



Abstract 47: Impact of EMS Field-telestroke With Hand-held I pads on IV-tpa Therapy for Stroke

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Abstract

Introduction: Reducing the Door-to-Needle (D2N) time to IV-tPA has been shown to improve outcomes after acute ischemic stroke. Pre-hospital Telestroke using Mobile Stroke Units has been shown to reduce D2N times but the number of patients treated are underpowered to show improvement in stroke outcome. With deployment in urban areas near multiple comprehensive stroke centers and costs averaging \$1M to purchase and \$1M to operate annually, it is unlikely that Mobile Stroke Units will exert a major impact on the broader population of stroke victims.

Hypothesis: Bringing Telestroke expertise to the patient by utilizing Advance Stroke Life Support (ASLS)- trained EMS crews equipped with hand-held iPADS for videoconferencing in the field with their Medical Control could enhance patient assessment and reduce D2N times for IV-tPA in acute stroke.

Methods: Field-Telestroke training of 243 EMS personnel from 6 community squads associated with a 332-bed acute care Primary Stroke Center was conducted in 2q 2016 and included ASLS Certification, education on Stroke Protocols and videoconferencing in the field with the hospital's Medical Control, and the use of HIPPA-compliant hand-held iPADS. A retrospective analysis of transports from July 2014- July 2016 pre-implementation and July 2016-June 2017 post-implementation included Stroke Alert process times of Door-to-CT completion (DCT) and D2N.

Results: Pre-hospital use of Field-Telestroke from July 2016-June 2017 was associated with a shorter average DCT of 10.7 vs 34.5 minutes and shorter D2N time for IV-tPA therapy of 41 minutes vs 50 minutes with standard pre-hospital notification. Overall IV-tPA utilization from July 2016-June 2017 (12.7%, 26/204) was non-significantly increased from baseline July 2014- June 2016 (10.6%, 50/473, $p=0.43$).

Conclusions: The use of Field- Telestroke was associated with faster DCT and D2N times for IV-tPA therapy. Field-Telestroke by ASLS-trained EMS squads is a promising low-cost approach to deliver high quality pre-hospital stroke care to communities.

Footnotes

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