Medical Therapy for Atherosclerotic Cardiovascular Disease in Patients with Myocardial Injury after Non-cardiac Surgery

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Background: Myocardial injury after non-cardiac surgery (MINS) is a common post-operative cardiovascular complication and is associated with short and long-term mortality. We evaluated the contemporary management of patients with and without MINS after total joint and spine orthopedic surgery at a large tertiary care hospital.

Methods: Adults admitted for total joint and major spine surgery with ≥1 cardiac troponin (cTn) measurement during their hospitalization were identified. MINS was defined by a peak cTn >99% of the laboratory upper reference limit. Demographics, medical comorbidities, and admission and discharge medications were reviewed for all patients.

Results: A total of 2,561 patients underwent 2,798 orthopedic surgeries, and 217 patients with MINS were identified. Patients with MINS were older (71.9 ± 10.8 vs. 67.0 ± 10.0, p<0.001) and more likely to have cardiovascular risk factors, including hypertension, chronic kidney disease, prior stroke, coronary artery disease, prior MI, and a history of heart failure. Among patients with MINS, 64.1% received aspirin at discharge, 11.5% received a P2Y12 inhibitor, 22% received warfarin, 65.4% received a statin, and 63.6% received a beta-blocker (Table 1). Only 37.8% were discharged on a combination of aspirin and statin. Patients with MINS were more likely to be prescribed a statin (65.4% vs. 57.1%, p=0.02), a beta-blocker (63.6% vs. 46.6%, p<0.001), and warfarin (22.0% vs. 12.0%, p<0.001) than patients without MINS.

Conclusions: The proportion of patients with MINS who were prescribed medical therapy for atherosclerotic cardiovascular disease was low. Provider education may be necessary to ensure that medical therapy for atherosclerotic cardiovascular disease is routinely prescribed to patients with MINS.