Tackling Stroke One Module At A Time

Critical Conversations: Determining IV-tPA Eligibility & Obtaining Consent for Treatment

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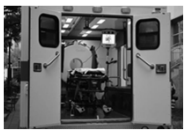
MOBILE STROKE UNITS IN THE UNITED STATES

Houston

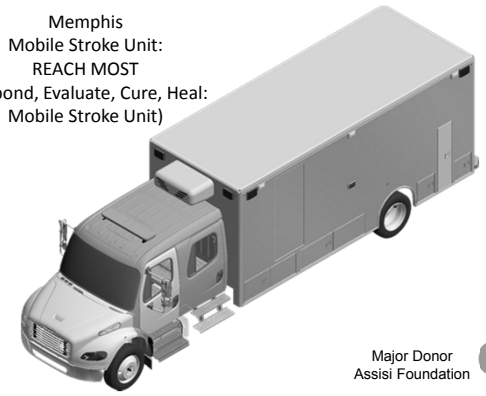


Cleveland

Disclosures

- Speakers Bureaus:
  - Genentech (Activase)
  - Chiesi (Cardene)
- Consultant & Speaker:
  - Stryker

Memphis
Mobile Stroke Unit:
REACH MOST
(Respond, Evaluate, Cure, Heal:
Mobile Stroke Unit)



Major Donor
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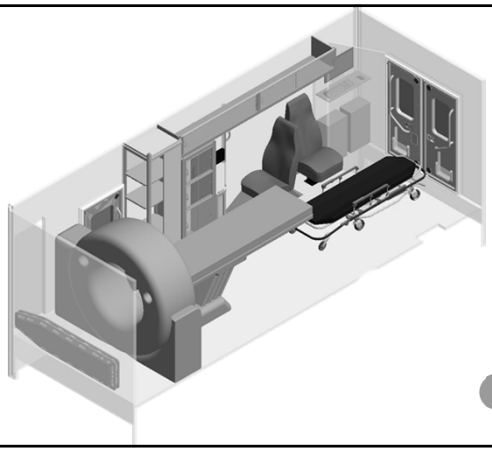
UTHSC Memphis

- 322 IV tPAs and 101 mechanical thrombectomies (MT) from a single hospital in 2014
  - sICH rate 2.2% (n=7)
- 276 IV tPAs and 93 MTs year-to-date for 2015
  - sICH 0.7% (n=2)
- University owned/operated city-wide Mobile Stroke Unit starting in February 2015
- Looking for a DYNAMIC Masters-prepared (minimum) advanced practice nurse to serve as our new Stroke Coordinator…call me!!



THE "GOLDEN HALF-HOUR"

T= -10 min Suspected stroke patient hospital pre-notification. Stroke team Notified

0 min Patient arrives. Met at triage by stroke and ED team

≤ 10 min Triage, direct-to-CT, rapid (basic) stroke assessment, IVB

≤ 25 min CT scan completed & interpreted

≤ 30 min t-PA given if patient is eligible

NEW FDA LABEL CONTRAINDICATIONS (PHYSICIAN LABELING RULE COMPLIANT)

- Current intracranial hemorrhage
- Subarachnoid hemorrhage
- Active internal bleeding
- Recent (within 3 months) intracranial or intraspinal surgery, or serious head trauma
- Presence of intracranial conditions that may increase the risk of bleeding
- Bleeding diathesis
- Current severe uncontrolled hypertension
- What's different:
  - Seizure is not an exclusion
  - NIHSS > 22 is not a warning
  - Rapidly improving or low NIHSS patients are no longer considered warnings

THE U.S. *SHOULD BE* THE LEADING PROVIDER OF IV TPA FOR ACUTE ISCHEMIC STROKE

- First country to approve intravenous alteplase for treatment of acute ischemic stroke
- Currently, more than 2000 certified Stroke Centers in operation
  - NINDS 1997 recommended purpose of Stroke Centers: To administer IV tPA
- *HOWEVER*:
  - tPA treatment rates are significantly lower in the U.S. compared to foreign countries that have had approval for a shorter period of time
  - Informal networking with interdisciplinary colleagues on the topic of IV tPA treatment often reveals varied interpretations of what constitutes an acceptable IV tPA treatment candidate

81% OF CERTIFIED STROKE CENTERS ADD TO INCLUSIONS & EXCLUSIONS

OVERALL TPA RX RATE: 8.7%

Exclusion Criteria *Beyond* the Activase® Label:

- (44%) Rapid improvement despite remaining disabling deficit
- (30%) NIHSS > 22
- (26%) Concurrent AMI
- (22%) Receiving anticoagulation regardless of lab results
- (21%) Minor stroke symptoms with NIHSS < 7
- (20%) Suspected (not witnessed) seizure
- (16%) Age > 80 years (3-hour protocol)
- (14%) Large vessel occlusion that may benefit from IA
- (8%) Elevated hepatic function labs
- (7%) Nicardipine treatment for blood pressure control
- (7%) Decreased level of consciousness on clinical examination
- (6%) Unable to obtain written informed consent in time for treatment (3 hour window)
- (5%) Currently receiving multiple antiplatelets (i.e. clopidogrel / ASA)

NEW FDA LABEL INDICATIONS (PHYSICIAN LABELING RULE COMPLIANT)

- Alteplase is indicated for the treatment of acute ischemic stroke
- Exclude intracranial hemorrhage as the primary cause of stroke signs and symptoms prior to treatment
- Initiate treatment as soon as possible, but within 3 hours after symptom onset

ADDITIONALLY…

- 24% limited tPA treatment window to 3 hours
- Academic hospital tPA treatment rates were significantly higher than community hospitals:
  - Academic hospital IV tPA treatment rate: 10.8 ± 7.7 (median 8)
  - Community hospital IV tPA treatment rate: 8 ± 5.9 (median 6)
    - t=2.3; mean difference 2.75; p=.026, 95% CI .33-5.2
- As the number of non-standard inclusions/exclusions increased, the tPA treatment rate decreased
  - (r = -.153; p=.038)
- Using binary logistic regression, utilization of non-standard inclusions/exclusions was predicted by hospital type (community), admission volume (low), and use of the 3 hour window (p<.0001).

What is a Symptomatic Intracerebral Hemorrhage (sICH) post-IV tPA?

- IV alteplase trials used different definitions for sICH:
  - NINDS rtPA Stroke Study – any blood on the noncontrast CT and any clinical deterioration
    - Endpoint = 6.4% sICH
  - SITS MOST and ECASS 3 – parenchymal hematoma type 2 in combination with 4 or more point worsening on the NIHSS
    - The hemorrhage is solely responsible for the clinical worsening, NOT infarct evolution

This constitutes how sICH is defined today!

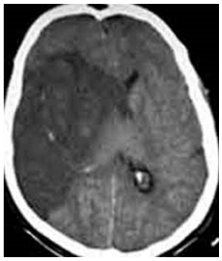
- Contemporary sICH rates are commonly < 3%

Recommendations for Practice Improvement

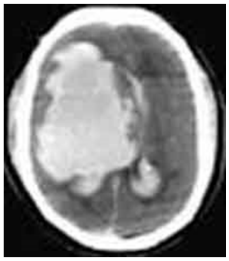
- Certification Reviewers should cite programs that utilize non-FDA label Alteplase indications/contraindications for *non-compliance* with treatment standards
- sICH rate should be low:
  - Adjudication of hemorrhagic transformations to determine what constitutes an sICH should be pursued by Stroke Center data collectors
  - Monitor recordings of all BPs should be reviewed in true sICH cases to determine the presence of protocol violations
- Everyone involved in stroke treatment should KNOW organization sICH rates and participate in M&M reviews

sICH Definitions: What's the Difference…

Infarction Causing NIHSS Worsening



sICH Causing NIHSS Worsening



Critical Conversations….

- *"There is a drug that we can give your wife for the stroke, but over 20% bleed in their brains and die."*
  Submitted from South Carolina
- *"Well, we can give a drug, but we don't like to…we don't recommend it. It is very dangerous and there is a high likelihood of him getting even worse than he is, or even dying."*
  Submitted from California
- *"Let me put it this way, I wouldn't give this drug to my dog."*
  Submitted from Ohio

Classification of sICH: Reliability in Question…

- Official definitions support classification of sICH for most (86%) certified Stroke Centers, however the most common definition (48%) reported was, "any hemorrhage on non-contrast CT or MRI in combination with any clinical deterioration."
- Only 17% identified the contemporary definition for sICH
  - Among those that adhered to the contemporary definition, sICH rates were significantly lower at 3% ± 2.3% (median 3%; t=4.7; mean difference = 7.7; p<.0001, 95% CI 4.4-10.95), compared to 10.6% ± 17.5% (median 6%)

What is Informed Consent

- *"Permission granted in the knowledge of the possible consequences, typically that which is given by a patient to a doctor for treatment with full knowledge of the possible risks and benefits."*
- Consent is an act of reason
  - For consent to be valid, the person giving consent must be of sufficient mental capacity, must not be coerced or provided with fraudulent information, and must be in possession of all essential information (risks, benefits, alternatives)

Elements of Informed Consent

- **Informed consent** is based on the principles of autonomy and privacy; this is central to morally valid decision making in health care and research
- Seven criteria constitute provision of informed consent:
  1. Competence to understand and to decide
  2. Voluntary decision making
  3. Truthful, factual disclosure of material information
  4. Recommendation of a plan
  5. Comprehension of terms 3 and 4 above
  6. Decision in favor of a plan; and,
  7. Authorization of the plan
- A person gives informed consent only if all of these criteria are met; if all of the criteria are met except that the person rejects the plan, that person makes an informed refusal

Verbal vs. Written Informed Consent

- Non-emergency treatments generally require informed consent
- Emergency treatments (i.e. acute stroke):
  - Provision of standard of care treatments proven to reduce disability and/or death may be provided without written consent
- 3-hour FDA-label vs. 4.5-hour evidence-based guideline recommendation for IV-tPA
  - What constitutes standard of care at your organization, in your community, in your region, nationally?

Do these comments constitute provision of "Truthful, Factual" Material information?

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How do we obtain informed consent in our patients?

- Key message:
  - IV-tPA is the only medication proven to reduce neurologic disability from acute ischemic stroke AT NO INCREASED RISK OF DEATH.

What Information Should Be Disclosed About IV-tPA in the Informed Consent Process?

- Large clinical trial outcomes:
  - NINDS rt-PA Study results used to support FDA drug approval in 1996
  - Effectiveness trial results of treatment within the 3 hour window
  - ECASS 3 Study results for treatment between 3-4.5 hours
  - Limitations in relation to the subject and whether he/she mirrors study inclusions
- Current site results and experience

Managing Providers with Unethical Messaging

- Know clinical trial findings; confront providers who message inappropriately (not in front of the patient)
- Inform superiors; have witnesses available to support you
- Chart in the medical record in quotations, EXACTLY what material information was provided, along with the patient or next of kin's refusal of treatment