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Title: *Use of PPIs vs H2RAs on hospital readmission rates in combination with dual or triple antiplatelet therapy*

Abstract

Background

Proton pump inhibitors (PPIs) and histamine receptor-2 antagonists (H2RAs) are widely used by patients in both the institutional setting and in the community for many indications. One such indication is reducing the risk of ulcers in high risk patients, such as those on blood thinning agents (antiplatelet/warfarin therapy). Several studies have determined PPIs to be inappropriately prescribed in many patients, however, there is limited data on readmission rates for patients who are prescribed these medications.

Methods

This study was an IRB approved retrospective chart review of a 500-bed teaching hospital, Memorial Medical Center in Springfield, Illinois. Inclusion criteria included any patient 18 years old or older discharged on a PPI or H2RA in combination with blood thinning agents as well as patients only discharged with blood thinning agents to serve as a placebo arm. The data collected included patient demographics, comorbid conditions (Prior MI, CHF, etc.), medications at discharge, hospital admissions within last year, and emergency department visits within last 6 months. Data analysis included descriptive statistics and multivariate logistic regression

Results

1685 people were included in this study. Of these, 1248 were not readmitted within 30 days and 436 people were readmitted within 30 days. Odds ratios were evaluated for several risk factors for readmission. Hospital admissions in the last year (OR 1.32; 95% CI 1.15-1.50), ED visits within the last 6 months (OR 1.25; 95% CI 1.13-1.39), HOSPITAL score (OR 1.462; 95% CI 1.31-1.63), chronic heart failure (CHF) (OR 1.51 ; 95% CI 1.12-1.2.04), and renal disease (OR 1.40; 95% CI 1.03-1.90) were all found to have odds ratios higher than 1 that were statistically significant. LACE index (OR 0.87; 95% CI 0.80-0.94) and H2RA use (OR 0.59; 95% CI 0.36-0.93) were found to have odds ratios less than 1 that were statistically significant. PPI plus warfarin and H2RA plus warfarin were found to not be statistically significant.

Discussion

H2RA use and a low LACE score appear to have a protective effect on patients and their 30-day readmission rates through having an OR less than one. Hospital admissions in the last year, ED visits within the last 6 months, HOSPITAL score, chronic heart failure (CHF), and renal disease all had OR's higher than 1 indicating that there is an increased risk of readmission in 30 days with these factors. However, it is difficult to tell whether there are other confounding variables that could have affected the results.