Field Triage of Acute Stroke: A Pilot Study of Regionalization for Patients not eligible for tPA

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One Region's Approach: Field Triage for Best Outcomes

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Think Global. Act Local.

- The goal: improve the time to treatment for patients ineligible for tPA.
- The premise: Paramedics can accurately identify stroke patients ineligible for tPA.
- The operators: A consortium of:
  - Two EMS agencies
  - Emergency physicians
  - Endovascular neurosurgeons
  - Neurologists
  - Regional Emergency Medical Advisory Committee
Who is our consortium?
Where did this consortium come from?

- A longstanding relationship between hospitals, emergency departments, specialty services and EMS
  - Stroke
  - Non Stroke: Trauma, Pediatrics, Cardiac, Neurosurgical
- The backbone of our consortium is trust and mutual understanding.
  - Frequent communication between all members
Not alone

- **Washington State Emergency Cardiac & Stroke Law:**
  - “For patients last seen normal plus transport time \(\geq 3.5\) hours to \(\leq 6\) hours, consider transport to a Level I Stroke Center or a Level II Stroke Center with intra-arterial interventional capability

- **VA, MO destination protocols advocate for medical control destination decisions**
  - Lack a description of specific capabilities

- **Florida Stroke Belt Consortium**
  - Most similar to us
The Rationale: #1

- This is good for the patient; Transfers add time
  - We strive to maximize our system
    - Request to Accept for potential endovascular stroke patients average < 5 minutes
    - Transportation protocols and agreements to facilitate rapid transport
  - In our region (from available data) FMC to arrival averages 2.5 hours
The Rationale: #2

- It's good for the EMS system
  - Ambulance availability is key
  - Review of 20 stroke transports (scene and transfer):
    - Call to enroute with patient: 26 min
    - Driving: 11 min
    - At destination to in-service or at base: 22.5
  - Just under ¼ of the time is transport
    - If 100% of these are transferred to a hospital 20 minutes away, each diversion increases ambulance availability by ~ 30 minute.
  - It is being done ad-hoc anyhow
Here is the worksheet. Please review closely.

**PREHOSPITAL STROKE FIELD TRIAGE WORKSHEET**

This worksheet is designed to facilitate stroke field triage. It should take NO MORE than 15 minutes to complete. If significant delay in completing this form, STOP and transport to nearest NYS Stroke Center.

Please CHECK appropriate criteria. Diversion is recommended only to patients who meet all the criteria.

- ☐ Unilateral arm drift on evaluation
- ☐ Facial droop OR difficulty speaking (CIRCLE the positive finding) on evaluation
- ☐ Last time seen normal < 6.5 hrs
  (___ hrs, last seen normal at ____ : ____ AM / PM)
- ☐ The patient is stable.
- ☐ Blood glucose > 60 mg/dl
- ☐ There is no valid DNR (e.g. NYS Out of Hospital DNR, MOLST)
- ☐ Age < 90

At least one of the two statements must be TRUE to continue.

- ☐ Time of onset > 3.5 hours
  OR
- ☐ Patient has at least one contraindication to IV tPA (CIRCLE the number of the contraindication)
  1. The patient is currently taking:
     • Coumadin, Pradaxa, Xarelto, Eliquis, Lovenox, Fragmin
  2. History of any of the following
     • Brain tumor, brain aneurysm, brain arteriovenous malformation, brain bleeding
  3. Within 3 months of stroke or brain surgery
  4. Within 2 weeks of current major bleeding, major trauma, or major surgery

If the Patient/Family consents AND Patient meets all criteria, then diversion is recommended:

1. Contact On-Line Medical Control (OLMC) to request diversion.
2. If permission to divert is received from OLMC, notify the comprehensive stroke center regarding transport to their facility.
3. If possible, initiate a 20 gauge or greater size IV in AC vein and obtain standard bloodwork.

Note OR For Facial Droop OR Diff Speaking

And then 1 of these Must be true

All 7 of these must be present

Then follow these instructions
Our Rollout

- Multiple presentations, and a test.
- Close communication with the agencies
- Continuous QA
- Rolling out a Direct-to-CT Stroke Alert protocol that is flexible enough to work with scene calls and transfers, tPA candidates and patients ineligible for tPA.
Lessons Learned

• Misconceptions
  ○ Medical
    ▹ STEMI vs Stroke
    ▹ Hemorrhage rates
  ○ Intent

• Training is difficult
  ○ Training in rigor
  ○ Understanding the difficulties in the field
Looking ahead...

- We are collecting data about every potential stroke case in these agencies
- We will be reviewing them and reporting back to agencies
- Same time, same place, next year... ask me!
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