recipients are mandatory. Nevertheless, vaccination might have a significant impact in preventing worse outcome of COVID-19 infection in kidney transplant recipients.

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