

Process and Outcome of Care for Acute Myocardial Infarction Patients

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Objective:

There is an increasing interest in the evaluation of quality of care for patients with acute myocardial infarction (AMI). The purpose of this study was to determine whether process quality indicators for AMI patients were associated with outcome indicators (hospital mortality and early readmission).

Methods:

We conducted a retrospective cohort study among patients discharged with a primary or secondary International Classification of Diseases, 10th revision (ICD-10) AMI code from January 1st to December 31, 1999. The study was implemented in three Swiss university hospitals. We extracted 1,129 records for patients with AMI. Demographic characteristics, risk factors, symptoms and findings at admission were recorded. We further abstracted the main EKG and laboratory findings, as well as hospital and discharge management and treatment. We excluded patients transferred to another hospital and who did not meet the clinical definition of AMI. The main outcome measure was process quality indicators derived from evidence-based guidelines, as well as hospital mortality measured in the charts abstraction process and 30 days readmissions calculated using administrative data from hospitals among patients discharged alive.

Results:

After exclusions, 577 patients with AMI were eligible for this study. The mean (SD) age was 68.2 (13.9), and 65% were male. In the assessment of quality indicators we excluded patients with potential exclusions. Among cohorts of "ideal candidates" for specific interventions, 49 (33.8%) did not receive reperfusion within 12 hours after admission either with thrombolytics or primary PTCA. Among those 3 (6.1%) died within the hospital ($p=0.545$) and 4 (8.7%) were readmitted (0.719). The adjusted odds ratio (OR) for no reperfusion were 1.78 (95% confidence interval (CI) 0.15-21.29) for hospital mortality and 0.80 (95% CI 0.15-4.23) for 30 days readmissions. Aspirin was not prescribed within 24 hours after admission in 33 (6.2%) patients with no contra-indication to aspirin. Among those, 17 (52%) died ($p<0.0001$) and 1 (6.3%) was readmitted ($p=0.797$). The adjusted OR for no Aspirin within 24 hours after admission were 3.61 (95% CI 1.11-11.77) for hospital mortality and 0.64 (95% CI 0.08-5.19) for 30 days readmissions. Further, 78 (19.5%) of the patients with no contra-indication to beta-blockers did not receive beta-blockers at discharge. Among those, 9 (11.5%) were readmitted ($p=0.133$). The adjusted odd ratio (95% CI) for no beta-blockers at discharge was 2.15 (0.86-5.41) for 30 days readmissions.

Conclusions:

Hospital mortality was associated with patients with AMI who were not prescribed aspirin within 24 hours after hospital admission. However, process indicators derived from evidence-based guidelines were not related to early readmission in three Swiss university hospitals.