

Mercy University Hospital Stroke Service.

**Protocol for IV Thrombolysis for cerebral
infarction**



March 7th 2008

Preamble

Following on recent discussions exploring the possibility of administering thrombolysis for appropriate patients admitted with stroke to the Mercy University Hospital, the Dept. Of Medicine of the Elderly will embark on a pilot scheme for this treatment. The pilot scheme will focus on patients over 65 years age and will last for 6 months when it will be subject to review by the 2 consultant geriatricians. This document will outline the protocol for the use of tPA in acute stroke. It should be emphasised that the use of this treatment depends absolutely on the availability of senior medical staff to make decisions on the use of tPA, and to monitor the patient in the peri-thrombolysis period. This necessary precondition leads to restrictions in the availability of thrombolysis in stroke. A more comprehensive 24/7 service demands greater availability of senior opinion as well as rapid access to CT scanning at all hours.

Under the current systems there is limited availability of the senior consultant and NCHD staff necessary (due out-patient clinics, off-site work, annual leave, work-load etc.) and thus this treatment will not be uniformly available. At these times usual care will be followed. For this reason, we have decided to initiate a pilot service within a fixed time-frame. Continuation of the pilot scheme beyond this time-frame, or expansion beyond the parameters will depend on the results of the review carried out after 6 months.

Eligible Patients

All patients over 65 years presenting to the Emergency Department (ED) between 0800 and 1700 and who are within 120 minutes of stroke onset will be deemed eligible. Stroke onset is determined as the last time the patient was seen or reported to have been well with no acute neurological deficit. In subjects waking from sleep with new deficits stroke onset should be regarded as time the patient was last awake and unaffected. We aim to commence the pilot scheme on **April 1st 2008**.

Documentation Pack

A documentation pack will be available in the ED. It will contain

- A checklist of progress through ED
- A checklist of Inclusion and exclusion Criteria,

- A drug Dosage and Administration Chart
- A copy of the Modified Rankin, Barthel Index and NIH stroke Scale.
- A copy of this protocol
- A copy of the product details/ drug information for 'Actilyse' (rt-PA)

It is the responsibility of the clerical staff in the ED to ensure that there is at all times a pack available in the ED.

A copy of all the documents will be available in a folder on the desktop of the computer in the doctors writing room ("thrombolysis documents")

Pathway

The first point of contact is the Triage Nurse in the ED. They will

- Identifies patients with symptoms of acute stroke based on clinical presentation
- If it is between 0800 and 1700 and the patient was last seen normal (or at baseline level of functioning) < 6 hours before ED arrival, immediately contact the Stroke Physician for immediate review.
- **Registrar/SpR in Geriatric Medicine Bleep 6517**
- **Also Consultant Geriatrician through the Mercy switchboard**
- Obtain Acute Stroke Protocol documentation pack:
 - Document vital signs
 - Document time of onset of symptoms
- Send to Resus and notify (Senior) ED physician

The ED Physician will see patient immediately. They will

- Ensure that Stroke Team has been paged
- Place 18 gauge canula in large vein and send for labs as follows:
 - FBC, ESR , Group and Hold. Coag, Bioprofile, LFTs, CPK, troponin
 - If the patient's age is < 55 years, add hypercoagulation screen
 - Hand Deliver to (or phone) lab and inform of **urgency** and need for results to be phoned.
- Rapid evaluation of patient

- Obtain CXR before Brain CT only if clinical indication
- Inform senior ED nurse if thrombolysis a possibility

The ED Nurse

- Acquire 12-lead ECG and immediately prepare for patient to travel to CT with portable monitor and oxygen (contact Porter if necessary)
- Document vital signs every 15 minutes
- Start oxygen at 2-10 litres/minute to maintain SpO₂ \geq 95%
- Provisionally book a CCU bed.

The Stroke Physician will immediately attend the ED

- Examine patient, document NIHSS, establish time of onset, review inclusion and exclusion criteria and document reasons for non-treatment if contraindicated
- Notify CT (insert phone) of Acute Stroke Patient for urgent CT
- Discuss risks and benefits of tPA and other treatment options with family/patient from standard tPA information sheet and obtain written consent when appropriate

Within **60mins of arrival in the ED** the patient must be ready to travel to Radiology.

They must have been fully assessed as above and have results to hand. The aim should be a shorter time period than this.

tPA should go with the patient in an unopened box with all necessary to administer. The patient will travel to Radiology with the ED nurse and Stroke Physician.

They will go straight to CT for a **Non-Contrast CT Brain**. The consultant radiologist will be available for immediate interpretation and discussion with Stroke Consultant. If there is

- No high Density lesion consistent with Intracerebral Haemorrhage
- No hypodensity in $>1/3$ of the Middle Cerebral Artery (MCA) Territory or equivalent
- \pm Signs of acute stroke

Bolus of tPA will be given while the patient is still on the scanner.

The Patient, Stroke physician and ED nurse will then travel with the patient to CCU. If a CCU bed is not available they will return to ED. The infusion of tPA will be administered over 1 hour. The physician will stay with the patient throughout this time. A second IV canula will be placed.

The ideal door to needle time should be <60 minutes although in practice this is difficult to achieve. Without exception, the infusion must be commenced within 180 minutes of stroke onset.

Admission/ Governance

Any patient over 65 years who has suffered a stroke is admitted under the geriatricians unless they are admitted under the neurologists (in the event that the neurology team had accepted the care of the patient or have reviewed the patient on a neurology 'on-call' day)

As stated above, the pilot scheme will be reviewed after 6 months by the 2 geriatricians in consultation with the ED physician and the radiologists.

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