Proton Pump Inhibitor Use and the Risk of Adverse Cardiovascular Events in Aspirin-Treated Patients with Coronary Artery Disease

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**Background:** Concomitant use of aspirin and proton pump inhibitors (PPIs) may lead to decreased aspirin bioavailability and antiplatelet effects. Use of PPIs is recommended by the American Heart Association to treat or prevent upper gastrointestinal events amongst selected patients taking a daily aspirin for cardiovascular protection. Only one study has investigated health outcomes associated with concomitant aspirin and PPI use. The study, conducted in Denmark, found increased risk of adverse cardiovascular events (ACEs) in patients with coronary artery disease (CAD) following myocardial infarction and who were taking both aspirin and a PPI. No similar health outcomes study has been conducted in the United States.

**Objective and Purpose:** To assess the impact of concomitant aspirin and PPI use on the rates of ACEs in all patients in our health plan with CAD.

**Methods:** Using administrative data, we will identify all members aged 30 years or older with a diagnosis of CAD who were continuously enrolled in our health plan for 24 months from 2004 through 2009 with no apparent prior history of prescription PPI use within the prior 12 months. Patients who filled a prescription for a PPI are matched based on the probability of receiving treatment to a member who had not filled a PPI within the study period. ACEs of interest include myocardial infarction, coronary revascularization, stroke, and all cause mortality. Comparisons of outcome hazard ratios and 95% CI in the association of PPI use with incident events will be computed using Cox proportional hazards models.

**Results:** Results are pending

**Conclusions:** Work in progress. We hypothesize that members taking a proton pump inhibitor and aspirin concomitantly have a significantly increased hazard of ACEs compared to patients who are taking aspirin only. These findings will inform prescribing practices of PPI by cardiology specialists.