Abstract: P3603

Impact of idiopathic thrombocytopenic purpura on clinical outcomes in patients with acute myocardial infarction

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Background: There is scarce evidence reflecting the clinical outcomes in patients with Idiopathic Thrombocytopenic Purpura (ITP) and Acute Myocardial Infarction (AMI). The ITP patient population is at higher risk of bleeding complications due to low platelet counts and difficulty in managing their antiplatelet and anticoagulation therapy. In our study, we sought to assess clinical outcomes of ITP patients admitted with AMI using the US national inpatient sample (NIS) database.

Purpose: To determine difference in in-hospital mortality, clinical complications, and length of stay (LOS) in AMI patients with and without ITP.

Methods: We identified adults aged ≥18 years hospitalized from 2005 to 2014 with AMI as their primary diagnosis utilizing ICD-9 codes 410.0 to 410.92. Patients with ITP were identified using ICD-9 code 287.31. The primary outcome was in-hospital mortality. Secondary outcomes included coronary revascularization procedures (PCI and CABG), and in-hospital complications including bleeding (intracranial, epistaxis, GI, and GU bleeding, hematoma, and bleeding requiring transfusion), cardiac complications, transfusions, acute ischemic stroke (AIS), and LOS. A propensity-matched cohort accounting for demographic characteristics, comorbidities, and cardiovascular risk factors, was created to compare these outcomes. Patients with secondary causes of ITP such as HIV, pregnancy, sepsis, SLE, malignancy were excluded.

Results: A total of 1108034 AMI admissions, of which 1002 with ITP, were identified. In the unmatched group, patients with ITP were older, and had more comorbidities (diabetes mellitus; hypothyroidism; atrial fibrillation; previous history of cardiovascular, peripheral, and end stage renal disease; all p<0.05). In the AMI population, 851 ITP and 851 non-ITP admissions were propensity-matched. Figure 1 illustrates the primary and secondary outcomes of the study among the propensity-matched study groups. Although there was no difference in short-term mortality between the ITP and non-ITP patients with AMI, patients with ITP were less likely to undergo coronary revascularization possibly because of thrombocytopenia. Patients with ITP had significantly more bleeding complications and transfusions. We observed in our study that patients with ITP had a significantly longer LOS compared to non-ITP patients (6.1 vs 5.4 days, with a mean ratio of 1.14 (95% CI: 1.05,1.23)).

Conclusion: In the large population of patients included in the NIS database, patients with ITP admitted with AMI, have a significantly higher rate of bleeding complications, undergo less PCI and have a longer LOS compared to AMI patients without ITP. There are no current guidelines by ACC/AHA/ESC regarding management of patients with AMI and thrombocytopenia. These results warrant further investigation through randomized controlled trials including patients with thrombocytopenia to assess long term outcomes and to define optimal management in this population.
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Clinical Outcomes of Acute Myocardial Infarction