Abstract Type : Poster exhibition
Abstract Submission No.: A-0777
Abstract Topic : Transplantation

Cancer Risk Following Kidney Transplantation: A Recent Population-Based Analysis in Korea

Hojin Jeon[1], Seung Min Song[2], Kyungho Lee[1], Junseok Jeon[1], Dong Wook Shin[3], Jung Eun Lee[1], Wooseong Huh[1], Kyungdo Han[4], Hye Ryoun Jang[1]
[1]Department of Internal Medicine-Nephrology, Samsung Medical Center, Korea, Republic of
[2]Department of Internal Medicine, Korea University Guro Hospital, Korea, Republic of
[3]Department of Family Medicine, Samsung Medical Center, Korea, Republic of
[4]Department of Department of Statistics and Actuarial Science, Soongsil University, Korea, Republic of

Objectives : Kidney transplantation (KT) is the preferred treatment for end-stage kidney disease, but long-term immunosuppressive therapy may increase the risk of cancer. This study aimed to evaluate the incidence and relative risk of cancer in KT recipients compared to the general population in Korea.
Methods : We conducted a nationwide, retrospective cohort study using the Korean National Health Insurance Service database. Adult patients (≥ 20 years) who received KT between 2004 and 2020 were included. A total of 22,947 KT recipients were compared with 114,735 age- and sex-matched individuals from the general population. Cancer incidence rates were analyzed, and hazard ratios (HRs) with 95% confidence intervals (CIs) were calculated to assess relative risk after adjusting for sex, age, income, and underlying comorbidities.
Results : KT recipients showed a higher cancer incidence (10.32 per 1,000 person-years) than the general population (5.98 per 1,000 person-years) (HR 1.55, 95% CI 1.45–1.67, p<0.001). The risk of skin (HR 6.89), renal (HR 6.64), and bladder (HR 2.56) cancers as well as lymphoma (HR 5.69) was significantly increased in KT recipients. In contrast, the risk of colorectal (HR 0.77) and hepatocellular carcinoma (HR 0.67) was lower compared to the general population. Subgroup analysis showed that overall cancer risk was comparable between male and female KT recipients (male: HR 1.52, 95% CI 1.39-1.65 vs. female: HR 1.61, 95% CI 1.46-1.78, p=0.31). However, younger KT recipients (aged 20-39 years) had a higher risk of cancer (HR 2.28) than those aged 40-55 years (HR 1.51) and ≥55 years (HR 1.42).
Conclusions : This study highlights a higher overall cancer risk among KT recipients, particularly for renal, bladder, skin, and hematologic malignancies, while showing a lower incidence of colorectal and liver cancers. These findings underscore the need for active screening and preventive strategies for cancer in KT recipients.