



TIA and Stroke Secondary Prevention – NHS Lanarkshire Stroke MCN

Primary Care Guidance:

Patients with any persisting neurological symptoms post-event should be admitted to hospital for imaging and inpatient review.

TIA's (usually lasting minutes only and with full recovery), including Amaurosis Fugax, should be prescribed and encouraged to collect and to immediately commence 14 day supply of **Aspirin 300mg** daily and **Atorvastatin 40mg** daily.

They must be told **not to drive for 30 days**.

They should be referred immediately to the TIA clinic. This should be by same day electronic referral.

Please tell the patient to expect a telephone call with a clinic appointment within the next few days. Usually patients will be seen within 4 days of referral and often much sooner.

If confirmed TIA they will usually be converted from Aspirin to Clopidogrel 75mg daily after 14 days. More information will come with the clinic letter after review.

If truly aspirin intolerant, use Clopidogrel 75mg (if on omeprazole, consider switching to Lansoprazole because of the interaction between omeprazole and clopidogrel [reduced bioavailability]).

Secondary Care Guidance:

See Stroke and TIA Secondary Prevention Infographic for pathway details.

Antiplatelet Agents (TIA and Ischaemic Stroke in sinus rhythm). For patients in AF, see the section later in this document.

1. Low risk TIA (ABCD2 Score of 0-3) with full recovery should be given an immediate 14 day supply of Aspirin 300mg daily and Atorvastatin 40mg daily. They must be told not to drive for a month. They can usually be discharged from ED after junior medical/ANP review with Trakcare Workbench referral made to the local TIA clinic. They will usually be converted from Aspirin to Clopidogrel 75mg daily after 14 days.

Brain imaging should not be routinely performed before the TIA clinic but if clinical concerns re the presentation, admit for senior review and so this can be considered. TIA clinic appointment will usually be telephoned to the patient on the next working day. Usually patients will be seen within 4 days of referral and often much sooner

2. High Risk TIA (ABCD 4-7) with full recovery should be given a loading dose of Clopidogrel 600mg and Aspirin 300mg **after CT Brain** scan to rule out haemorrhage and other significant stroke mimics. This is then followed by dual antiplatelet therapy (DAPT) with Clopidogrel 75mg and Aspirin 75mg once daily for 21 days. After 21 days the Aspirin is stopped and the patient continues on Clopidogrel 75mg monotherapy long-term. The patient should be given a supply of Atorvastatin 40mg daily and told not to drive for a month. They can be discharged home if causing no clinical concern and referred to the TIA clinic (as per section 1) for early review.
There is a specific process for requesting brain imaging as per the '**Stroke and TIA Secondary Prevention Infographic (SECONDARY CARE)**' pathway on the Lanarkshire Guidelines site.
 - Where patients were already taking Clopidogrel or Aspirin before the TIA, they should still receive loading doses of DAPT
 - Where patients are already taking DAPT with aspirin/ticagrelor or aspirin/clopidogrel then simply continue the usual medication until clinic review.
3. Crescendo TIA's with full recovery. These patients should receive the same secondary prevention regime as high risk TIA's and require hospital admission and brain imaging (see section 2). They must be advised not to drive for 3 months after the event and only then if they have no further events. They will usually have inpatient review by the stroke team, or at least discussion with the stroke team before discharge. The Stroke Team can confirm driving recommendations.
4. Minor Ischaemic Stroke (independently mobile or NIHSS ≤ 3). These patients require admission and brain imaging prior to commencing secondary prevention. Once haemorrhage is excluded, and usually within 12 hours of admission, they should receive the same DAPT regime as high risk TIA's including the clopidogrel and aspirin loading doses. They should receive the same driving advice as TIA's which the stroke team will reinforce.
5. Moderate/Severe Ischaemic Stroke (immobile or NIHSS ≥ 4) including patients who have been thrombolysed (even if full resolution). These patients require brain imaging prior to commencing secondary prevention. Once haemorrhage is excluded and usually within 12 hours of admission they should receive Aspirin 300mg (rectally if Nil By Mouth) and Atorvastatin 40mg daily. They will usually be converted from

Aspirin 300mg to Clopidogrel 75mg daily after 14 days. They should receive the same driving advice as TIA's which the stroke team will reinforce. If not independently mobile they should also be prescribed 'Intermittent Pneumatic Compression' three times per day in HEPMA. For patients who receive thrombolysis, the aspirin should not be prescribed until the 24 hour follow up CT scan has ruled out haemorrhage.

In patients who are truly aspirin intolerant (known hypersensitivity) then a Clopidogrel only regime should be used.

Consideration should be given to changing anyone on Omeprazole to Lansoprazole because of the interaction between omeprazole and clopidogrel.

Atrial Fibrillation (TIA and Ischaemic Stroke only):

For true/definite TIA (symptoms lasting minutes only usually) anticoagulation should normally be commenced as soon as possible but **after CT Brain** imaging. This would generally be with a DOAC, prescribed as per the NHS Lanarkshire Guideline. Antiplatelet agents should not be given in addition to an anticoagulant.

For minor ischaemic stroke, anticoagulation can often commence soon after symptom onset but only after discussion with a Stroke Consultant. For larger ischaemic strokes with significant neurological deficits there would usually be a delay of 1 – 2 weeks before commencing anticoagulation. In this situation Aspirin 300mg daily would usually be used pending anticoagulation. On the UHM site, ischaemic stroke patients may be randomised to the ELAN or OPTIMAS trials which are trying to clarify the best timing for commencing anticoagulation after ischaemic stroke.

For ischaemic stroke and TIA patients who are admitted on anticoagulation prior to stroke onset, it is always wise to discuss with a Stroke Consultant before making a decision to restart anticoagulation in ischemic stroke. In minor ischaemic strokes, anticoagulants can often be started earlier than current national guidelines recommend (after such discussion). In TIA, anticoagulation can be continued without pause, provide a CT Brain has been performed to rule out haemorrhage.

All patients being commenced on anticoagulants should be fully counselled beforehand. A follow up plan should be in place for DOACs (occasional U+Es/LFT monitoring) and Warfarin (usually anticoagulant clinic follow up).

Post-stroke it is unlikely that patients would be prescribed anticoagulants and antiplatelet agents in combination. In such a situation there should be a documented rationale provided (eg recent PCI).

Atrial Fibrillation and Haemorrhagic Stroke:

There is uncertainty about the best treatment for a patient who has a haemorrhagic stroke but also is in atrial fibrillation with a high CHADS-VASc score. There is clinical equipoise within the stroke community on this issue. Where uncertainty exists, the patients can potentially be recruited to the ENRICH AF trial. Please contact Mark Barber (Mark.Barber@lanarkshire.scot.nhs.uk) so that the patient can be considered for inclusion.

Lipid Lowering Guidance (TIA and Ischaemic stroke only):

As with all aspects of secondary prevention it is important to be aware of the potential risks of polypharmacy and the lack of evidence for benefit in some patient groups. In severely frail patients, with limited life expectancy, some elements of secondary prevention might cause more harm than benefit. This can be the case for lipid lowering medication and careful consideration should be made regarding the risks and benefits of such drugs in this patient group.

In general, on first assessment Atorvastatin 40mg daily should be prescribed.

The stroke service will then make a decision on escalation of lipid lowering agent. In suspected large vessel stroke (especially if known significant carotid stenosis), or in those with very high baseline lipid levels, then Atorvastatin 80mg once daily may be chosen by them.

If Atorvastatin 40mg isn't tolerated then a lower dose of 20mg may be used, or alternatively Simvastatin 40mg at night.

Statins are generally avoided after haemorrhagic stroke unless there are other compelling cardiovascular reasons for statin use e.g. previous myocardial infarction.

In large vessel stroke and stroke patients with a past history of myocardial infarction, lipids will be repeated in 4-6 weeks time and consideration made to refer into the Pharmacy Led Stroke Lipid clinic for optimisation of therapy.

In some patient groups without any clear atherosclerotic or small vessel reasons for their stroke, then a decision may be made to avoid statin use, as being unlikely to be beneficial. Examples might be patients with stroke related to cervical artery dissection or patent foramen ovale.

Blood Pressure Lowering (All strokes and TIA's):

In severely frail patients, with limited life expectancy, some elements of secondary prevention might cause more harm than benefit. This can be the case for blood pressure lowering and careful consideration should be made regarding the risks and benefits of such interventions.

In normal circumstances, patients should be considered for treatment with combination of ACE inhibitor and thiazide diuretic, unless contraindicated, post-stroke. There is evidence of benefit even when blood pressures are treated to as low as 115/75mmHg. In the community we would aim for targets of at least lower than 130/80mmHg in non-frail patients who will tolerate such BP lowering. Close monitoring and titration of medication can be carried out in the community by the Stroke Liaison Nurses using the FLORENCE programme.

Avoiding drugs which may increase risk of stroke:

The stroke team will give consideration to the increased risk of stroke related to the medication below and may advise discontinuation:

HRT

Oral contraceptive pill

Atypical anti-psychotics, e.g., Risperidone, Olanzapine

NSAIDs, e.g., Ibuprofen, Diclofenac

Lifestyle Issues (all TIA's /Stroke):

Smoking cessation should be discussed and NRT products offered where appropriate along with referral to the Stop Smoking Service. Similarly, an accurate alcohol and recreational drug history should be taken and willing patients referred to the substance misuse team.

Regarding exercise, the stroke liaison nurses will refer suitable patients into the Active Health Programme

Carotid Stenosis:

Some patients with TIA or ischaemic stroke will have ipsilateral carotid stenosis which might benefit from surgical intervention. The usual first diagnostic test for this is carotid ultrasound, which can only be requested under the auspices of the stroke team. If this is positive, then the stroke team should be involved in decision making/referral to vascular team for carotid endarterectomy. Normally, patients referred to the vascular team will be on DAPT with aspirin and clopidogrel. Also they should always be on Atorvastatin 80mg unless contraindicated.

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Approval Date – September 2021

Review Date – September 2023