Common investigations following a stroke/transient ischaemic attack (TIA)

**Blood tests**
Routine blood tests are taken from everyone with a possible stroke/TIA, to look at general health. Additional blood tests are also done to look at thyroid gland function, cholesterol levels and glucose levels. Some of these tests involve fasting for a few hours beforehand.

**Carotid Duplex**
A Carotid Duplex is an ultrasound scan of the major arteries in the neck, which supply blood to the brain. A major cause of stroke is hardening/narrowing of the arteries, caused by fatty plaques (atherosclerosis).

If narrowing is found on the side that is causing symptoms of stroke (usually weakness on the opposite side of the body), an operation may be offered to clear any plaques that are reducing the blood supply. As with any operation, there are risks and benefits to be considered, which need to be discussed with your physician and/or surgeon.

There is a leaflet explaining the surgical procedure ‘Carotid Endarterectomy’, if this is considered appropriate.

**CT scan (Computerised Tomography)**
A CT head scan is usually carried out after a suspected stroke to rule out a possible bleed in the brain. The scan can show everything as normal after a stroke - especially if the stroke was too small to show, or if the scan was done early.

The purpose of carrying out the scan as early as possible is to allow blood-thinning medication to be given more safely (eg. aspirin).

There is a leaflet available explaining CT scan in more detail.

**ECG (Electrocardiogram)**
An ECG is a routine investigation that shows the electrical activity of the heart. It provides information on the rate and regularity of the heartbeat. It can also identify old and new heart problems which may need further investigation eg. ECHO.

**ECHO (Cardiography)**
An ECHO is an ultrasound scan, which assesses the mechanics of the heart, ie. the heart’s ability to pump blood to the lungs and other organs of the body. This can show any heart enlargement (usually caused by high blood pressure) and the degree of any heart failure. Blood clots (which can be a cause of strokes) may also show up on an ECHO.
MRI scan (Magnetic Resonance Imaging)

An MRI head scan may be requested where there is change picked up by CT, but the cause is not clear. It may also be required if the symptoms of the stroke do not ‘fit’ the changes picked up by the CT. An MRI scan may be used to look at the blood vessels in the neck to rule out any blockage.

An MRI scan takes longer than a CT head scan to do, and is in a more confined space. If this is likely to cause any anxiety, please speak to your doctor. People with artificial joints or implants, may not be able to have an MRI scan, because of the strong magnetic force.

There is a leaflet available explaining MRI scan in more detail.

Summary

The purpose of doing any/all of the above investigations is to identify any treatable causes/risk factors for stroke. Treatment usually involves medication, but occasionally involves a surgical procedure (eg Carotid Endarterectomy).

Some people, who have no age-related risk factors (ie. ‘hardening of the arteries’), may go on to have further blood tests for inflammatory conditions or immune system disorders. In addition, this same group of people may have more technical heart scans. Please ask your doctor or nurse specialist if you require more information on these additional tests.

Any treatment prescribed will need to be supported by lifestyle measures that address diet, smoking, exercise or alcohol intake. Please see the additional leaflet for this information.

Other leaflets in this series

‘How to Reduce the Risk of Stroke’
‘Medication for the Secondary Prevention of Stroke’
‘Promoting a Healthy Lifestyle - Reducing the Risk of Stroke’

Further reading

Stroke Association Website www.stroke.org.uk
Royal College of Physicians National Clinical Guidelines for Stroke www.rcplondon.ac.uk

NHS Direct is a 24 hour nurse led, confidential service providing general health care advice and information. Telephone 0845 4647 or visit the website at www.nhsdirect.nhs.uk

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