Background: Gout is a chronic disease characterized by deposition of monosodium urate crystals. Comorbidities including hypertension, chronic kidney disease, obesity, diabetes and cardiovascular diseases are common in patients with gout. In contrast to these well-known comorbidities, little is known about the risk of malignancies in patients with gout.

Objectives: To investigate the risk of malignancies in patients with gout, compared with general population.

Methods: We conducted a retrospective cohort study using Korean National Health Insurance Service-Medical check-up Cohort Database, which composed of qualified individuals as of 2002 in the age of 40-79 in 2002-2003 who received general medical check-up (Approximately 510,000). We enrolled patients newly diagnosed with gout, based on the diagnostic code and relevant medication history, who were between 40 and 65 years of age at the time of diagnosis between 2003 and 2007 (we washed out first year for newly detected cases). The gout patients (case group) were matched by 1:2 propensity score matching using confounding variables (age, sex, income group, region of residence, smoking status, alcohol intake, exercise habit, comorbidities including diabetes mellitus, hypertension and dyslipidemia, body mass index, blood pressure, serum glucose level, total cholesterol, and hemoglobin) and survival analysis was performed to estimate the risk of malignancy.

Results: A total of 4991 cases and 419992 controls were identified. The prevalence of Gout was 4991 (1.17%, male 4093 (82.01%); female 898 (17.99%). During a mean follow-up of 12 years, malignancy was newly diagnosed in 30262 patients (7.12% of the total cohort). Gout was associated with increased risk of malignancy in the multivariable Cox proportional hazard regression analysis before propensity score matching (hazard ratio (HR) 1.248, 95% confidence interval (CI) 1.130-1.379, p<0.001), as well as after matching (HR 1.369, 95% CI 1.209-1.549, p<0.001).

Conclusion: As expected, gout was a common comorbidity in renal transplant patients. 15% of the patients receiving renal transplants had gout prior to the transplant, and another 10% developed new-onset gout a mean of 1.79 years after receiving a renal transplant. This retrospective analysis demonstrates that kidney transplant patients commonly suffer from gout both before and after their transplant. In addition to more research on this topic, an increased focus on screening and treatment of gout in the renal transplant population may be warranted.

REFERENCES
Not applicable