Management of Acute Confusional State in Older People

**BACKGROUND**

Acute confusional state or delirium occurs in 15-20% of all admissions to hospital. It is more likely to occur on a background of pre-existing cognitive impairment. Delirium is associated with a significant morbidity - eg, falls, infections, pressure sores and increased length of stay. Detection of confusional state may be difficult in the presence of dysphasia or sensory deficit.

**ASSESSMENT - SPECIFIC POINTS**

- Obtaining an informant history from a relative or carer is essential.
- AMT should be recorded in the ERU admission document.
- Obtain a full history and complete a medical examination.
- Look for and treat the underlying cause eg
  - Drugs *(especially those acting on the CNS)*
  - Infection
  - Constipation
  - Urinary retention
  - Metabolic disturbance
  - Alcohol withdrawal *(refer to separate protocol)*

**NON-PHARMACOLOGICAL INTERVENTIONS** should be tried first:

- Ensure adequate hydration
- Assess and maintain nutritional status
- Enhance sensory input *(check glasses, check hearing aid working)*
- Suitable environment - well lit, easily observed by nursing staff, control excess noise
- Explain the findings to relatives who may be able to help reorient patients

**PHARMACOLOGICAL INTERVENTIONS:**

If the above measures have failed and patient is aggressive/very agitated or a danger to themselves consider:

- Lorazepam 0.5mg - 1mg oral or IM
- Recommended maximum daily dose 2mg oral/IM
- Haloperidol recommended starting dose 0.5mg oral or IM
- Recommended maximum daily dose 5mg oral/IM
- Reassess after 30 mins and consider repeat dose if required

Start with low doses as older people may be extremely sensitive to the effects of sedatives.

Risperidone and Olanzapine are no longer licensed for use in managing challenging behaviour in dementia due to an increased risk of stroke.
Acute Stroke - Guidelines for Specialist Investigations

**Echocardiography**

- **Atrial Fibrillation**
  Patients with Atrial fibrillation and a confirmed TIA or ischaemic stroke have a high rate of recurrent stroke and should be anticoagulated unless contraindicated. Echocardiography is not required to inform this decision but may inform assessment of younger patients (e.g. age < 70 years) with atrial fibrillation of short duration (usually < 6 months) with potential for elective cardioversion to achieve and maintain sinus rhythm.

- **Sinus Rhythm**
  Selected patients in sinus rhythm may also have a source of cardioembolism. Echocardiography may clarify this in patients otherwise eligible for anticoagulation and with clinical or ECG evidence of:
  - Valvular heart disease
  - Recent MI
  - Suspected endocarditis or myxoma
  - Cerebrovascular events in multiple territories
  - Positive family history of venous thromboembolism
  - Recurrent venous thromboembolism/thrombophlebitis
  - Unexplained prolonged APTT

- **Younger strokes**
  Many younger stroke patients will have established vascular risk factors. Where these are absent and patient age < 50 years, Transoesophageal Echo should be considered to exclude ASD or patent foramen ovale.

**Thrombophilia Screening**

- Thrombophilia screening is not indicated, even in younger stroke patients, unless there is a history of venous thrombotic events.

- Where this is a history of venous thromboembolism age < 45 years consider screening for deficiency of Antithrombin, Protein C or Protein S and for the presence of Activated Protein C resistance or Antiphospholipid antibodies.

Continued over
CAROTID DOPPLER

- Carotid Doppler is a labour intensive non-invasive technique which is of no value in the management of posterior circulation stroke, intracerebral haemorrhage, or anterior circulation ischaemic stroke with residual disability.
- Inappropriate referrals of such patients contribute to long delays for Carotid Doppler imaging.
- Patients with completed disabling stroke should not be referred for carotid imaging.

Carotid Doppler imaging is indicated for patients meeting the following criteria:
- Carotid territory TIA or non-disabling Ischaemic Stroke
- AND within the last 6 months
- AND where patient is otherwise fit to proceed to surgery.

Surgical exclusions include:
- recent MI/uncontrolled angina
- severe heart failure
- uncontrolled hypertension
- disabling lung function
- significant cognitive impairment
- serious comorbidity shortening life expectancy.

REFERRAL FOR SURGERY

Following Carotid Doppler imaging onward referrals to Vascular Surgeons should meet the following criteria:
- Carotid Territory TIA or non-disabling Ischaemic Stroke within the last 6 months
- AND Carotid Doppler suggests severe ipsilateral stenosis*
- AND patient is considered fit for surgery
- AND patient is established on optimal antithrombotic therapy
- AND other vascular risk factors have been addressed

*Occluded carotid arteries are not suitable for surgical intervention.
## Acute Stroke - Physiological Monitoring and Intervention

### Physiological Monitoring and Intervention
- Monitor blood pressure, heart rate, glucose, Oxygen saturation and temperature 4 hourly for first 24 hours.
- Where physiological problems are identified, undertake the appropriate interventions.

### Oxygen Saturation < 95%
- Change posture
- Clear upper airway
- Commence oxygen supplementation by mask or nasal cannulae. Unless contraindicated use 40% oxygen
- Examine lungs for signs of pneumonia
- Consider chest physiotherapy.

### Temperature > 37.5° Centigrade
- Seek evidence of infection or DVT
- Examine patient and obtain urine, sputum and blood cultures.
- Give Paracetamol 1 gram orally or PR (to maximum 4 Grams daily)
- Tepid sponging and fan.
- Treat infection with appropriate antibiotics.

### Blood Glucose > 10 mmol/L
- If formal blood glucose >10 mmol/L, commence insulin to maintain the blood sugar < 10 mmol/L.

### Blood Pressure Outwith Acceptable Parameters
- < 100/60 seek cause (eg MI, pulmonary embolus, sepsicaemia, GI bleed, drug therapy) and correct
- >200/130 treat only where evidence of hypertensive encephalopathy, seizures, renal failure, papilloedema.

### ECG Confirms Atrial Fibrillation with Rapid Ventricular Response
- Consider digoxin or pharmacological cardioversion.

### Continued Monitoring
- Measure neurological status 4 hourly using the Truncated NIH scale
- For any clinical deterioration in neurological status, repeat the monitoring of physiological parameters and undertake the appropriate interventions
- If the Neurological deterioration is not due to any of the above physiological problems or not corrected by the appropriate interventions consider urgent/repeat neuroimaging
SIGN GUIDELINE 13:
Patients with clinically suspected recent stroke or TIA require rapid access to specialist stroke multidisciplinary assessment, investigation and an individualised programme of rehabilitation and secondary prevention.

INDICATIONS FOR URGENT ADMISSION TO HOSPITAL
include any of the following complicating a clinically suspected stroke or TIA:

- Reduced conscious level
- Dysphagia
- Immobility
- Acute confusion
- Anticoagulant Therapy
- Atypical features or fluctuating symptoms/signs
- Suboptimal home support

Patients with TIA or minor stroke with none of the above features may be referred to the local TIA/Stroke Clinic for urgent outpatient assessment:
Guidelines for Acute Neurovascular Referrals to the INS

**DIAGNOSIS**

- Acute stroke <6h old
- Basilar Artery Occlusion <12h old or continuing to progress
- Cerebellar stroke or signs of Raised ICP after stroke

**PATIENT CRITERIA**

- Previously fit
- Symptoms not very mild
- Not rapidly improving
- Witness available
- Rapid transport feasible
- No contraindication
- No contraindication to thrombolysis

- Progressive posterior circulation features: (quadriparesis, gaze paresis, reduced LOC)
  - or
  - Acute bilateral long tract signs with severe clonus (mimics seizure activity)

- No contraindication to thrombolysis

**CT SCAN CRITERIA**

- Don’t do CT - likely to cause delay

- Hyperdense basilar artery

**IMPORTANT**

Ensure relatives arrive at INS with patient
(essential to validate history and obtain consent/assent)

Do NOT perform investigations which will delay patient transfer (eg CXR)

Discuss with INS vascular neurologist or neurology registrar on call

IV access
Send FBC, Coagulation, Glucose, U&Es
Management of Acute Stroke

- Check blood glucose and correct if blood glucose is low.
- Confirm time of onset and verify whether witnessed. If confirmed onset < 6 h consult Acute Neurovascular Referral protocol.
- Insert peripheral intravenous line.
- Check urgent U&Es, glucose, FBC and Coagulation Screen. Defer ESR, LFTs, TFTs and cholesterol until following morning if no urgent clinical indication. Obtain ECG and CXR.
- If < 24hrs from stroke onset give 0.9% saline IV. Unless otherwise contraindicated, this should usually be 500ml saline over 2h, then 500ml over 4 h, then 500ml 6hrly for 18h. Continue IV fluids thereafter if patient is dehydrated, drowsy, vomiting or dysphagic.
- Request head CT. Urgent CT is indicated for patients on anticoagulation, cerebellar stroke, patients with deteriorating conscious level/coma, or progressive brainstem signs.
- Withhold antiplatelet and NSAIDs therapy until CT excludes haemorrhage. If CT confirms haemorrhage consult Neurovascular protocol.
- Complete swallow screen before administering oral medication or diet.
- Follow acute stroke physiological monitoring/intervention protocol for 24 h.
- Complete stroke assessment for impairment and disability.
- Refer patient to the Stroke Team.
- Commence Stroke Audit proforma.
ANTIPLATELET THERAPY: SIGN GUIDELINE 36 AND STROKE CONSENSUS CONFERENCE NOV 2002:

- Aspirin 300mg loading dose (oral, rectal or via enteral tube) as soon as CT has excluded haemorrhage. Subsequently 75mg daily maintenance dose of Aspirin.
- If further ischaemic event despite being on Aspirin*, consider adding Dipyridamole MR 200mg bd, or changing aspirin to Clopidogrel.
- Defer introducing Dipyridamole if stroke is in the setting of an acute coronary syndrome
- Prescribe Clopidogrel 75mg daily if Aspirin intolerant despite proton pump inhibitor
- Selected individuals (eg post ACS/stent) may be appropriate for aspirin and clopidogrel combination

*Patients who have recurrent ischaemic events despite aspirin should be carefully assessed for evidence of poor compliance, cardioembolic source, arteritis or malignancy and should have all of their modifiable risk factors reviewed.

In some patients recurrent symptoms may be caused by seizures or migraine.

ANTICOAGULANTS: SIGN GUIDELINE 36 AND STROKE CONSENSUS CONFERENCE NOV 2002:

- If already on Warfarin, patient needs urgent head CT and INR.
- If already on Warfarin, INR < 3, CT excludes haemorrhage, there is minimal neurological impairment and evidence of a continuing high cardioembolic risk (e.g. prosthetic valve /recent MI) it may be appropriate to continue previously prescribed warfarin during the acute phase of stroke (discuss with stroke team).
- Patients with Atrial fibrillation and ischaemic stroke/TIA not previously on Warfarin should be considered for anticoagulation (Warfarin : Target INR 2.5, range 2-3).
- Do not use Heparin or Warfarin except after discussion with Stroke Consultant. Initiation of anticoagulation should be deferred until most of the stroke deficit has resolved or, for more severe strokes, until at least 2 weeks post stroke and BP is controlled.
- The primary care team should be informed of the decision to initiate Warfarin and an agreed mechanism for INR monitoring confirmed before discharge.
- If Warfarin is declined, or contraindicated*, prescribe Aspirin (75 - 300 mg daily) or alternative antiplatelet agent.

ORAL HYPOGLYCAEMIC AGENTS

- If swallowing is safe and patient eating a normal diet continue usual oral hypoglycaemic drugs, adjusted to maintain glucose < 10 mm/l.
- If swallowing is unsafe, withhold oral medication and administer IV fluids and Insulin to maintain glucose < 10 mm/l until able to resume normal treatment.
**Antihypertensive Medication**
- No intervention is usually required to lower blood pressure acutely unless BP > 200/130 with evidence of encephalopathy.
- Most severe strokes are associated with dysphagia but antihypertensive agents can generally be omitted for 48 hours, maintaining antianginal therapy for severe angina. After 48 hours continue pre-admission antihypertensive therapy where patient is able to take oral medication.
- Consider introducing long acting ACE inhibitor (*both for infarct and haemorrhage*) once clinically stable and at least 48 hours beyond onset of stroke. This will usually be Perindopril 2mg, increasing to Perindopril 4 mg after 2 weeks if blood pressure and U&Es tolerate.

**Lipid Lowering Therapy**
- Commence treatment with Simvastatin 40mg or Pravastatin 40mg daily if total cholesterol >3.5 mmol/l
- This treatment is lifelong and should be complemented by dietary and lifestyle advice.

**Nicotine Replacement Therapy:**
- Smoking cessation advice should be supplemented by referral to the Smoking cessation service for those patients motivated to quit.
- When NRT is indicated it may be commenced as soon as possible after stroke. NRT generally exposes the patient to a lower dose of nicotine than resuming smoking would.

**HRT**
- There is evidence of increased thrombotic events associated with combination HRT preparations.
- Commencing HRT is not recommended post stroke
- For an individual already taking HRT, consideration of their risk profile and indications for HRT will allow an informed decision about their risk/benefit ratio.