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Long-term infectious disease and risk factors in Korean kidney transplant patients: Results from the Korean Cohort Study for Outcome in Patients With Kidney Transplantation (KNOW-KT) Study

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Objectives : Immunosuppressive medications in kidney transplant (KT) recipients are essential for preserving transplanted graft function. However, immunosuppressive drugs increase the risk of infection in KT populations. This study aimed to investigate the long-term prevalence, epidemiology, and risk factors for infection after KT.

Methods : One thousand seventy-one kidney recipients registered in KNOW-KT cohort were analyzed. Infection diseases included viral, bacterial, pneumocystis jirovecii, and fungal infections. The prevalence, epidemiology, and risk factors of each infection were analyzed during follow-up. All-cause mortality due to infection was also assessed.

Results : The median follow-up of 87 months, all-caused infection prevalence was 42.1 cases per 1000 person-years. Mortality caused by infection was 46.5% of all-caused deaths (20 of 43 events). Female (1.36, 95%C.I.; 1.09-1.67), recipient age (1.01, 95%C.I.; 1.00-1.02), donor age (1.02, 95%C.I.; 1.01-1.03), and number of mismatched HLA >2 (1.91, 95%C.I.; 1.14-3.19) were independent risk factors for all-cause infections. The most common infection was a bacterial infection with a 4% annual incidence. Female (1.93, 95%C.I.; 1.55-2.49), recipient diabetes (1.58, 95%C.I.; 1.21-2.09), donor age (1.02, 95%C.I.; 1.01-1.03) were risk factors for bacterial infection. Among viral infections, most CMV infection was reported 1 y after KT, and herpes infection occurred steadily with a cumulative incidence of 4.7%. Male (1.45, 95%C.I.; 1.03-2.05), donor age (1.03, 95%C.I.; 1.01-1.04), and the number of mismatched HLA >2 (2.53, 95%C.I.; 1.12-5.77) were risk factors for viral infection.

Conclusions : Infection remains an important cause of death during post-transplant duration. Continued awareness of the presentation of infection in KT patients and close monitoring to reduce its impact is still important in post-transplant management.