

Abstract Type : Poster

Presentation No. : PGN 014

Association of Proton Pump Inhibitor Use with Renal Outcomes in Patients with Coronary Artery Disease

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Objectives: Several studies have suggested proton pump inhibitor (PPI) use is associated with adverse renal outcomes, but obvious evidence is still lacking. We investigated the association of PPI use with adverse renal outcomes in patients who had undergone percutaneous coronary intervention.

Methods: Of the 1,284 patients hospitalized for percutaneous coronary intervention between January 2007 and May 2012, 934 patients with baseline estimated glomerular filtration rate greater than 60 ml/min were enrolled. Multivariable Cox models were used to examine whether PPI use was associated with acute and chronic adverse renal outcomes.

Results: In adjusted time-dependent Cox models, PPI use was associated with acute kidney injury (hazard ratio [HR], 1.46; 95% confidence interval [95% CI], 1.05-2.02), especially in patients of age 65 or younger (HR, 2.08; 95% CI, 1.09-3.96) or with diabetes (HR, 2.00; 95% CI, 1.23-3.25). In multivariable Cox models, the association between the duration of PPI use and chronic kidney disease development was not statistically significant (HR of heavy users, 1.50; 95% CI, 0.61-3.67), but a longer duration of PPI use was associated with mild renal progression in patients less than 65 years old (HR of heavy users, 2.24; 95% CI, 1.09-4.60).

Conclusions: Our results suggested that PPI use increased the risk of AKI development. In younger patients, PPI use was more significantly associated with acute and chronic renal injuries.