A Real World Experience of the FAST-ED Based Pre-Hospital Stroke Triage System to Detect Large Vessel Occlusions

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INTRODUCTION
In March 2017, the Fire Officers Association of Miami-Dade (FOAMD) employed the Field Assessment Stroke Triage for Emergency Destination (FAST-ED) scale to better identify large vessel occlusion (LVO) strokes. Cases with a score ≥4 bypass other centers for a comprehensive center, and those ≥6 also have the interventional team activated from the field. The FAST-ED scale was developed using a retrospective set of ischemic strokes and TIAIs. There have been no prospective, real world examples on FAST-ED performance when used in the field by emergency personnel.

METHODS
Stroke alert cases brought to our center by FOAMD during March 2017-August 2018 were analyzed. We used the FAST-ED score from the EMS run sheet and examined the incidence of LVOs and treatment rates for applicable cases. Cases without FAST-ED scores were excluded. An LVO was present if there was evidence of an occlusion of the internal carotid artery, middle cerebral artery (M1 or M2 segments), or basilar artery on initial imaging.

RESULTS

Figure 1. Number of Cases Reviewed

Figure 2. Stroke Types for FAST-ED ≥ 4 (A) and ≥ 6 (B)

- FAST-ED score ≥ 4 (Fig. 2A)
  - 60% were ischemic, 31% had an LVO
  - 23% were treated with mechanical reperfusion
- FAST-ED score ≥ 6 (Fig. 2B)
  - 66% were ischemic, 38% had an LVO
  - 31% were treated with mechanical reperfusion

DISCUSSIONS

- FAST-ED scores completed in the field yielded much lower LVO detection rates compared to the original report.
- Likely due to inclusion of hemorrhages and stroke mimics from the field.
- Only 1/3 of field activations led to an endovascular procedure.
- Improved tools are required to identify stroke patients in the field with possible LVOs to minimize unnecessary interventionist field activations and provide appropriate destination triage.

DISCLOSURES
None.

REFERENCES