

## 論 文 要 旨

### Use of Proton Pump Inhibitors is Associated with an Increase in Adverse Cardiovascular Events in Patients with Hemodialysis: Insight from the KIDS Registry

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#### Abstract

**Background:** Proton pump inhibitors (PPIs) are known to increase the risk of mortality and cardiovascular events in the general population. However, in patients with maintenance hemodialysis, PPI effects are under investigated.

**Methods:** We analyzed the risk of PPIs for cardiovascular events using the Kagoshima Dialysis (KIDS) registry, a prospective, multicenter, observational study in patients with maintenance hemodialysis in Japan.

**Results:** In all, 531 patients were enrolled from June 2015 to December 2018. One-year follow-up data were available for 376 patients (Use of PPIs at baseline (PPI group): 217 patients and without PPIs (No PPI group): 159 patients). The incidence of a composite outcome (all-cause mortality, non-fatal myocardial infarction, or non-fatal stroke) was higher in patients in the PPI group than the No PPI group (15.2% vs. 4.4%; hazard ratio (HR): 3.65, 95% confidence interval (CI): 1.61–8.23,  $P = 0.002$ ). In the multivariate analysis, even after adjustment for covariates, the use of PPIs was an independent risk factor for a composite outcome (HR: 2.38, 95% CI: 1.02–5.54,  $P = 0.045$ ). We performed propensity score matching analysis as a sensitivity analysis, showing a consistent result. The incidence of bleeding showed no difference between the two groups (15.7% vs. 11.3%; HR: 1.46, 95% CI: 0.83–2.59,  $P = 0.19$ ).

**Conclusions:** These results indicate that the use of PPIs in patients with maintenance hemodialysis might increase mortality and cardiovascular events without decreasing the risk of bleeding. Therefore, it should always be analyzed if a patient truly needs PPIs.