NOVEL TELECOMMUNICATIONS SOFTWARE FOR TWO-WAY INTERACTION DURING STEMI MANAGEMENT IMPROVES DOOR-TO-BALLOON TIMES

i2 Poster Contributions
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Background: Pre-hospital electrocardiograms (ECG) improve the management of patients with ST segment elevation myocardial infarction (STEMI). Current telecommunication systems do not permit real-time interaction with first responders in the field or care providers at referring hospitals. Our institution has developed and recently implemented a novel telecommunications system based on a software application that is downloadable to multiple platforms permitting real-time, two-way video and voice interaction over a secured HIPAA compliant network.

Hypothesis: Use of the CodeHeart application (CHap) for patients with possible acute coronary syndrome (ACS) will reduce door-to-balloon (DTB) times of STEMI patients.

Methods: All activations of the STEMI system after implementation of the CHap were prospectively entered into a database. Consecutive activations via the new CHap were compared to routine activations as controls during the same time period (03/14 to 10/18/2011). System quality measures were calculated and compared using Student’s t test or the Mann-Whitney U test as appropriate.

Results: A total of 291 STEMI system activations occurred during this time period. 52 (18%) employed CHap and 239 (82%) routine channels. DTB time was reduced by the use of CHap when compared to controls (91.4±35.5' vs 213.1±405.8', p=0.003) as well as first call to balloon (70.8±26.5' vs 88.7±37.3, p=0.006), which highlights the efficiency of the system for transferred patients.

Conclusion: The implementation of a two-way interactive telecommunications system downloadable to cell phones or portable computers improves overall DTB times as well as the STEMI network’s performance for transferred patients.