Association of proton pump inhibitor use with disease burden and cardiometabolic profile among patients hospitalized for acute myocardial infarction

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Introduction: Previous studies showed an increased likelihood and risk of acute myocardial infarction (AMI) and hospitalizations for cardiovascular events among patients exposed to chronic use of proton pump inhibitors (PPIs).1-3 In this study we aimed to compare parameters reflecting disease burden and cardiometabolic profile among patients treated for AMI with respect to the chronic exposure to PPIs.

Patients and Methods: Data of 143 adult consecutive patients hospitalized for ST-elevation myocardial infarction (STEMI) or non-ST-segment elevation myocardial infarction (NSTEMI) during the 2019-2020 period were analyzed. All continuous variables had a normal distribution.

Results: The mean age was 64.8 ± 11.3 years and 79.7% were men. Two-thirds (65.7%) of patients had STEMI while 34.3% had NSTEMI. The mean GRACE score in the whole cohort was 117 ± 26 points while 12.0% of patients were at high risk of in-hospital death, after adjustment for the ACS type. A total of 19 IPP+ patients were identified. Patients in the IPP+ group were significantly older and had a higher prevalence of NSTEMI compared to IPP- group while both groups did not significantly differ in terms of sex, body mass index, waist-to-hip ratio, the mean number of diseased vessels at angiography, and left ventricular ejection fraction. Patient IPP+ group had a significantly higher high-sensitivity cardiac troponin I rise from 1st to 2nd measurement compared to IPP- group (4726 ± 5938 vs. 2554 ± 3480 ng/L, p=0.025, Table 1). Furthermore, C-reactive protein, blood glucose, and serum creatinine levels at admission were significantly higher in IPP+ vs. the IPP- group. Finally, patients in the IPP+ group had a significantly higher risk of in-hospital and 6-month post-discharge death compared to IPP- group, as adjudicated by the GRACE score (132 ± 23 vs. 114 ± 26 points, p=0.008).

Conclusions: Our study showed that AMI patients with chronic exposure to PPIs are older, mostly male, and tend to present with NSTEMI. These patients exhibit a larger magnitude of myocardial injury and systemic inflammation accompanied by worse renal function, and also seem to be at an increased risk of poor in-hospital and post-discharge outcomes. However, potential confounding of underlying comorbidities and age must be taken into account when interpreting these results.

LITERATURE

