IMPLEMENTATION OF A PREHOSPITAL 12 LEAD ELECTROCARDIOGRAM SYSTEM DOES NOT LEAD TO INCREASED FIRST MEDICAL CONTACT TO DOOR TIMES

Poster Contributions
Poster Hall B1
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Background: Primary percutaneous coronary intervention (PCI) has been shown to improve outcomes in patients who suffer an acute ST segment elevation myocardial infarction (STEMI). Not every hospital is equipped to perform PCI, and emergency medical services (EMS) implemented a 12 lead prehospital electrocardiogram (ECG) system to facilitate the transport of patients with STEMI to PCI capable hospitals. In STEMI systems of care, closer hospitals without PCI are bypassed in order to transport STEMI patients to primary PCI centers. However it is unknown whether prehospital ECG leads to delay from first medical contact (FMC) to hospital arrival (door time). We compared transport times of patients with suspected STEMI before and after launch of a prehospital ECG system.

Methods: The Chicago Fire Department launched 12 lead ECG’s in May 2012. Data from three months prior to launch was compared to data from ninety-days after launch. A retrospective cohort study of the American Heart Association Mission: Lifeline regional report database was performed. Included cases were adults with a computer read of Acute MI on prehospital ECG and transported to a Chicago primary PCI center during the study period. Data were analyzed using STATA (College Station, TX) and p values of < 0.05 were considered significant. Important because some systems use paramedic interpretations or hospital interpretations.

Results: Prior to a STEMI system of care, EMS transported 127 patients with STEMI to the nearest medical center. After launch, the absolute number of STEMI transports increased to 195 patients. However, the median time of FMC to Door was not statistically significant (27 minutes vs. 24 minutes).

Conclusion: Transport to primary PCI centers is the cornerstone of municipal 12 lead ECG programs in an attempt to hasten revascularization of an occluded artery. Geographically closer hospitals are bypassed in order to travel to a PCI center. In our study, analysis of EMS runs from a large metropolitan area showed no difference in transport times to primary PCI centers and bypassing the nearest medical center in favor of a PCI center does not increase FMC to Door times.