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## To determine the incidence of COVID-19 in acute renal transplant recipients and identify possible risk factors associated with acquisition of COVID-19

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Background: Covid-19 infection has been linked to increased mortality in renal transplant recipients. However, there is insufficient data regarding risk factors associated with acquisition of Covid-19 infection.

Materials and Methods: We enrolled renal transplant recipients from February 10, 2020 till March 18, 2021 and actively followed them, till September 2021. Patients were screened for baseline health status, transplant characteristics, comorbidities, immunosuppressive therapies and post-transplant follow ups. Furthermore, 2 questionnaires were formulated to access their degree of compliance to Covid-19 preventive measures. Covid-19 disease acquisition, symptomatology and management were identified as well.

**Results:** Among 50 enrolled patients, 14 (28%) patients developed Covid-19, which is higher than the incidence observed in general Pakistani population (0.55%). Mean age was 35.38 years +¬\_ 11.69 SD years, and 82% of patients were males. The following factors were independently associated with COVID-19 disease: female gender (p-value: 0.042), diabetes mellitus (p-value: 0.002), anti-thymocyte globulin (ATG) induction (p-value: 0.006), in-person follow ups (p-value: 0.000), prolonged immediate and late post-transplant hospital stays (p-value: 0.019 and 0.000 respectively), raised post-transplant serum creatinine (p-value: 0.019) and Covid-19 protective measures non-compliance (p-value: 0.000). Out of 14 infected recipients, 92.85% required symptomatic management and overall mortality was 0%.

**Conclusion:** Female gender, diabetes mellitus, ATG induction, in-person follow ups, prolonged hospital stays, raised post-transplant serum creatinine and noncompliance to Covid-19 protective measures were associated with higher acquisition of Covid-19 infection. As overall mortality was lower than general Pakistani population (2%), renal transplants can, therefore, be continued by taking concrete measures against these identified risk factors.