Protocol for use of IV tPA in the 3-4.5 hour window

1. rtPA should be administered to eligible patients who can be treated in the time period of 3 to 4.5 hours after stroke.*
2. Exclusion criteria additional to the current guidelines for IV thrombolysis should be considered (see “Additional Warnings” below). The efficacy of IV rtPA within 3 to 4.5 hours after stroke in patients with additional exclusion criteria is not well established and requires further study.*

Indications for IV tPA

- Acute neurologic deficit expected to result in significant long-term disability
- Non-contrast CT showing no hemorrhage or well-established acute infarct
- Acute ischemic stroke symptoms with onset, or time last known well, clearly defined between 3 and 4.5 hours before tPA will be given

Contraindications

- SBP > 185 or DBP > 110 mm Hg, or aggressive treatment (IV medication) necessary to achieve these limits
- CT findings suggesting ICH, SAH, or established major acute stroke
- Suspicion of subarachnoid hemorrhage (even if head CT is negative for hemorrhage)
- Seizure at onset (If rapid diagnosis of vascular occlusion can be made, treatment may be given.)
- Recent intracranial or spinal surgery, head trauma, or stroke (less than 3 months)
- Major surgery or trauma within 3 months
- History of intracranial hemorrhage or brain aneurysm or vascular malformation or brain tumor (May consider IV tPA in patients with CNS lesions that have a very low likelihood of hemorrhage, such as small unruptured aneurysms or benign tumors with low vascularity)
- Recent active internal bleeding (less than 22 days) (including arterial puncture at a non-compressible site)
- Platelets < 100,000; heparin use within 48 hours with PTT > 40 (or exceeding upper limits of normal range); INR > 1.7
- Known bleeding diathesis or other major disorder associated with increased bleeding risk

Warnings (These conditions may increase risk of unfavorable outcome but are not necessarily contraindications to treatment.)

- Advanced age
- Care team unable to determine eligibility
- Glucose < 50 or > 400 mg/dl (If rapid diagnosis of vascular occlusion can be made, treatment may be given.)
- Increased risk of bleeding due to comorbid conditions or any of the following:
  - Acute pericarditis
  - Bacterial endocarditis
  - Hemostatic defects, including those secondary to hepatic and renal disease
  - Pregnancy
    - Diabetic hemorrhagic retinopathy or other hemorrhagic ophthalmologic condition
  - Septic thrombophlebitis or occluded AV cannula at seriously infected site
  - Left heart thrombus
  - Life expectancy < 1 year or severe co-morbid illness
- Pregnancy

• Rapid improvement or minor symptoms prior to treatment
• Stroke too severe

**Additional warnings for patients treated between 3 -4.5 hours**

• Age > 80
• History of prior stroke **AND** diabetes
• Any anticoagulant use prior to admission (even if INR <1.7)
• NIHSS >25
• CT findings involving more than 1/3 of the MCA territory (as evidenced by hypodensity, sulcal effacement or mass effect estimated by visual inspection or ABC/2>100 cc)

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Reviewed/Approved by: Schwamm, Lee, M.D. on behalf of ASQT