TRANSIENT ISCHAEMIC ATTACK (TIA) AND MINOR CEREBRAL INFARCTION

RECOGNITION AND ASSESSMENT

Definition

- TIA is a clinical syndrome characterized by an acute loss of focal cerebral or ocular function with symptoms lasting less than 24 hr
- Minor cerebral Infarction is a clinical syndrome characterized by an acute loss of focal cerebral or ocular function with no significant residual disability
- **Crescendo TIAs** are TIAs of increasing frequency and duration, several episodes occurring within a few days
- **Frequent TIAs** are those occurring at least once per week
- Consider any patient presenting acutely with focal neurological signs to have had a stroke until signs have completely resolved – see **Stroke** guideline
- Diagnose a TIA only once symptoms have resolved.
- Use ABCD2 score below to decide stroke risk.

Diagnosis

- TIA is more difficult to diagnose than stroke: try to obtain a witness account
- Syncope is unlikely to be a TIA
- Vertigo alone is unlikely to be a TIA

Syndromes

- **Anterior circulation:**
- Dysphasia
- Visuospatial neglect
- Usually hemiparesis (face, arm and leg)
- Usually hemisensory (face, arm and leg)
- **Posterior circulation** (ischaemia in brainstem, cerebellum and/or occipital lobes):
- Nausea and vomiting
- Vertigo
- Diplopia
- Ataxia
- Crossed syndromes (weakness or numbness on side of face and in contralateral limbs)
- Coma

Assessment of stroke risk

Use ABCD2 score to predict risk of stroke within 1 week of TIA and to determine which pathway to follow:

		Score
A	Age >60 yr	**1**
B	BP >140 mmHg systolic or >90 mmHg diastolic	**1**
C	Clinical hemiparesis **or** speech problem without hemiparesis	**2** **1**
D	Duration ≥60 min **or** 10-59 min	**2** **1**
D	Diabetes	**1**

ABCD2 score >3 – Treat immediately, initiate referral to TIA service immediately using rapid access TIA referral form which is present in EAU and A+E. The form then should be faxed immediately to 5603. Specialist appointment target at TIA clinic is within 24 hr.

ABCD2 score ≤3 – Treat immediately, initiate referral to TIA service immediately using rapid access TIA referral form which is present in EAU and A+E.. Specialist appointment target is within 1 week.

IMMEDIATE INVESTIGATIONS

- FBC, ESR
- Random blood glucose
- Biochemical screen
- Random cholesterol
- ECG
- For crescendo or unstable TIAs who need admission consider CT Brain and C.dopplers.

For TIA clinic use only:

- For anterior circulation TIA's organise urgent c. dopplers if patient is medically fit to consider for carotid endartectomy. There are 3 dedicated TIA clinic carotid doppler USS slots daily (Monday to Friday). Phone 5921 to organise.
- Consider same day MRI DWI with CEMRA for possible TIAs. Discuss with Stroke consultant at clinic (At present same day MRI pathway being developed)

IMMEDIATE TREATMENT AND ADVICE (pre-discharge)

It is important to give initial treatment while patient still in hospital and to prescribe follow-on medication – a letter to GP with instructions to prescribe will delay initiation of treatment by days and leave patients vulnerable at a time when stroke risk is greatest

Begin antiplatelet therapy immediately **unless** you ***strongly*** suspect a hemorrhagic stroke (severe headache, loss of consciousness) or BP very high (>180/100)

Treatment

- **Aspirin 300 mg STAT immediately**(if not already on aspirin), then 75 mg orally daily indefinitely
- **Dipyridamole 200 mg MR 12 hrly** (unless contraindicated) for 2 years (advise patient this may cause headaches for a few weeks, and to take paracetamol, if needed)
- If in AF, consider admission for CT Brain (to outrule TIA mimics) and anticoagulation with warfarin – see **Warfarin** guideline: **slow anticoagulation** – unless there are contraindications, aiming for an INR of 2-3, and stop aspirin and dipyridamole once target INR achieved.
- **Simvastatin 40 mg** straightaway and then each night regardless of the cholesterol value. (simvastatin 10mg o.d. if GFR <30mls)

Lifestyle advice

Smoking

- All patients should be referred to smoking cessation service
- Refer patients directly to Wolverhampton smoking cessation service through Kim or Annette on the ward or by phoning **0800 073 42 42**

Alcohol

- Document weekly alcohol intake of patients and ensure that this is within WHO guidelines. Also ensure that there is no binge habit
- Give healthy alcohol advice and refer to alcohol liaison team if alcohol intake is excessive
- If excessive alcohol intake follow intranet guidelines on alcohol abuse management.

Obesity

- High prevalence. Weigh patient and do BMI.
- Refer to dietician for advice and encourage 'five a day'.
- Encourage exercise.
- Set realistic weight loss targets
- If diabetic and weight is increasing refer to diabetic team for further drug management review.
- Obese patients should be screened regularly for hypertension and diabetes.

Driving

- Advise patient not to drive for one month. Check for hemianopia and hemi-inattention in all drivers. This is not always obvious to patient and disqualifies from driving until resolved. **Click here for up to date guidance.**
- Drivers must inform their insurers before driving again
- If back to normal within one month, patient may drive again
- If persistent deficit, patient must inform DVLA and await assessment

ONGOING MANAGEMENT

- If crescendo, frequent TIAs or BP unstable, or if symptoms persist for >1 hr (high risk of developing a stroke) seek immediate advice from stroke physician of the day (Bleep 5959) or contact ASU on ext. 6479/4087 and consider admission of the patient.
- Fax referral immediately to TIA clinic (available from A+E and EAU to 5603
- Advise all patients with definite clinical symptoms of TIA who are otherwise fit to call 999 if they experience any new TIAs lasting more than a few minutes

Carotid stenosis on Carotid doppler Ultrasound

If patient has carotid stenosis of more than 50% on NASCET measurements discuss immediately with Stroke consultant with view to same/next day referral for carotid endartectomy. If patient is suitable for c. endartectomy then organise urgent CTA of carotid arteries (ensure no contraindications to intravenous contrast) and refer for urgent review to vascular surgeon on call.
If patient is having crescendo TIA's discuss with vascular team and Stroke consultant on call regarding use of dual antiplatelet therapy.

LONG-TERM RISK FACTOR MANAGEMENT (at follow-up)

- In addition to the factors addressed in **Immediate management**, address the following at follow-up:
- Smoking cessation advice
- Hypertension – aim for a target BP <130/80 mmHg but do not reduce abruptly
- Diabetes mellitus – aim for HbA_{1c} <7%
- Oral contraceptive pill or hormone replacement therapy contraindicated
- Lifestyle as above
- Aim for cholesterol <4.0 mmol/L and LDL under 2 long term