INCIDENCE, MANAGEMENT PATTERNS AND OUTCOMES OF PERIOPERATIVE ACUTE MYOCARDIAL INFARCTION FOLLOWING ELECTIVE NONCARDIAC SURGERY

Poster Contributions
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Authors: Navdeep Gupta, Karthik Murugiah, Aditi Gupta, Kanishka Rajput, Barbara Slawski, Michael Cinquegrani, Medical College of Wisconsin, Milwaukee, WI, USA, Chicago Medical School, North Chicago, IL, USA

Background: Myocardial ischemia following surgery is a serious cause of perioperative mortality. The postoperative state limits use of revascularization therapies; therefore, we investigated incidence, predictors, management patterns and outcomes of perioperative Acute Myocardial Infarction(AMI).

Methods: We analyzed data from the discharge weighted Nationwide Inpatient Sample(NIS) from 2001 to 2010. All patients undergoing major elective non-cardiac surgery requiring inpatient stay were selected using appropriate ICD-9-CM codes. Factors predicting AMI were analyzed using multivariate logistic regression with 95% CI(Confidence Intervals).

Results: Out of 26,300,968 patients undergoing surgery 87,620(0.3%) had AMI (ICD-9-CM coded as initial episode of care: STEMI 14%, NSTEMI 67%, MI of unspecified location 13% of total AMI). The highest unadjusted surgery specific risks were in transplant(1.2%), vascular(1%), abdominal(0.5%) and musculoskeletal(0.5%) surgeries. Co-diagnoses associated with the highest odds ratio(OR) of having perioperative AMI were history of CAD(OR 3.40 CI 3.09-3.78 p-value <0.001), chronic heart failure(OR 1.94 CI 1.74-2.17 p-value <0.001), valvular heart disease(OR 1.88 CI 1.84-1.93 p-value <0.001), and chronic kidney disease(OR 1.54 CI 1.49-1.58 p-value <0.001). Coronary angiography was performed in 33.7% of patients with STEMI, 22% NSTEMI, and 11.7% MI of unspecified location. Unadjusted mortality in patients with AMI was 13.2% compared to 0.3% in those without AMI.

Conclusions: Our analysis using nationally representative data demonstrates that AMI continues to be a high mortality condition in elective surgical procedures. In addition to emphasis on preoperative cardiac risk assessment, guidelines on management of perioperative AMI may standardize care and improve outcomes in this high risk subset.