Thrombolysis from a nursing perspective

Gill Cluckie
Stroke specialist nurse
Guy’s and St. Thomas’ NHS Foundation Trust
• First hour – managing the infusion
• First 24 hours:
• Observations
• Complication identification and management
• Blood pressure management
• Nurse staffing and workload planning
Thrombolysis – managing the infusion

- 10% total dose given as a bolus over 2 minutes then remainder via infusion pump over 1 hour
- Often need more than 1 vial of drug so 2 syringes to be completed
- Avoid doubling concentration e.g. 50mg/25ml
- Keep dose calculation chart handy
- Ensure clear prescription of total dose or bolus then infusion to avoid confusion once bolus administered
Managing the infusion

• Monitor for extravasation carefully
• Always have 2 cannulas inserted
• Keep check on infusion pump rate during the hour
• Ensure the infusion tubing is flushed slowly at completion to ensure the 2ml in the infusion tubing is administered
Observations

• Consistent full neurological observations

• Nurses using MRC grading for limb power and NIHSS trained to identify significant clinical change

• Include observation of any likely bleeding sources e.g. sheath site and initially check of oral cavity

• Thorough handover between shifts with neuro. observations performed at handover

• Careful documentation of drowsiness, language impairment and ataxia
Anaphylactoid reaction

• What are the signs and symptoms to observe for?
• Symptoms: increased breathlessness, tightness in chest, itch, tingling lips or tongue, tightness in throat, dysphagia
• Signs: oral oedema, facial oedema, audible wheeze, stridor, desaturation, increased respiratory rate and effort, respiratory arrest
Angio-oedema
Anaphylactoid reaction

- Stop infusion if still in progress
- Administer adrenaline, chlorphenamine and hydrocortisone as for anaphylaxis
- Protect airway and maintain adequate oxygenation
- May require intubation urgently via crash call
Intra-cranial haemorrhage

- What are the signs and symptoms?
- Symptoms: nausea, vomiting, headache, altered limb function
- Signs: drop in GCS, altered limb function, altered neurological function, vomiting, increasing difficulty obtaining same GCS, agitation, drowsiness
- How would you observe these in a drowsy patient?
Intra-cranial haemorrhage

- Decision on stopping the infusion if still in progress
- Decision on urgent repeat CT brain to confirm haemorrhage
- Follow protocols on referral of these patients to neuro-surgeons
- Decisions on escalation plans or palliative care option
Extra-cranial haemorrhage

- What are the signs and symptoms?
- Symptoms: abdominal pain or discomfort, nausea, obvious bleeding, malena
- Signs: haematemesis, malena, haemodynamic compromise, pallor, increasing drowsiness, heavy blood loss, tachycardia
Extra-cranial haemorrhage

- Common oozing from cannulation sites, oral mucosa – easily managed
- Post-angioplasty – careful management of sheath site, likely to require Fem-stop device to prevent haematoma development
- GI bleed – management of blood pressure, blood volume, follow protocols for surgical reviews and administering blood products
Post thrombolysis care

- High intensity nursing for 24 hours
- Strict protocols for observations
- Bed rest for 24 hours
- Can eat and drink if swallow screen passed
- Strict protocols for BP control – must be less than 180 systolic using labetalol
- Any deterioration – call stroke team and re-scan
- Avoid shaving!
BP management post-thrombolysis

- **Strict BP control to prevent increased risk of intra-cranial haemorrhage – less than 180/100mmHg**
- **If either reading is above limit, recheck in 5 minutes**
- **If 3 readings at least 5 minutes apart show BP higher than limit – administer IV labetalol 10-20mg as bolus**
- **Do you usually give IV labetalol in your unit?**
Thrombolysis nursing – staffing

- High risk period for complications up to 24 hours post-treatment
- High intensity of observations
- How do you ensure that:
  - Your thrombolysis patient has appropriate care
  - Your other patients do not miss out on care with the focus on thrombolysis patient care?
Thrombolysis nursing - staffing

• Workload planning –
  - Is unpredictable in its’ occurrence
  - Can occur just as you have another acute stroke admitted or becoming acutely unwell
  - Can change your workload significantly if you have a patient with complications requiring aggressive management
Thrombolysis nursing

- High intensity with potential for sudden changes requiring immediate intervention
- Good access to appropriate medical support if complications arise 24/7
- De-briefing following any complication events to ensure protocols followed and support available
- First thrombolysis case for each nurse can be scary!