# Acute Stroke Protocol of Southeastern Ontario

KGH Emergency Guide for Thrombolytic (rt-PA) Therapy

#### **Inclusion Criteria**

- Patient must have the acute onset of a new neurological deficit, which by standard clinical criteria is consistent with cerebrovascular disease in the cerebral hemispheres.
- 2. The deficit should be of a severity that, should it persist, would lead to a significant compromise in the patient's quality of life.
- 3. The deficit should be relatively stable during the period of observation.
- 4. A clear and credible time of onset can be established. Time of onset is the time the patient was last seen normal. Stroke on awakening cannot be considered.
- 5. The duration of the stroke from the time of onset, to the beginning of intravenous administration of rt-PA must be under 4.5 hours, including all essential investigations.
- 6. Informed consent should be obtained from the patient, or where necessary an appropriate family member. Written informed consent is required for intra-arterial rt-PA.
- 7. Pregnancy is **NOT** a contraindication.
- 8. Age <18 years is **NOT** a contraindication.

### **Exclusion Criteria**

- 1. Major surgery during previous 2 weeks
- Major cerebral infarct or head injury in the past 3 months
- 3. A known source of recent bleeding
- 4. Puncture of a non-compressible artery or biopsy site within 7 days, including lumbar puncture
- 5. Blood pressure systolic > 185 and/or diastolic > 110
  For suggested management refer to Appendix A
  "Management of Arterial Hypertension for patients
  undergoing Thrombolytic Therapy for Acute
  Cerebral Ischemia" in the ED bedside resource
  binders and stroke protocol packages
- 6. Serious co-morbidity (e.g., advanced cancer, renal failure, hepatic failure) that would increase bleeding risk or limit effectiveness of treatment
- 7. Coma during current event
- 8. •INR > 1.7;
  - •Increased PTT:
  - ■Platelet Count < 100,000; or
  - Dabigatran, Rivaroxaban or Apixaban taken within 24h
  - \* Caution if Warfarin taken within 48 hours prior to onset of stroke
- 9. Blood glucose <2.7 or >22.2 mmol/L
- 10. Rapidly resolving neurologic signs

# **Pre-Thrombolytic Therapy Checklist:**

- □ Implement Canadian Neurological Scale (CNS) and CCP for acute ischemic stroke
- □ Treat Blood Pressure systolic > 185 and/or diastolic > 110 immediately with IV Labetolol or IV Hydralazine according to Appendix A "Management of Arterial Hypertension for Patients Undergoing Thrombolysis for Acute Cerebral Ischemia" in the "Guideline for the Use of IV rt-PA in acute ischemic stroke" in the ED bedside resource binders and acute stroke packages.
- Baseline lab work includes CBC, PT, PTT, INR, electrolytes, BUN, Creatinine, Glucose, Troponin, Type and Screen 2 units, and βHCG (pregnancy test) if indicated
- □ Change patient into gown
- □ Establish 2 Intravenous lines, one for rt-PA and the second for other medications. Secondary IV should be started with an 18 gauge needle in the right antecubital fossa unless contraindicated
- □ Establish continuous ECG and O2 saturation monitoring
- Non contrast head CT

# Thrombolytic agent infusion:

- Determine patient's weight.
- rt-PA is administered by two routes

1) Intravenously (IV)

OR 2) Intra-arterially (IA)

**IV** rt-PA: total IV dose = **0.9 mg/kg** (max. 90 mg); **10%** of total dose IV push over one minute and the remainder as IV infusion **over one hour** to a maximum dose of 90 mg. (Refer to IV rt-PA Administration Guidelines & Appendix D)

IA rt-PA: administered by Interventional Radiologist

- Vital signs and CNS Scale according to Collaborative Care Plan q 15 min during drug administration
- □ Monitor for Angioedema and treat according to the procedure outlined in Appendix C of the Guidelines for the use of IV rt-PA in Acute Ischemic Stroke