NIH Stroke Scale & Tips for tPA

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Outline

• Define the NIHSS and understand its role in stroke assessment
• Break down the NIHSS into more easily understandable terms
• Identify helpful tips for IV tPA administration in acute ischemic stroke
NIHSS

• National Institute of Health Stroke Scale (NIHSS)
• Systematic assessment tool
• Predictive of lesion size and measure of severity
• Predictor of short and long term outcome
• Data collection tool for planning patient care
• **Provides a common language for healthcare providers**
NIHSS

- “...designed to be a simple, valid, and reliable tool that can be administered at the bedside consistently by physicians, nurses or therapists.”
- “…requires less than 10 minutes to complete.”
NIHSS

• 15-item neuro exam stroke scale
1. LOC
2. Language
3. Neglect
4. Visual fields
5. EOM
6. Motor strength
7. Ataxia
8. Dysarthria
9. Sensory loss
NIHSS Demonstration
Tips for tPA

• r-tPA: recombinant tissue plasminogen activator
• alteplase (generic name)
• Only drug approved by the FDA for treatment of acute ischemic stroke
How does it work?

Alteplase: Mechanism of Action

1. Recombinant t-PA (alteplase) binds to fibrin in thrombus
2. Converts entrapped plasminogen to plasmin that
3. Initiates local fibrinolysis.

Source: cathflo.com
Who can receive it?

- FDA approved for acute ischemic stroke
  Last Known Well (LKW) ≤ 3 hours ago
- Research shows effectiveness: ≤ 4.5 hours LKW for patients less than 80 years old
- Inclusion / Exclusion criteria
How to mix

• Calculate dose (double check)
• Total dose not to exceed 90mg
• 0.9 mg/kg
• 10% of total dose given as IV bolus (push over 1 minute)
• Remaining 90% given as IV drip (infuse over 1 hour)
Monitoring your patient

• Watch closely for:
1. Decline in LOC, sudden neuro deterioration
2. Sudden rise in BP
3. New headache
4. Nausea / vomiting

• In any of above noted, STOP infusion immediately and notify provider!
Vital Signs & Neuro Checks

- Monitor closely:
  - Obtain baseline before giving drug, then
  - Every 15 min x 2 hours, then
  - Every 30 min x 6 hours, then
  - Every 1 hour x 16 hours

  24 hours close VS & neuro checks

- Use Flowsheets provided in ND Acute Stroke Treatment Guideline packet

- Send with EMS providers!
Drip and Ship
EMS Providers

• Continue close VS and Neuro checks
• Document on flowsheet provided in ND Acute Stroke Treatment Guideline packet
• Hand off packet to receiving hospital for accurate, continued monitoring
Hand-Off Communication

• What’s the story?
• LKW
• NIHSS
• Describe the deficits
• Meds: what was given at what time?
• Imaging (head CT result)
• Family contact info (provide cell phone #s)
Key Points

• Quick NIHSS
• IV tPA:
  – Appropriate candidates
  – Mechanism of action
  – Tips for mixing
  – Monitoring and documentation
  – Hand-off communication
Questions