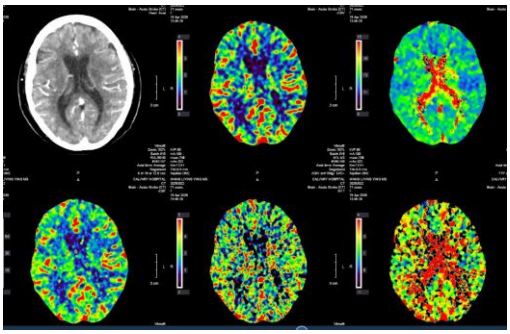
Clinical update no. 560
3 June 2020

Triage Category	WOKE AT 6AM WITH DECREASED MOVEMENT AND SENSATION TO RIGHT SIDE. NORMAL FACIAL SYMETRY. MILD HEADACHE UNABLE TO WALK TODAY

67yr-M presents with transient right sided weakness. Similar weakness had occoured 2 days prior which also resolved. No medical history of note. Admitted for work up given recurrent symptoms. Initial imaging including CT perfusion scan normal with no features of ischaemia. Commenced aspirin/clopidogrel.



Admitted to neurology; developed further symptoms later the next day, with repeat CT showing infarct in corona radiate.

TIA are at fairly high risk of progressing to stroke. Despite initial perfusion scan showing no ischaemia, there was progression to infarct even with dual antiplatelet therapy.

What is current thinking on TIA?

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CLINICAL PRACTICE

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Transient Ischemic Attack

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A 54-year-old man presents 2 hours after sudden weakness in his left arm prevented him from turning the steering wheel while driving. His symptoms lasted for 30 minutes. He has hypertension and hyperlipidemia, for which he takes an angiotensin-receptor blocker and a statin, and he is a smoker with a 30 pack-year history. On examination, the blood pressure is 156/96 mm Hg. How should this patient be further evaluated and treated?

KEY CLINICAL POINTS

TRANSIENT ISCHEMIC ATTACK

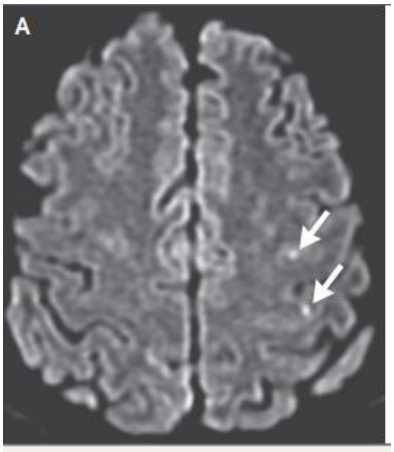
- Cerebral or retinal symptoms consistent with transient ischemic attack (TIA) usually last for seconds or minutes and typically last less than 1 hour.
- A suspected TIA should be evaluated urgently in a TIA clinic or in an emergency department where appropriate specialist expertise and imaging are available.
- Diffusion-weighted imaging of the head is now the preferred test for patients with a suspected TIA and should be performed immediately.
- If possible, immediately after the onset of symptoms, the patient should take aspirin at a dose of 300 mg, followed by 75 to 100 mg daily; clopidogrel should be added to aspirin during the first 21 days after the TIA (at a 300-mg loading dose, followed by 75 mg per day).
- The long-term prevention of stroke after TIA typically includes antiplatelet or anticoagulant treatment (depending on etiologic findings), blood-pressure lowering, lipid lowering, glycemic control, smoking cessation, and counseling regarding diet and lifestyle. Carotid endarterectomy should be performed if appropriate.

THE CLINICAL PROBLEM

About a quarter of ischaemic strokes are heralded by TIAs, with symptoms usually for seconds to minutes and typically <1hr.

The previous time based definition of symptoms for <24hr has changed to whether an infarct is present, which can develop even with brief, resolving symptoms. TIA and minor ischaemic stroke generally have the same clinical features and management.

Stroke risk after TIA is up to 20% at 3mth, with most in the first 10 days and especially the first 2 days. More recent studies suggest a lower 3mth risk of 5%, likely from including more lower risk patients in the cohort studied. Intervention may reduce risk by 80%.



Diffusion weight MRI showing small infarcts.

STRATEGIES AND EVIDENCE

Symptoms vary with vascular distribution and area involved. TIA mimics include migraine with aura, peripheral vertigo, epilepsy (e.g., parietal-lobe epilepsy), hypoglycaemia, transient global amnesia, and postural hypotension. Transient neurologic symptoms may also occur in a range of other conditions.

Usually not a TIA‡

Amnesia

Confusion

Incoordination of limbs

Partial sensory deficit

Unusual cortical visual symptoms

Transient loss of consciousness

Headache

MRI is the most sensitive imaging to identify ischaemia, though not always available. CT can rule out other causes including bleeding, and CT angio will identify arterial stenosis.

Cardiac monitoring for AF and other arrhythmia can guide further intervention, as might echocardiography.

The ABCD2 score (age, BP, clinical weakness &/or speech disturbance, symptom duration, diabetes) can assess the risk of stroke. Adding I for MRI-DWI further refines risk assessment, as does presence of carotid artery stenosis and recurrent episodes.

However the ABCD2 score can falsely reassure patients with a low score but at high risk from arterial stenosis, AF, or if ischaemia on MRI isn't considered (TIAregistry.org).

Updated 2019 NICE guidelines no longer recommend the clinical use of scoring systems such as ABCD2 for triage of TIA patients.

TREATMENT

Aspirin is the most effective if non-cardioembolic ischaemic stroke to reduce recurrent stroke within 90 days, and is the only antiplatelet shown to reduce recurrent disabling stroke. Efficacy beyond 3mth is less clear. Aspirin 300mg should be taken at onset of symptoms and ideally taken prehospital.

Dual antiplatelets (loading dose 300 mg clopidogrel plus 300 mg aspirin, followed by maintenance 75 mg clopidogrel and 75 mg aspirin) for 21 days and possibly to 90 days reduces recurrent stroke by 25% compared with aspirin alone.

Anticoagulants are not superior to aspirin for non-cardioembolic TIA or stroke.

Anticoagulants should be started without delay for AF.

Address management of risk factors, being BP, lipids, diabetes, smoking and lifestyle.

Carotid endarterectomy or stenting is of benefit if ipsilateral internal-carotid-artery stenosis ≥50%. Stenting of intracranial stenosis is not usually recommended.

AREAS OF UNCERTAINTY

Diagnosis can be challenging especially if "bizarre," or non-focal symptoms. Epilepsy or migraine may be mimics.

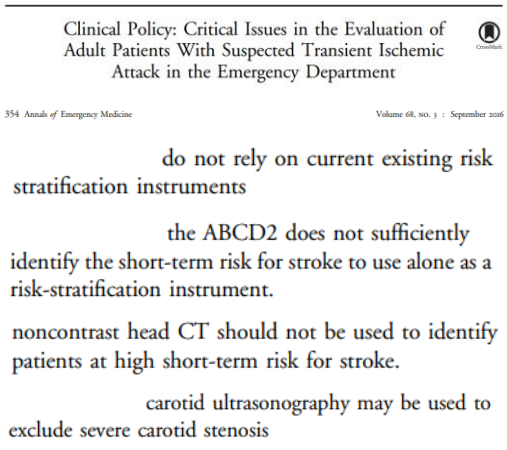
Antiplatelet options may evolve given that up to a third or more of the population are CYP2C19 carriers with resistance to the effect of clopidogrel. Screening for resistance is not validated. Benefit of aspirin has not been shown beyond 90 days.

GUIDELINES

All the guidelines recommend evaluation and receive treatment within 24 hours either in a clinic, as an inpatient or in ED. The AHA/ASA recommend aspirin and clopidogrel for the first 21 days, and anticoagulation if in AF.

CONCLUSIONS AND RECOMMENDATIONS

The patient described would be given 300 mg aspirin; ideally have DWI MRI; clopidogrel added to aspirin if MRI showed ischaemia and to continue for 21 days; prompt carotid endarterectomy if ipsilateral stenosis; cardiac evaluation include prolonged ECG monitoring and DOAC if paroxysmal AF; and management of risk factors.



Clinical Policy: Critical Issues in the Evaluation of Adult Patients With Suspected Transient Ischemic Attack in the Emergency Department

do not rely on current existing risk stratification instruments

the ABCD2 does not sufficiently identify the short-term risk for stroke to use alone as a risk-stratification instrument.

noncontrast head CT should not be used to identify patients at high short-term risk for stroke.

carotid ultrasonography may be used to exclude severe carotid stenosis

These updates are a review of current literature at the time of writing. They do not replace local treatment protocols and policy. Treating doctors are individually responsible for following standard of care.