“The Dissociation Between Door-to-Balloon Time Improvement and Improvements in Other Acute Myocardial Infarction Care Processes and Patient Outcomes”

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Background

Recent initiatives have focused on reducing door-to-balloon (DTB) times among patients with acute myocardial infarction undergoing primary PCI. However, DTB time is only one of several important AMI care processes. It is unclear whether quality efforts targeted to a single process will facilitate concomitant improvement in other quality measures and outcomes.

Introduction

• Door to Balloon (DTB) is considered one of many hospital quality of care indicators for patients suffering from acute myocardial infarction (AMI).

• Since percutaneous coronary intervention (PCI) is the preferred reperfusion strategy for patients with STEMI, delays in primary PCI are associated with worse patient outcomes.

• The ACC/AHA guidelines recommends a door-to-balloon interval of no more than 90 minutes. DTB is also a core quality measure for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

Objectives

To assess whether the GWTG Program improves quality of care in patients hospitalized with CAD as judged by specific performance indicators at both teaching and non-teaching hospitals.

Methods

- Geometric mean DTB time
- CMS/JCAHO core process measures
  - aspirin and Beta Blocker use at admission/discharge
  - ACE-I/ARB use at discharge for ejection fraction lower than 40%
  - in-hospital smoking cessation counseling
  - DTN time of 30 minutes or less
- ACC/AHA guideline recommended measures
  - in-hospital low density lipoprotein assessment
  - lipid lowering therapy at discharge
  - clopidogrel use at discharge
  - cardiac rehabilitation referral
  - dietary/weight management counseling for BMI >25

Results

- Data were analyzed from 43,678 patients treated with AMI during 2 study periods (early and late) in 101 GWTG hospitals using the Patient Management Tool.

- Mean DTB times decreased from 101 minutes during the early period to 87 minutes in the late period.

- Mean overall hospital composite CMS/JCAHO core measure performance increased from 93.4% to 96.4%.

- Mortality rates decreased from 5.1% to 4.7% in the early and late periods.

- Hospitals with the most improvement in DTB did not have a significantly greater improvement in either CMS/JCAHO measure performance or mortality.

Conclusions

- Participation in The GWTG-Stroke program resulted in significant decreases in DTB times over time.
- There was minimal correlation between DTB time improvement and changes in other quality measures or mortality.
- This study provides further scientific evidence that there is a need for comprehensive acute myocardial infarction quality-improvement efforts, rather than focusing on single process measures.

Clinical Implications

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