STOP STEMI©: A Novel Medical Application to Improve the Coordination of STEMI Care: A Brief Report on Door-to-Balloon Times (D2B) After Initiating the Application.

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Take Home Points

22% DECREASE IN DOOR-TO-BALLOON AFTER STOP STEMI©

10% IMPROVEMENT IN RESOURCE UTILIZATION

24% IMPROVEMENT IN < 60 MINUTE BENCHMARK

17% IMPROVEMENT IN < 90 MINUTE BENCHMARK

Background

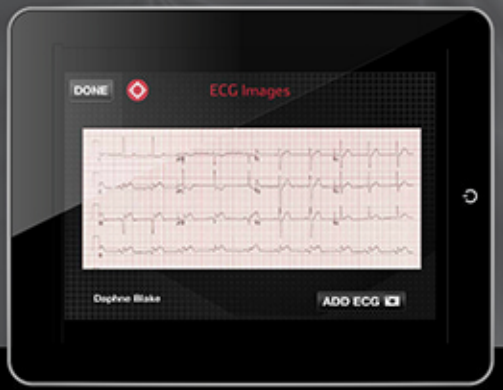
The objective of our study was to evaluate the effect of the STOP STEMI© medical application on door-to-balloon time (D2B) in patients arriving to our emergency department with acute ST Elevation Myocardial Infarction (STEMI). STOP STEMI© is a novel medical application developed by physicians to improve the coordination and communication tasks essential to rapid assessment and care of patients suffering from a STEMI.

Methods

We conducted a retrospective review of the Good Shepherd Health System STEMI quality assurance/improvement dashboard between November 2012 and September 2013 (4 months prior to 6 months after STOP STEMI© application institution). The data was collected using a standard data collection form and entered on the dashboard by a STEMI coordinator blinded to study objectives. We calculated the average D2B times before and after initiation of the STOP STEMI© application as well as improvement in the benchmarks of D2B <90 min and D2B<60 minutes. A sub group analysis of Center for Medicare and Medicaid services (CMS) report-able cases was conducted to evaluate these benchmarks in the subset of patients meeting criteria for CMS reporting at our facility.

Results

During the study period we received 155 STEMI patients, an average of 0.5 patients per day. One hundred and twelve underwent percutaneous coronary intervention (PCI), 37 pre-STOP STEMI© and 75 post-STOP STEMI©. Of the 112 PCI cases, 7 were excluded leaving 105 cases for analysis 36 pre-application and 69 post-application. We found a 22% decrease in average door-to-balloon time (D2B) after implementing the STOP STEMI© application (91-71 minutes) respectively (P= 0.05). In the analysis of CMS reportable cases (N= 64 cases) we observed a 22% reduction in average D2B (68-53 min) (P= 0.03). Further, we saw improvement in "D2B time < 90 minutes" from 78% to 95% and "D2B time < 60 min" from 56%-80%. We also observed the absolute reduction of 10% in PCI resource utilization after deploying the application.



Summary

155 patients arrived with diagnosis of STEMI during study period
0.5 patients per day average

112 cases had PCI during the study period- 7 were excluded leaving 105 cases For analysis - 36 pre app and 69 post app

Decrease in door to balloon time for all cases 91-71 minutes a 22% improvement After STOP STEMI©

CMS cases (N= 64) D2B times decreased 22% 68-53 minutes after the app

17% improvement in <90 minute benchmark
24% improvement in <60 minute benchmark

10 % reduction in PCI resource utilization after the app

Institutions

UT Tyler · UAMS College of Medicine · Texas A&M Health Science Center College of Medicine · Good Shepherd Health System · Scott & White Healthcare

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