MYOCARDIAL ISCHEMIA AND INFARCTION

COMPREHENSIVE STRATEGY INCLUDING EXCLUSIVE INVOLVEMENT OF INTERVENTIONAL CARDIOLOGIST IN THE DECISION MAKING PROCESS DECREASES DOOR-TO-BALLOON TIME IN STEMI

ACC Poster Contributions
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Session Title: Acute Myocardial Infarction -- Door to Balloon Time and Patient Transfer
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Background: We have had a “one call activation system” for primary PCI at our regional academic center since 1999. The ED physician initiated the system with the decision to take patients to cath lab for primary PCI made by cardiologist (interventional or non-interventional) on call. Starting July 1, 2009, only interventional cardiologists were involved in the decision making process. In addition, the comprehensive strategy also included 5 minute call back by interventional cardiologist, 30 minutes for interventional cardiologists to arrive in the cath lab, a door-to-balloon time (D2B) goal of ≤60 minutes, real time tracking and daily feedback to the team and recognition for the entire team for all D2B ≤ 60 minutes. Our aim was to see if this system improvement resulted in a significant decline in D2B.

Methods: We conducted a retrospective analysis of 417 consecutive patients presenting to our institution with suspicion of acute STEMI during an 18-month period. Group 1 consisted of patients in the 9 months (Oct. 1 2008-June 30 2009) before and group 2 consisted of patients in the 9 months (July 1 2009-March 30 2010) after the system change was instituted. T test and chi-square test were used for statistical analysis.

Results: Total of 190 patients in group 1 were taken to the cath lab of which 167 received primary PCI. Total of 180 patients in group 2 were taken to the cath lab of which 147 received primary PCI. The percentage of D2B within 60 minutes were improved from 25.7% in group 1 to 43.5% in group 2 (p=0.001). Using CMS criteria (e.g, IABP, cardiac arrest, or ventilator-dependent respiratory failure) for exclusion, there were 129 patients in group 1 and 123 patients in group 2 who received primary PCI. The mean D2B was reduced from 83.6±38.4 minutes in group 1 to 69.6±35.1 minutes in group 2 (p<0.003). The percentage of D2B within 90 minutes were improved from 69.8% in group 1 to 82.1% in group 2 (p=0.002) with more significant improvement of D2B within 60 minutes from 27.1% to 48.8% (p<0.0001).

Conclusions: The comprehensive strategy described above improved our D2B time in STEMI patients undergoing primary PCI, especially the proportion of patients with D2B ≤ 60 minutes.