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Incidence of depression in kidney transplant recipients: a long-term population-based study

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Objectives: Depression is associated with impaired quality of life and increased morbidity and mortality in patients with end-stage renal disease (ESRD) and kidney transplant (KT) recipients. Few data is known about the incidence of depression in KT recipients. In this study, we aimed to explore the incidence of depression in KT recipients compared with ESRD patients and healthy controls (HCs) in a long-term population-based cohort.

Methods: We analyzed a Nationwide Health Insurance Database of South Korea and identified patients who received KT from the year of 2007 to 2015. KT recipients were selected and matched with ESRD patients and HCs considering age, sex, and inclusion year. KT and ESRD patients were further matched with comorbidities. We included patients newly diagnosed with depression as well as those who recurred more than one year apart.

Results: A total of 7,971 patients were analyzed in all three groups, respectively. KT recipients revealed markedly a lower prevalence of depression than in ESRD patients (IR, 23.5 vs 66.1 per 1000 patient-year; Hazard ratio [HR], 0.36; 95% confidence interval [CI], 0.33-0.39), although they showed only slightly higher prevalence of depression than in HCs (IR, 23.5 vs 19.4 per 1000 patient-year; HR, 1.21; 95% CI, 1.09-1.35). Interestingly, after adjusting the comorbidity status with Charlson Comorbidity Index (CCI), KT recipients showed a lower risk of depression compared with HCs (adjusted HR 0.64; 95% CI, 0.54-0.75, P<0.001), whereas ESRD patients remained at higher risk of depression development than HCs (adjusted HR 1.80; 95% CI, 1.55-2.10, P<0.001). Among KT recipients, older age, female sex, lower socioeconomic status, and more comorbidities were associated with increased risk of depression.

Conclusions: KT recipients showed a markedly lower risk or depression than ESRD patients and even than matched HCs after adjustment of co-morbidities. This suggests a broader role of KT in terms of improving quality of life.